

Can Competitive Strategy and Open Business Strategy Coexist?

Sigi Goode and Tatsuyuki Negoro

The Graduate School of Commerce, Waseda University, Tokyo, Japan

School of Business and Information Management, Australian National University, Acton 0200, Canberra, Australia

sigi.goode@anu.edu.au

Traditional business models, driven by resource management and control, are under threat. There have been calls for increased corporate social responsibility, in addition to demands for improved and more transparent governance models. In addition, some argue that traditional resource control methods, such as patent acquisition and copyright enforcement, are ill-equipped to handle modern consumers and commercial relationships.

Some have argued that business models based more on open strategy might address some of these problems. However, these open business models, largely enabled by the Internet and heightened ICT use, may be incompatible with contemporary competitive strategy theory and further research of the phenomenon is needed.

This paper discusses the ways in which contemporary strategic theory might be threatened, and the ways in which an open strategy model could address these problems. The paper uses several case studies to illustrate this argument. The paper also conducts a literature search of the requirements for an open business model in a networked context.

(Open Business; Competitive Strategy; Business Model)

Introduction

The concept of “strategy” among firms is common in the published research literature. The topic has received considerable patronage as researchers and practitioners alike explore the nature of competitive strategy with an aim to improving firm management. Indeed, the topic of strategy features in a range of literature bases, including management, accounting, finance, marketing and

information systems. Within this literature base, many authors have explored the topic of strategy, including Selznick, Ansoff, Barney and Drucker. Amid this discussion, competitive strategy between firms remains a key topic.

Over the last decade, information and communications technology (ICT) have provided firms with new ways of operating. The information systems (IS) research literature has observed that information itself can have value and hence should be regarded as an asset in commercial terms. In accordance with this, firms have also recognised that information technology (IT) can assist them in managing this information in order to improve strategic competitiveness. Many authors now observe the fervency with which firms seek to trial new technology in the hope that it will give them some sustainable advantage in the corporate marketplace. Many firms, however, have seen that IT can be extremely dynamic and many are struggling to keep pace with the changes and infrastructural requirements of this technology. In this vein, both governmental and private organisations (Goode 2002) have observed the difficulty in developing technology policy. Additionally, the development and enforcement of this legislation can be costly (Stigler 1971) and can be stifling if incorrectly implemented.

The technology boom of the late 1990s saw many firms pursue online e-commerce ventures. While many such firms failed, online business remains a key component of the trading and operating mechanisms of many firms, including this in bricks and mortar paradigms (Negoro 2003). One implication of this technology use is that, while some may argue that IT itself has little value, it still has much to offer with regard to supporting new strategies and business models.

The conduct of traditional business relies on several key foundations, including closed operations, protection and defence of intellectual property. The modelling of such conditions frequently assumes rational wealth-maximising behaviour on the part of all actors and agents (Altman 2005). However, with the advent of new information and communication technologies, some of these business platforms have been challenged and changed.

At the same time, the popular press has devoted substantial attention to the bankruptcy and failure of apparently well established firms such as Enron, Worldcom and Xerox. This upheaval has understandably caused some anxiety in the corporate community and many are now calling

for tighter restrictions on corporate behaviour and governance mechanisms. These restrictions come in the form of improvements to financial reporting, disclosure, auditing, ownership, operating policy and corporate legislation at large. As Voelpel et al. (2005) write,

“Working 'differently' seems to be an intuitively suitable approach for survival or even prosperity in the present era’s increasingly competitive business landscape. Companies need to change industry rules (the accepted way of doing business in the industry) by fundamentally questioning their tendency to conform to useful but 'unoriginal' (copied, imitated, improved) practices, lessons, and experiences.”

This paper considers the contention that the traditionally fundamental business concepts of customer lock-in, competitor management and content protection might not be essential for all businesses. Instead, a so-called “open strategy” model may offer a way forward in these circumstances by improving customer support and business relationships. Tansey et al. (2005:99) write, “The old dominant logic's core premise that 'We should control our intellectual property, so that our competitors don't profit from our ideas' has been replaced with a realization that external sharing can generate important revenue sources, and superior business models than a firm's own internal business platform”. In this capacity, this paper defines “open strategy” as “a model for business which is based on transparent operation, network collaboration and content sharing”. This paper presents several cases where open strategy is being used and where business products have been given away at no cost to the acquirer.

However, in addition to the problem of potential long-term viability, one key barrier to such open behaviour concerns sharing and collaboration (or otherwise) in and between firms. Hart and Goode (2004) wrote that “the unhindered sharing and integration of data across the organization is very likely to be difficult if not impossible to achieve. The process of trying to achieve such sharing or integration is likely to be fraught with difficulty and associated organizational conflict”. Hirschheim and Newman (1991) also observed, “it can often be noted that there is a mystical value attached to the ownership of data. The sharing of data is thus to be avoided. There is a strongly held belief that harm will come from others accessing ‘our’ data, often without any basis in experience”. The concept of an open strategy as part of an ongoing and sustainable business model would hence require adequate support for collaboration in addition to competitive strategy.

Smits (2002) also raises the question of how such open strategic ventures could work strategically in a networked environment. Wright (2001:147) also cites the need for “more open business models”. This discussion leads to the study’s central research question:

Can “open” strategy models be used in the context of competitive strategy?

The study would be of benefit in the following ways. First, this research would provide academics, practitioners and policy makers with an initial perspective on the viability and success of “open strategy” ventures. Second, there has been much research into funding firms and exploring strategy and significant resources are invested in these new ventures. Given the relatively recent introduction of Internet technology and the development of new online services, it would make good sense to explore possible new business avenues and methods. Third, the paper builds on the valuable initial work already conducted by authors such as West (2003) and Clarke (2004).

The rest of this paper is structured as follows. The next section discusses a range of traditional approaches to commerce and business, making particular reference to the core concepts underpinning these approaches. The following section discusses recent challenges to these traditional business foundations. The paper then presents several cases of open strategic practice, before concluding with a discussion of important limitations and areas for further research.

Traditional Business Models of Competitive Strategy

<Negoro-san's section :) >

This study has its theoretical underpinnings in the analysis of strategy in commercial organisations. Published research into this topic is varied, and initial analysis of the literature suggests that the concept of “competitive strategy” is dealt with in several different ways:

Barney (1991) argues for four requirements for sustained competitive advantage:

- business resources must be valuable
- must be rare/scarce

- must be non-substitutable
- must be inimitable

Challenges to Traditional Business

In recent times there have been a number of occurrences which have, in essence, have challenged many of the foundations of traditional business described in the previous section.

The first case consists of online actors who give away, at no financial cost to the recipient, software that they have written or developed in conjunction with others. A key example of this is the open source software movement, where programmers develop software and subsequently allow others to run, view, modify and, if possible, sell the source code to this software. Importantly, this software is of high quality and in active use around the world: examples include the Linux operating system and the Apache web server. These software products are evidence that useful, valuable and reliable products can be produced outside of traditional payment and remuneration structures.

Similarly, closed source “freeware” allows users to perform local processing tasks and solve problems, without providing any financial remuneration or payment to the original author. In contrast to the open source model, the author in this case retains access to the source code and prohibits subsequent modification of the program. However, users are still able to acquire and operate the software at no financial cost, and with no remuneration to the original author.

A second case concerns Internet users who provide user assistance and advice at no cost to the recipient. This assistance includes advice on programming code techniques, solutions and procedures. One popular example of this is the Wikipedia project. Here, authors collaborate around the world to write and edit a freely accessible online encyclopedia. Other wiki projects have also been set up around the world, dedicated to areas such as current affairs and news, travel, programming and design. These projects show that valuable content can be created without direct, centralised control over quality. In this vein, a significant body of research has found that users will “trust, cooperate and behave altruistically toward anonymous individuals”

(Henrich 2004:19). As Alexander (2002:158) writes, “Why would large numbers of anonymous computer users contribute to the well-being of others they have never met and never will meet?”.

Authors such as Etzioni (1988), Gowdy (2004), Hausman and McPherson (1993), Simon (1993), argue that conventional neoclassical economic theory can not account for such “altruistic” behaviour. Other authors argue that altruistic behaviour can be explained in situations when the cost of not behaving altruistically or charitably are too high for the individual to bear: that is, in certain conditions it is rationally costly *not* to behave charitably.

However, it could be argued that this would largely only occur in situations where personal identity can be verified. Virtual, online environments, where participants are often known pseudonymously, mean that actor identity is not always verifiable. In these cases, actors can behave in any fashion, without significant risk to their offline persona. This would be consistent with the arguments of Cornwell and Lundgren (2001) and Jensen et al. (2005). Kendall (1998:130) also observes "the potential for portraying identities online that differ from offline identities".

The next threat to traditional business concerns popular resistance to copyright and copyright enforcement as documented by Tang (2005), in the context of music, and de Laat (2005) in the context of software. This resistance has occurred on a number of fronts. First, there has been much coverage in the popular press of recent litigation conducted by the RIAA and MPAA against music and movie file sharers (Alexander 2002). These file sharers, the RIAA and MPAA have argued, are violating the rights of copyright holders by making available and subsequently distributing copyrighted documents (Bakker 2005). It is also argued that artists and producers are then disadvantaged as users do not pay for these products (Hunter 2002, Kwok et al. 2003, Tang 2005).

Legal penalties for file sharing are severe, with the RIAA seeking US\$150,000 per violation (that is, per file uploaded or downloaded) (Schaumann 2005). To date, with the average settlement being US\$3,500 (McClure 2005) it is estimated that the RIAA has made some US\$41 million from out of court settlements, having sued more than 15,000 people (Riley 2005). Additionally, Alexander (2002) argues that music industry litigation may slow but not stop this file sharing on

the grounds that servers can move out of legal jurisdiction, P2P software alternatives are readily available, and that the cost of litigation will rise as sharing activity becomes harder to trace.

However, recent research has found that users who download music from the Internet are also more likely to purchase compact discs (Plowman and Goode 2005, Alexander 2002). Further, sales of compact discs have increased in recent years. Additionally, while file-sharing companies such as KaZaA and Grokster have been shut down and other similar firms are defending their business practices (Bhattacharjee et al. 2005, Hunter 2002), legal, commercial alternatives such as Apple's iTunes venture are prospering (Bakker 2005).

This evidence suggests that the penalties and legal activity on the part of the music industry may not be having its intended effect. Further, by embracing this new music technology, the music industry might be able to improve and expand the industry. Similarly, peer to peer methods and technology could be used for other productive outcomes, such as supporting distributed decision making (Goel et al. 2005) and product life-cycle analysis (Bhattacharjee et al. 2005).

Further, there is increasing voice in the legal and ethics research literatures that the penalties exacted under this prosecution are too high (Goode and Cruise 2005). In attempting to preserve or enforce their copyright claims, some firms have been pursuing “digital rights management” (or DRM) strategies. These firms have altered their products so as to make it difficult for unlicensed people or tools to use, copy or manipulate the product (Hwang et al. 2004). The degree to which such a strategy has helped or hindered copyright enforcement is the subject of much debate. A number of authors discuss the extent to which conventional users dislike such an approach to customer relationship management: “It basically shifts the burden of establishing whether a license is in violation of the law on to the end user” (Schneider and Henten 2005:38).

As a reaction to DRM strategies, and despite legislation such as the DMCA (Digital Millennium Copyright Act) in the United States and the EU CD (European Union Copyright Directive), some programmers have developed methods for circumventing DRM restrictions, and authors such as Schneider and Henten (2005) argue that few such schemes have remained unbroken for long. This, in turn, has attracted the ire of a number of firms. In several cases, lawsuits have led to significant penalties in these cases. Some observers question the validity and severity of these penalties, given similar penalties for more heinous crimes.

A further complication to traditional business concerns the use of patents and patent ownership as a method of extracting rents from other firms. Some firms have also been using patent ownership and defense as a business model. The goal in this model is to acquire patents either through application or purchase and then seek out and prosecute infringements of these patents in other firms. This business model is arguably lucrative as patent settlements can be done out of court. These firms may have no other function. Further, their patent defense activity can act to retard innovation and development.

In testament to the increasing proliferation of patents, De Laat (2005) writes, “By now, US patent claims for software have grown into a flood: from almost 4000 in 1988, to almost 21,000 in 1999. Software patent grants have risen in a similar fashion: from 2000 in 1988, to about 20,000 in 1999. A rough estimate holds that more than 20,000 patents are currently granted yearly”.

Firms are thus faced with the following choice. On one hand they can legislate and develop policy for particular IT, increase sunk cost and asset specificity of that technology and subsequently forego taking advantage of future IT development. On the other, they can maintain an ad-hoc approach to technology use in order to fluidly appropriate new technology, but risk violating governance requirements. This problem is further complicated by the different approaches likely to be taken by smaller and larger firms, where resources, expertise and risk approach are different (Goode 2001).

Cases of “Open Strategy”

While there is very little published literature on the concept of an “open business model”, some authors have indirectly commented on the topic. Frieden (2005) cites the work of Lee et al. (2000), who discuss the business atmosphere between some firms in California's Silicon Valley, noting that knowledge sharing in addition to competition: "This win/win environment results from the frequent formal and informal interactions among people with similar interests and objectives. Networking and relationships matter as much as technological innovations" (p. 601).

Ulieru et al. (2001) and Karageorgos et al. (2003) discuss the concept of "holonic" business ventures to describe open, temporary business networks which could theoretically provide extended benefits over closed business ventures. Software agents, these authors argue, are ideally suited to facilitating such a venture on the grounds that they can operate fluidly within an ordered negotiation environment. Karageorgos et al. (2003) develop a protocol for such a holonic case.

In addition to this literature commentary, a number of recent commercial developments hold promise for the existence of an open model of conducting business. These are discussed below.

Misumi Industries

Misumi is a producer of metal molds in Japan. Misumi is known for pursuing an open approach to business. Its former president, Horoshi Taguchi, writes,

“I tell our people to disclose Misumi's information to anyone who needs it in principle. More concretely, Misumi positively discloses each and every piece of information on purchase conditions such as distribution markup, amount and volume of the trade to all bidders and lets them compete openly with each other to get selected. From the beginning, Misumi's objective was to procure goods from suppliers that best benefit our customers, not to sell by all means whatever was produced by manufacturers from the standpoint of suppliers” (Taguchi 1997).

- Matsui Securities?
- apache, firefox and open source software movement
- bbc open archive
- creative commons licencing

Red Hat Inc.

Red Hat Inc, originally founded in 1993, develops a version of the Linux open source operating system. Red Hat employs some 900 people and its market capitalisation currently sits at some US\$4.1 billion, with healthy annual revenues.

While the firm develops and sells many software products, their flagship software products are the open source Fedora Core and Red Hat Linux Enterprise Edition. Based on the operating system originally started by Linus Torvalds, the source code to this product is freely available under the GNU/Linux software licence. Any user is free to acquire, change and, if possible, sell the software and source code.

Red Hat Inc's key resources are commercial subscription fee revenues and the supply of support services such as training and user technical support. Red Hat makes available their key software product for free, and sells additional knowledge services in order to build revenue and a user base. While Red Hat does hold a small number of technology patents around the world, they have pledged never to enforce these patents against open source products.

This open strategy presents a number of key benefits. First, with respect to their product resources, the open availability of the source code means that development of the software product itself is very fast. Also, software developers can easily see what changes are being made, and add to or improve on the work. Problems can be fixed quickly, and new features can also be added very quickly, so the software product and the Red Hat firm itself develop a reputation for security and innovation.

The second key resource benefit lies with the outside development community. By providing the source code to all users, Red Hat is able to foster a global developer community. As with other communities, developers feel a sense of belonging and co-operation. This, in turn, supports and reinforces the Red Hat user base.

Istyle Inc.

Cosmetics and beauty products are a major industry in Japan, with some estimates placing total annual revenues at Y1.5 trillion (Ogawa 2002). Competition between cosmetics firms, of which Shiseido is the market leader, is fierce.

Istyle, also known as “@cosme”, is an online Japanese firm gathers consumer opinions and feedback on cosmetics and cosmetic lines. Ogawa (2002) notes that, as of 2002, the site had “more than 460,000 reviews covering more than 27,000 items”. Any user is freely able to browse the reviews, as well as posting their own product opinions. The site enjoys significant user activity, with more than half a million page hits per day.

As a result of this user activity, Istyle has amassed a large and valuable database of reviews and user opinions. The database also contains corresponding data on each user's age and skin type. Istyle uses this database to offer market analysis and consumer reaction reports to cosmetic firms. Firms can specify the product on which they would like additional market reaction information, and Istyle provides tailored reports based on their review database. This, in addition to onsite advertising, has contributed significantly to Istyle's revenue base.

Istyle recognises, however, that its main asset lies in its continued patronage from its user base. Additionally, Istyle understands that cosmetic firms value honesty in their market appraisals. As a result, Istyle aims to maintain an open relationship with its users. This, in turn, provides a useful and valuable resource for the associated cosmetic firms. If Istyle was to assert greater control over its users' behaviour and interaction, or if it was to prevent or manipulate negative reviews, the company would erode its own asset base.

Similarly, if Istyle was to exclusively deal with one particular cosmetics company, they could risk becoming locked into a narrow supply agreement. Additionally, they might again risk their user base by appearing partisan or biased in their operations.

IBM

- use of linux
- provision of services to clients
-

Horn (2005:31) writes,

“Linux, or any world-class operating system, would cost a company like IBM about half a billion dollars a year to create and support on its own. However, the Linux community...is already spending about a billion dollars in constant refinements and added function. As a result, IBM can spend much less than would ordinarily be required, concentrating on the customisation of Linux for customers rather than base functions. In this way, IBM is able to much more efficiently provide a fully customized operating system to meet customers' needs”

Google and Amazon Open API's

Framework Development

Framework development in this paper first involves a literature search in order to determine principal requirement items. These items may be located in varying literature bodies, and across different papers within a given discipline. For example, studies such as Post and Kagan (2001), Pendergast and Hayne (1999) and Eder and Igbaria (2001) discuss the parallel but at times quite separate scholarly discussion of collaborative, groupware and intranet development environments.

The study aims to develop a framework of the requirements for collaboration in an internetworked context. An analysis of the literature suggests a dearth of research into the existence or development of a framework for examining collaborative software development environments. Given the dearth of research in the area, this paper seeks to adopt an established method for research development. Accordingly, the paper adopts a similar approach to that of Mulligan (2002) in conducting a literature search to define the broader research framework under examination.

In the interests of developing a holistic assessment of the construct, the study was particularly cognizant of searching literature throughout the information systems spectrum. This search was to include journals from the “harder” area of systems development, including software engineering and formal methods, as well as the “softer” area of systems development, including user analysis, organisational behaviour and IT policy specification.

Results

Table 1 shows the principal requirements of collaborative development programs as suggested by a review of the recent research literature in the area.

- knowledge sharing

While no existing framework has yet been found in the literature, Dean et al. (1998) does support the general model of differentiating between users and groups. The requirements for distributed software development collaboration, as gleaned from a review of the literature, appear to be

divisible into four broad categories. The first relates to requirements of the development tool itself: studies place particular emphasis on fluid information sharing and standardisation of operation.

Table 1: Tool Requirements

Dimension	Source
Version Control	(Radding 2000)
Code reusability	(Pasala and Janaki 1998, Chandra et al. 2000)
“Reviewability” of code design	(Woo and Sasada 2001)
Seamless application integration	(Kuwana et al. 1996, Kvan and Candy 2000)
Standardisation	(Chandra et al. 2000, Harvey and Koubek 1998, Dean et al. 1998)
Fluid information sharing	(Fielding 1999, Kuwana et al. 1996)
CASE tool/modeling access	(Dean et al. 1998)
Fast code/content delivery	(Radding 2000)
Training	(Dean et al. 1998, Kvan and Candy 2000)

The second group relates to the policy behind the developmental collaboration. Few studies have explored this facet, however studies that did explore this area emphasised security.

Table 1: Policy Requirements

Dimension	Source
Adaptability	(Sawhney and Prandelli 2000)
Governance	(Sawhney and Prandelli 2000)
Established user access policy	(Pasala and Janaki 1998)
Intellectual Property Rights	(Sawhney and Prandelli 2000)
Security	(Pasala and Janaki 1998, Radding 2000, Chandra et al. 2000)

The third group, users, seems to be poorly addressed in the literature. Researchers may prefer to focus on users in aggregate instead of concentrating on individuals.

Table 1: User Requirements

Dimension	Source
Comprehensible Interface	(Dean et al. 1998)
Unique Login/Management	(Pasala and Janaki 1998)

Not surprisingly, the bulk of literature in the area appears to focus on groups (programming teams, companies or governments) and developmental collaboration: organisational flexibility, and support for personal and cultural variability are prominent.

Table 1: Group Requirements

Dimension	Source
Organisational Flexibility	(Kuwana et al. 1996, Radding 2000, Sawhney, Chandra et al. 2000)
Cultural Variability Support	(Woo and Sasada 2001, Radding 2000, Gay and Grosz-Ngate 1994)
Support for Personal Differences	(Fielding 1999, Sawhney, Gay and Grosz-Ngate 1994, Dean et al. 1998)
Support for Multiple Users	(Fielding 1999, Kuwana et al. 1996, Woo and Sasada 2001, Harvey and Koubek 1998)
Support for Groups	(Pasala and Janaki 1998, Radding 2000, Sawhney, Gay and Grosz-Ngate 1994, Dean et al. 1998, Kvan and Candy 2000)
Facilitator/Manager Support	

Limitations

The tentative ideas presented in this paper are subject to a number of important limitations. First, it is likely that the concept of an open strategy may not suit every business model. While this paper has tried to argue that there may be benefits to adopting an open strategy for many firms, it is still possible that some firms or industries will not suit the methods or ideas discussed here. These industries would, however, make for compelling future research.

Second, this paper has discussed the concept of open strategy with respect to technology and technology-related firms. In part, this is because these firms are able to take advantage of the intermediation and disintermediation effects of the Internet and other large volume, high speed networking tools. It is possible that firms in other industries that do not or cannot rely on this technology may not be able to use such a strategy.

Third, given the long history of traditional business methods and the degree to which traditional 'closed' methods of conducting business, it is likely that the use of open strategies may require a significant paradigm shift in terms of both business thinking and general approach to new

business partners. Whereas Altman (2005) writes, “Ethical or moral behavior need not be materially costly but it is often so regarded in the literature”, it is possible that pursuing an open strategy could be a costly experiment in developing this new understanding.

Fourth, it is acknowledged that the literature list may be incomplete. For instance, the framework makes no mention of automated testing environments or documentation requirements for multi-organisational developments. These absences require attention.

It should also be noted that the model does not enforce indicator or component specificity. That is, we cannot be sure that individual indicators do not inform multiple constructs or categories, possibly invoking problems of multiple causality (Cortina 2002). Additional linearity analysis in the future may give some indication in this regard.

Directions for Research

This paper has discussed the relationship between competitive strategy and the prospect of open strategy models. The arguments presented in this paper open a number of areas for further research on the subject of open strategy and open business models.

First, the literature search conducted in this paper requires additional exploration. This might come in the form of additional confirmatory literature searching or some empirical verification, possibly by way of case study analysis. In a related area, work is needed on the degree to which a group or mix of strategies and business models could work for a given firm in a given market. Further, the literature would benefit from an understanding of which strategic mix would be most valuable. For example, Horn (2005), also calling for further research in this area, discusses the concept of a commercial 'ecosystem' where business departments or components can work with the components of other businesses.

Second, this paper has discussed the use and application of open strategy in the context of technology-related firms. In particular, the paper has focused on firms that already use technology and networking as an integral part of their business models. Further work is needed into firms whose core business lies outside this technology area. Research into industries such as manufacturing and retail would be of distinct benefit to the research community.

Third, the paper makes the argument that an open business strategy could thrive based on providing more free access to materials and content. If this is the case, then further work is needed into the nature of these free projects. In particular, additional exploratory work is needed on the motivation to participate in free and open source projects. The literature would benefit from an understanding of whether this participation is undertaken on the promise of future recompense or merely a question of altruism or philanthropy. Clearly, this 'future recompense' need not be financial: in this case, work is needed on the nature, form, transferability and value of such recompense measures.

Fourth, it would be beneficial to understand more about the managerial practices that should be used in circumstances where traditional financial compensatory measures or company structures do not apply. If annual salaries do not suit the agreement or arrangement at hand, then other remunerations methods might be more appropriate and attractive.

Conclusions

The study so far has developed, from the recent research literature, a basic framework for the ideal requirements for distributed collaborative computing environments.

The full relationship between open strategy models and competitive strategy can not be completely understood without further analysis.

As Lessig (2004:308) writes, “As the sellers of cable television have known for thirty years, and the sellers of bottled water for much more than that, there is nothing impossible at all about 'competing with free'”.

This paper documents a research in progress, and the next stages of the study adopt a two-pronged approach. First, the framework developed above requires further analysis and development. This extends to exploring the categories identified this far in order to improve rigour. Some areas of the framework require improved definition: tool standardization and information sharing, in particular, are somewhat vague. In addition, a better understanding of the relationship between categories is required. The second stage of the study aims to continue the application of this framework to open business models in context.

References

- Alexander, P. J., 2002, "Peer-to-Peer File Sharing: the Case of the Music Industry", *Review of Industrial Organizations*, Vol. 20, 151–161
- Altman, M., 2005, "The Ethical Economy and Competitive Markets: Reconciling Altruistic, Moralistic, and Ethical Behavior with the Rational Economic Agent and Competitive Markets", *Journal of Economic Psychology*, Vol. 26, No. 5, October, 732-757
- Bakker, P., 2005, "File-sharing - Fight, Ignore or Compete: Paid Download Services vs. P2P-Networks", *Telematics and Informatics*, Vol. 22, No. 1-2, February-May, 41-55
- Barney, J. B., 1991, "Firm Resources and Sustained Competitive Advantage", *Journal of Management*, Vol. 17, No. 1, 99 - 120
- Bhattacharjee, S., Gopal, R., Lertwachara, K., Marsden, J. R., "Using P2P Sharing Activity to Improve Business Decision Making: Proof of Concept for Estimating Product Life-cycle", *Electronic Commerce Research and Applications*, Vol. 4, No. 1, Spring 2005, 14-20
- Chandra, J., Gasser, L., March, S., Mukherjee, S., Pape, W., Ramesh, R., Rao, H., Waddoups, R., 2000, "Information Systems Frontiers," *Communications of the ACM*, Vol. 43, No. 1, January, 71-79
- Clarke, R., 2004, "Open Source Software and Open Content as Models for eBusiness", 17th International Electronic Commerce Conference, Bled, Slovenia, 21-23 June
- Cornwell, B., Lundgren, D. C., "Love on the Internet: involvement and misrepresentation in romantic relationships in cyberspace vs. realspace", *Computers in Human Behavior*, Vol. 17, No. 2, 1 March 2001, 197-211
- Cortina, J. M., "Big Things Have Small Beginnings: An Assortment of 'Minor' Methodological Misunderstandings", *Journal of Management*, Vol. 28, No. 3, June 2002, 339-362
- de Laat, P. B., 2005, "Copyright or copyleft?: An analysis of property regimes for software development", *Research Policy*, Vol. 34, No. 10, 1511-1532
- Dean, D., Lee, J., Pendergast, M, Hickey, A., 1998, "Enabling the Effective Involvement of Multiple Users: Methods and Tools for Collaborative Software Engineering", *Journal of Management Information Systems*, Vol. 14, No. 3, 179 – 223
- Eder, L. B., Igarria, M., 2001, "Determinants of Intranet Diffusion and Infusion", *Omega*, Vol. 29, No. 3, 233-242
- Etzioni, A., 1988, *The Moral Dimension: Toward a New Economics*, Free Press, New York
- Fielding, R. T., 1999, "Shared Leadership in the Apache Project", *Communications of the ACM*, Vol. 42, No. 4
- Frieden, R., 2005, "Lessons from Broadband Development in Canada, Japan, Korea and the United States", *Telecommunications Policy*, Vol. 29, No. 8, 595-613

- Gay, G., Grosz-Ngate, M., 1994, "Collaborative Design in a Networked Multimedia Environment: Emerging Communication Patterns", *Journal of Research on Computing in Education*, Vol. 26, No. 3
- Goel, S., Talya, S. S., Sobolewski, M., 2005, "Service-based P2P Overlay Network for Collaborative Problem Solving", *Decision Support Systems*, In Press, Corrected Proof
- Goode, S., Cruise, S., 2005, "What Motivates Software Crackers?", *Journal of Business Ethics*, to appear
- Goode, S. 2001. "Organisational size metrics in IS research: a critical survey of the literature 1989-2000". *Proceedings of the Australasian Conference on Information Systems (ACIS) 2001*, 29
- Gowdy, J. M., 2004, "Altruism, Evolution, and Welfare Economics", *Journal of Economic Organization and Behavior*, Vol. 53, 69–73
- Hart, D., Goode, S., 2004, "A Value-Based Analysis of Data and Information Sharing Behaviour in Organizations", *Proceedings of the 8th Pacific Asia Conference on Information Systems (PACIS)*, Shanghai, China
- Harvey, C. M., Koubek, J. K., 1998, "Toward a Model of Distributed Engineering Collaboration", *Computers and Industrial Engineering*, Vol. 35, No. 1
- Hausman, D. M., McPherson, M. S., 1993, "Taking Ethics Seriously: Economics and Contemporary Moral Philosophy", *Journal of Economic Literature*, Vol. 31, 671–731
- Henrich, J., "Cultural Group Selection, Coevolutionary Processes and Large-scale Cooperation", *Journal of Economic Behavior & Organization*, Vol. 53, No. 1, January 2004, 3-35
- Hirschheim, R., Newman, M., 1991, "Symbolism and Information Systems Development: Myth, Metaphor and Magic", *Information Systems Research*, Vol. 2, No. 1, 29-62
- Horn, P. M., "The Changing Nature of Innovation", *Research Technology Management*, Vol. 48, No. 6, 2005, 28 - 33
- Hunter, P., 2002, "DRM: Whose Rights are They Anyway?", *Computer Fraud & Security*, Vol. 2002, No. 2, February, 14-15
- Hwang, S. O., Yoon, K. S., Jun, K. P., Lee, K. H., 2004, "Modeling and Implementation of Digital Rights", *Journal of Systems and Software*, Vol. 73, No. 3, 533-549
- Jensen, C., Potts, C., Jensen, C., "Privacy practices of Internet users: Self-reports versus observed behavior", *International Journal of Human-Computer Studies*, Vol. 63, No. 1-2, July 2005, 203-227
- Jöreskog, K. G., Sörbom, D., 1989, *LISREL 7 User's Reference Guide*, Scientific Software, Inc., Chicago, USA
- Karageorgos, A., Mehandjiev, N., Weichhart, G., Hämmerle, A., 2003, "Agent-based Optimisation of Logistics and Production Planning", *Engineering Applications of Artificial Intelligence*, Vol. 16, No. 4, 335-348

- Kendall, L., 1998. "Meaning and identity in 'cyberspace': the performance of gender, class, and race online", *Symbolic Interaction*, Vol. 21, 129–153
- Kuwana, E., Yana, E., Sakamoto, Y., Nakamura, Y., Horikawa, K., 1996, "Computer-Supported Meeting Environment for Collaborative Software Development", *Information and Software Technology*, Vol. 38, No. 3
- Kvan, T., Candy, L., 2000, "Designing Collaborative Environments for Strategic Knowledge in Design", *Knowledge-Based Systems*, Vol. 13, No. 6, 429-438
- Kwok, S. H., Cheung, S. C., Wong, K. C., Tsang, K. F., Lui, S. M., Tam, K. Y., 2003, "Integration of Digital Rights Management into the Internet Open Trading Protocol", *Decision Support Systems*, Vol. 34, No. 4, March, 413-425
- Lee, C. M., Miller, W. F., Hancock, M. G., Rowen, H. S., 2000, "The Silicon Valley Habitat", In C. M. Lee, et al. (Eds.), *The Silicon Valley Edge: A Habitat for Innovation and Entrepreneurship* (pp. 1–15), Stanford, California: Stanford University Press
- Lessig, L., *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity*, Penguin Press, New York, 2004
- McClure, D., "Reality Check", *CPA Technology Advisor*, December 2005. Vol. 15, No. 8, 66
- Negoro, T., 2003, "Internet-Specific Business Strategies Do Not Exist: An Analysis from a Resource-Based Perspective", *Waseda Business and Economic Studies*, No. 39, 21 – 34
- Ogawa, M., Kokuryo, J., (2002), 'istyle Inc.', Case Material, Graduate School of Business Administration, Keio University, Japan
- Pasala, A., Janaki Ram, D., 1998, "FlexiFrag: A Design Pattern for Flexible File Sharing in Distributed Collaborative Applications", *Journal of Systems Architecture*, Vol. 44, No. 12
- Pendergast, M., Hayne, S., 1999, "Groupware and Social Networks: Will Life Ever be the Same Again? ", *Information and Software Technology*, Vol. 41, No. 6
- Plowman, S., Goode, S., "An Analysis of the Determinants of Music Sharing Behaviour", Working Paper, School of Business and Information Management, 2005
- Post, G., Kagan, A., 2001, "User Requirements for OO CASE Tools", *Information and Software Technology*, Vol. 43, No. 8, 509-517
- Radding, A., 2000, "Developing Products in Sync", *InformationWeek*, Nov 27
- Riley, J. L., "Copyfight", *Wall Street Journal* (Eastern edition), New York, Nov 26, 2005, A.10
- Sawhney, M., Prandelli, E., 2000, "Communities of Creation: Managing Distributed Innovation in Turbulent Markets", *California Management Review*, Summer
- Schaumann, N., "Direct Infringement on Peer-to-peer Networks", *Journal of Internet Law*, 2005. Vol. 8, No. 10, 1-19
- Schneider, M., Henten, A., 2005, "DRMS, TCP and the EUCD: Technology and Law", *Telematics and Informatics*, Vol. 22, No. 1-2, February-May, 25-39
- Simon, H., 1993, "Altruism and Economics", *American Economic Review*, Vol. 83, 156–161

- Smits, R., 2002, "Innovation Studies in the 21st Century: Questions From a User's Perspective", *Technological Forecasting and Social Change*, Vol. 69, No. 9, 861-883
- Taguchi, H., 1997, *Kakusuna!*, Nihon Keisai Shimbunsha
- Tang, P., "Digital copyright and the "new" controversy: Is the law moulding technology and innovation?", *Research Policy*, Vol. 34, No. 6, August 2005, 852-871
- Ulieru, M., Walker, S., Brennan, B., 2001, "Holonc Enterprise as a Collaborative Information Ecosystem" In: Brennan, R.W. (Ed.), *Workshop on Holons: Autonomous and Cooperative Agents for the Industry*, 5th International Conference on Autonomous Agents, Montreal, Canada
- Voelpel, S., Leibold, M., Tekie, E., von Krogh, G., 2005, "Escaping the Red Queen Effect in Competitive Strategy: Sense-testing Business Models", *European Management Journal*, Vol. 23, No. 1, February, 37-49
- West, J., "How open is open enough?: Melding proprietary and open source platform strategies", *Research Policy*, Vol. 32, No. 7, July 2003, 1259-1285
- Woo, S., Lee, E., Sasada, T., 2001, "The Multi-User Workspace as the Medium for Communication in Collaborative Design", *Automation in Construction*, Vol. 10, No. 3