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December 2002

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SELF-SERVE INTERNET TECHNOLOGY AND SOCIAL EMBEDDEDNESS: BALANCING RATIONALIZATION AND RELATIONSHIPS[1]

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Abstract

Much of the research on the impacts of electronic communication networks such as the Internet presents as competing substitutes personal, embedded relationships and computer-mediated, arm's-length relationships between exchange partners. More recent research highlights the complementarity of these two kinds of relationships (e.g., Kraut et al. 1999). However, this research has not explored what following a strategy of complementarity means in situ. This paper seeks to address this shortcoming. Using ethnographic data to explore the consequences of implementing a self-service technology in an environment in which social relationships and social capital are regarded as a key to success, the research presented here highlights the tensions inherent in a business model that seeks to integrate rationalization and relationships.

1   INTRODUCTION

In the debate on the implications of electronic networks such as the Internet on market and organizational structures, two opposing perspectives have traditionally been evident. Proponents of transaction cost economics highlight that communication technologies like the Internet reduce transaction, coordination, and search costs, thus favoring the development of electronic markets characterized by arm's-length transactions between buyers and sellers (e.g., Malone et al. 1987). In contrast, proponents of social theories challenge the rational actor assumptions inherent in transaction cost economics. They maintain that transactions embedded in social relationships are more efficient than arm's-length relationships (e.g., Granovetter 1985; Uzzi 1997), thereby suggesting that these embedded relationships will prevail despite changes in communication media.

Even though electronic media and personal relationships have been treated as substitutes in much of this research, recently the complementarity of rational and relational theories has been recognized in such related areas of research as media choice (Webster and Trevino 1995), virtual organizing (Kraut et al. 1999; Steinfield et al. 1995), and market structures (Uzzi 1999). While such arguments of complementarity and integration are appealing in that they seem to resolve the tension inherent in the two opposing theoretical perspectives, it is unclear from the above-mentioned research what following a strategy of complementarity means *in situ*, i.e., in the day-to-day operations of a firm and the day-to-day work practices of customers and providers (firm representatives). Exploring this question is the focus of the study presented here. In particular, this research focuses on one firm's effort at integrating Internet-based self-serve technology with *service relationships* (Gutek 1995), that is, a service delivery strategy whereby a customer conducts repeated business with a specified provider such that a socially embedded relationship can be established.

The firm analyzed for the purpose of this study is WebGA (a pseudonym), a dot-com "general agent"[2] operating in the small group health insurance industry in the United States. Even though the industry supply chain is long and would appear to be ripe for disintermediation, WebGA has developed a "broker centric" business model because it recognized the important role that relationships (especially between brokers and small businesses) play in this market. It is WebGA's business model, which seeks simultaneously to rationalize the industry through Internet technology and to honor and leverage relationships, that renders this firm particularly suitable for this research.

The paper is structured as follows: rational and relational perspectives of Internet technology's impact on exchange relationships are outlined briefly. This is followed by a description of WebGA and the research method. Two main findings are discussed, namely that Internet technology emphasizes brokering over partnering and that some of the features of self-serve E-Commerce have negative consequences on established embedded relationships. The paper concludes with a summary of the tensions that have to be anticipated and managed when firms seek to pursue a strategy complementarity and integration.

2 RATIONAL AND RELATIONAL PERSPECTIVES ON INTERNET TECHNOLOGY'S IMPACT

2.1 Rational Perspective

Using transaction cost economics (Williamson 1975), researchers studying information technology have predicted changes in market structures based on the reduction of inter-firm coordination costs that stem from the use of electronic communication media (Bryjolfsson et al. 1994). In a landmark article, Malone et al. (1987) argue that the use of information technology will favor an *electronic brokerage effect* and thus lead to more arm's-length, market exchanges between firms than hierarchical exchanges. Online markets that bring together large numbers of buyers and sellers are an instantiation of this electronic brokerage effect; they reduce the search costs of buyers and sellers finding and evaluating each other. As a result, electronic markets will (1) enable buyers to develop a large pool of potential sellers without demonstrating loyalty toward any one seller and without increasing the risk of opportunism, and (2) eliminate real brokers, i.e., the intermediaries who frequently absorb the search and coordination efforts on behalf of a principal. In other words, the electronic brokerage effect should promote disintermediated (Wigand 1997), arm's-length exchanges at the cost of socially embedded relationships between buyers and sellers. Furthermore, since arm's-length relationships are assumed to be the most efficient, transaction cost theorists would expect a market characterized by lean and sporadic transactions to require neither prolonged human contact nor a social contract in order to persist (Uzzi 1999).

2.2 Relational Perspective

Granovetter (1985) asserts that the assumption of rationality underlying transaction cost economics provides an undersocialized view of human action. Uzzi (1997) elaborates on Granovetter's work and challenges the notion that arm's-length market transactions are more efficient than transactions embedded in social relationships. His research demonstrates that the development and enforcement of contracts are enhanced when buyers and sellers have socially embedded relationships, which are characterized by interdependence, reciprocity, and trust. He points out that managers find themselves in social relationships imbued with norms and expectations, and that these cause managers to act in ways that do not necessarily maximize their economic utility. Instead, "embedded actors satisfice rather than maximize on price and shift their focus from the narrow economically rational goal of winning immediate gain and exploiting dependency to cultivating long-term, cooperative ties" (Uzzi 1997, p. 37). Thus *partnering* is promoted through embedded relationships since there is "no trade-off between selfish interests and an exchange partner's interests because valuing an exchange partner's interest is appropriate for roles that are linked through embedded ties" (Uzzi 1999, p. 501).

Social embeddedness is "the degree to which commercial transactions take place through social relations and networks of relations that use exchange protocols associated with social non-commercial attachments to govern business dealings" (Uzzi 1999, p. 482). In exchange relationships that embrace social embeddedness, customers and providers build social capital (Nahapiet and Goshal 1998). Social capital is a sense of obligation, goodwill, and reciprocity, which customers can exchange for other forms of capital (Adler and Kwon 2002). For instance, customers may use their providers' sense of obligation to get special concessions such as

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[2]Double quotes denote emic and industry-specific terms.

expedited service. Likewise, providers may rely on the loyalty of long-standing customers to charge higher prices. However, provider opportunism is constrained by the self-regulation and interdependence that characterize embedded relationships.

With respect to information technology, these relational theories remain curiously silent. Gutek and Welsh (2000), for instance, assert that service relationships, i.e., their equivalent to embedded relationships, can be enhanced through the use of information technology by enabling providers to better manage their customer data. They also suggest that service relationships can be successfully developed and maintained in both face-to-face (FTF) and computer-mediated communication (CMC) environments. Uzzi (1997), in contrast, asserts that FTF contact is a structural antecedent to building embedded relationships but does not provide any theoretical justification for this assertion.

Media choice theories, especially "cues filtered out" theories (Culnan and Markus 1987), also called media trait theories (Carlson and Davis 1998), however, do provide some theoretical guidance. Media richness theory (Daft and Lengel 1986), social presence theory (Short et al. 1976), and Sproull and Kiesler's (1986) lack of social context cues hypothesis are generally regarded as the "cues filtered out" theories. (For a detailed review of these three theories, see Walther 1995.) As a whole, these theories assert that CMC does not enjoy the same bandwidth as FTF communication and predict that as bandwidth narrows, communication becomes more serious, more task-oriented and business-like, less personal, and possibly even more hostile. A CMC context offers both the customer and provider "only limited impressions with which to construct the meaningful identities that enable people to orient themselves to, and develop strategies for interacting with, one another" (Nohria and Eccles 1992, p. 295). "Cues filtered out" theories thus indicate that it is easier for a customer and provider to develop embedded relationships in FTF than in CMC exchanges.

In contrast to the predictions made by cues filtered out theories, Walter and Anderson's (1994) social information processing theory focuses on the positive effects of CMC on interpersonal communication. They argue that "communicators using any medium experience the similar need for uncertainty reduction and affinity, and to meet these needs CMC users will adapt their linguistic and textual behaviors to the solicitation and presentation of socially revealing, relational behavior" (p. 462). Given sufficient time, individuals using electronic media may not only exchange the same amount of social information as they would face-to-face, but they may actually exchange more. This is because the asynchronous nature of CMC blurs the temporal boundaries between task and interpersonal interactions as a sender's task and social exchanges are not constrained by the availability of the receiver. Hence, due to the liberating effects of asynchronicity, electronic media can facilitate "hyperpersonal interaction" (Walther 1996).

Coupling social information processing theory with Kraut et al.'s (1999) finding that electronic media usage was positively related to the existence of established relationships, an argument for the complementarity of not only rational and relational theories but also arm's-length, relationship-promoting Internet technologies and embedded relationships in practice can be made. It is the management of this complementarity in practice that is the focus of this research.

3   METHOD

The firm studied was WebGA (a pseudonym). This section presents an overview of the research site and describes the data collection and analysis methods used.

3.1 Site

WebGA is a "general agent" in the small group health insurance market. As such, it mediates between independent insurance brokers and "insurance carriers" by providing brokers with "proposals" for health insurance plans from multiple carriers, sales advice, and sales material such as enrollment forms and benefits packages. In addition to such pre-sales services, general agencies also "scrub" the completed "cases" prior to submitting them to the insurance carriers. Case scrubbing involves the identification of missing information that brokers have to supply before the insurance carrier will underwrite the case. Just as brokers are compensated by the insurance carrier through a percentage-based commission, general agents earn a percentage-based "override" from the carrier on "written" cases.

WebGA can be categorized as an "intermediary" (Weill and Vitale 2001, p. 182), which implies that it owns customer relationships and customer data, but not the customer transaction, which occurs between the health insurance carriers and the small business. It further implies that WebGA has two sets of customers: carriers and brokers. Adapting Weill and Vitale's representation scheme, WebGA's business model can be summarized as diagrammed in (Figure 1).
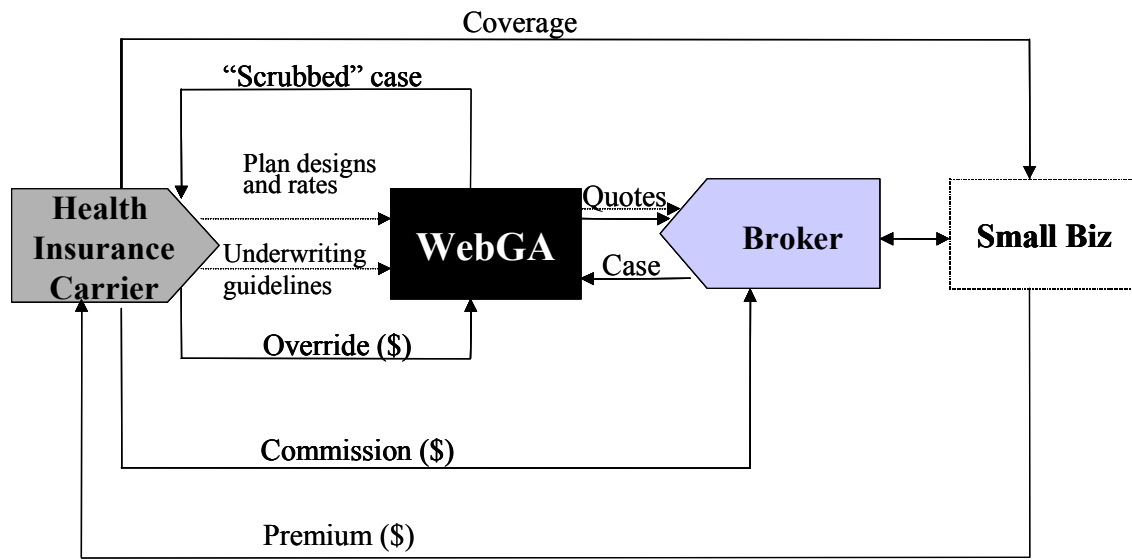
Figure 1. WebGA's Business Model

WebGA was founded in 1979 as a traditional general agency (PreWebGA). It embraced technology early, and its initial quoting and case-management system won a Microsoft technology award. In May 1999, PreWebGA, by then a subsidiary of a large health insurance carrier, became an independent Internet company. At this point WebGA extended its technology investments, deciding to more aggressively utilize the Internet to "provide a Web-based infrastructure to support and rationalize the highly fragmented and inefficient distribution of employee benefits to the rapidly growing small business (100 employees or less) market." In its business plan, WebGA highlighted the attractiveness of the small business market, which represented 80 million lives, or 40 percent of the U.S. workforce. Furthermore, industry estimates suggested that the small group health market was $115 billion in 2000, and that Internet technology could reduce by 60 percent insurance distribution costs, which amount to about 2 percent of every dollar spent on health insurance. In fact, WebGA's business plan described the traditional sales process as taking 45 days, and claimed that this process could be completed in 45 minutes with WebGA's Internet technologies.

Despite its interest in rationalizing the small group health insurance market through Internet technology, WebGA recognized the importance of embedded relationships, especially between brokers and small business owners. Hence it developed a "broker-centric" business model and a mission of "helping brokers sell more health insurance" by making them more efficient and effective through Web tools. The Web technology central to WebGA's strategy was a self-serve, online quoting engine. Instead of brokers faxing "census" information to their WebGA sales representative, so that the representative or a "proposal analyst" would generate the proposals "in house," brokers could go online, provide information on their client, and select from all available plans the ones they wanted to include in a consolidated "proposal." The online quoting engine then generated a proposal in the form of a pdf file (and from August 2001, an Excel spreadsheet) that was e-mailed to the broker almost immediately. This proposal was customized with the client's name and address, and contained, in a consistent format, all the plans requested by the broker.

In addition to making brokers more efficient, WebGA also expected its online quoting system to make its internal operations more scalable and cost-effective. Given that carrier overrides typically amounted to less than 5 percent of the annualized premium, WebGA needed operational efficiencies and high sales volumes. Thus, with the time that sales representatives gained because brokers used the self-serve online quoting system, they were expected to develop new customers. WebGA offered incentives to sales representatives to migrate their brokers to the online quoting system. Sales commissions for cases sold from an "Internet-originated proposal" were about 1.5 times the commission earned on cases quoted in-house.

All of WebGA's services were free for the broker. However, WebGA expected brokers who had received information, quotes, and help from their sales representatives, to "submit through" WebGA the cases that they sold. This was because WebGA only earned a carrier override on the cases it submitted on behalf of a broker. Since there was nothing preventing a broker from submitting a case directly to a carrier even after consulting with a WebGA's representative on it, it was important for brokers to

feel some sense of obligation toward WebGA that would prevent them from cutting WebGA out of the deal when it came to submitting a sold case. The WebGA sales representatives, therefore, actively sought to develop strong relationships with their brokers.

The representatives also followed up with the brokers that used the WebGA online quoting engine. Every time a broker generated an online quote, an alert e-mail was sent to his or her representative. During the follow-up phone call, sales representatives asked brokers whether they "got what they needed" from the proposal. This follow-up call also gave representatives the opportunity to learn more about the broker's sense of the case, i.e., when it was going to be written and which plan the client was most likely to choose. This information allowed the sales representative to offer suggestions that might increase the likelihood of a successful sale. Additionally, this information was key to "checking status" on the case, a process intended to ensure that the broker would write it through WebGA.

From the brokers' perspective, developing relationships with WebGA sales representatives was beneficial also. For instance, the pace of change in the health insurance industry was so fast (with changes in plan designs, rates, and regulation) that most brokers found it hard to keep up, especially since they typically worked alone. Their desks were generally piled high with mostly unread brochures, policies, newsletters, and trade magazines. This meant that brokers relied on general agent and carrier sales representatives for information and market intelligence. For example, brokers learned about changes in carriers' underwriting guidelines and what plans were competitive from their WebGA representatives. Sales representatives were also sometimes willing to help brokers make presentations to the client or "enroll" the group. Having an unbiased (and general agent sales representatives are perceived to be relatively unbiased because they represent multiple carriers) and highly knowledgeable general agent sales representative along on a sales call could help clinch a deal.

As of March 31 2000, WebGA had over \$1 billion in annualized premiums under management. It had 18,000 insurance brokers signed up for its service, and they had sold health insurance to over 65,000 small businesses covering over 450,000 lives. It had contracts with over 100 insurance carriers offering a variety of health, life, and dental plans, and it offered multiple products in 50 states. In May 2001, WebGA employed about 450 people full time across 21 sales offices in nine states. Some of these offices were virtual, consisting merely of one field sales representative working out of his or her home. WebGA employed about 90 sales representatives.

3.2 Data Collection and Analysis

The data are derived from an ethnographic study conducted between May and December 2001. The author spent 7 months full-time in WebGA's corporate office. She observed people in various departments at work, sat in on meetings of the senior management team, and shadowed sales representatives on their visits to brokers and clients. She conducted phone interviews with 19 sales representatives located at offices other than the corporate office and surveyed WebGA's 90 sales representatives. A total of 67 sales representatives completed the survey (74 percent response rate). In addition, the author conducted phone interviews with 80 of WebGA's brokers, and spent a day observing operations in a small brokerage.

Data analysis was exploratory in nature, and intended to generate insights into the practices that constitute the work done within WebGA and the relationships developed and maintained between WebGA sales representatives and brokers. Inductive, qualitative techniques to analyze the data were used, i.e., multiple readings of the field notes, interview transcripts, and documents collected during the fieldwork. The data analysis focused particularly on the intended and unintended consequences associated with a complementarity strategy, i.e., a business model that seeks to integrate socially embedded relationships and arm's-length, relationship-promoting, self-serve technologies.

4 RESULTS

4.1 Quoting Technology Emphasizes Brokering over Partnering

The interviews with the sales representatives and brokers revealed that the design and implementation of WebGA's Internet technology created numerous difficulties for brokers. These included, among others, information overload and a confusing interface.

4.1.1 Information Overload

The online quoting system did not give the broker the ability to only quote a certain carrier or a certain kind of plan (e.g., HMO). Instead, all of the carriers and all of the plans available for a given ZIP code and "effective date" (i.e., date on which the policy is in force) were displayed, resulting in pages and pages of output. Many brokers reported being overwhelmed by this volume of information, particularly if they were not well versed in the health insurance industry. As one sales representative noted:

> But when they [brokers]…get 10,000 quotes…then they say, "Well, shoot, I don't know," you know. They get a [carrier name] plan with four different options for the same plan. You know, maybe it's a different co-pay. Maybe it's a different co-insurance.… So when they get it back from me, they get probably two quotes from each carrier, and they go online there is like 50 from each carrier so they don't know which ones they want.

Furthermore, not all the plans offered online were endorsed by the sales representatives, as the following comment by a sale representative indicates:

> There's so many ancillary products [on the Web technology] that that's where they [brokers] get into a lot of trouble.…[For example, this carrier] isn't even a good product in [my state], but brokers are quoting it and selling it, and then I'm saying "No, no, no…it's not a good product for your clients." I wish it wasn't on there.

What these quotes highlight is the tension between the partnering that brokers expect from an embedded relationship, and the brokering effects of the Internet quoting technology. Prior to WebGA making its quoting engine available to brokers through the Internet, brokers would rely on their WebGA sales representative to quote plans for them. Some brokers asked for specific plans, but many relied on their representative to select the most appropriate and competitive plans out of the hundreds of plans that WebGA brokered. Thus the partnering between the broker and the representative implied some degree of gatekeeping and information hiding such that the brokers were not overwhelmed by the enormous selection of plans in the market. WebGA's online quoting engine, in contrast, emphasized full disclosure of all possible plans, shifting the onus on the broker to organize the available plans into a meaningful proposal for their clients.

While it should have been feasible to find a technical solution to resolve not only the brokers' information overload problem but also the tension between partnering and brokering, the root of the problem lay in the relationship between WebGA and its other clients, namely the carriers. In order to market all plans equally and fairly, and in order to achieve the sales volume promised to the carriers, WebGA's quoting engine was designed to display all of the plans available for the parameters of a given case, so as to increase a broker's awareness of a product. Indeed, in sales pitches to carriers, the listing of all available plans every time a broker ran an online quote was highlighted as a way of marketing the carrier's plans. Specifically, even if the broker did not ask for the carrier's plan—maybe due to lack of awareness—the plan would nevertheless be displayed.

Similarly, even though brokers would have preferred that the plans be sorted by price, all the plans were sorted in alphabetic order, by carrier name. This was because WebGA's carriers did not want to be "spreadsheeted," i.e., have their plans arranged and compared by price. Thus designing an interface that dealt with the brokers' information overload problem was not a technical issue, but a strategic one that involved WebGA's contractual obligation to its other clients, namely the carriers.

4.1.2 A Confusing Interface

Carriers in different states had different requirements with respect to the census information (data about participants in group, e.g., name, date of birth, dependents, etc.). As WebGA was a national player, its online quoting engine displayed one census input screen to all of its brokers (regardless of their state). This screen required the input of more information than was required for some states (e.g., an insured's spouse's date of birth). Many brokers did not collect this data from their clients and, if they left the field blank on the screen, the system would not allow them to continue. Unless brokers knew that they could enter the insured's date of birth for the spouse also, they might go back to the client to collect the information or enter fictitious dates and wonder about the accuracy of the resulting quotes. As one sales representative noted, sometimes the brokers were not even aware that they had made an error, leading to additional confusion later in the sales process:

> We had a problem recently with the quoting engine because we're different again than other states. We don't put in the home zip codes for the members, for the employees. And the census asks for that information, so the broker working off our Website puts that information in. They might be quoting a Colorado office, with two or three people in Florida. Well, you can't quote that on our Web site. I've got to get that directly from

the carrier. Yet, the system releases a rate and the case is sold, and it's sold incorrectly. Then we have to go back and fix it. That's frustrating for us.

This quote highlights the tension between the local, situated, and specific nature of embedded relationships and the demands for standardized processes and generic, global interfaces inherent in WebGA's vision of rationalization through Internet technology. Following the logic of partnering associated with an embedded relationship, the WebGA sales representative would attempt to avoid any problems with the sale of a case. After all, both the broker's and the WebGA representative's commissions were dependent on the successful sale of a case. Without more direct control over the online quoting system, however, it was difficult for the WebGA representative to prevent errors that could derail a sale. At the same time, granting individual WebGA sales offices more state-specific control over the design of the Internet technology's interface would undermine WebGA's vision of rationalization of both the health insurance market and its internal operations.

4.2 Mediation of Embedded Relationships

Relationships between WebGA sales representatives and their brokers developed over time and had specific implications and expectations. For example, sales representatives believed that good relationships with brokers were based on trust, fairness, reciprocity, and teamwork, as noted in the following quotes:

I mean, there is one [broker] who, every time she would call me and ask me a question, she would call [the carrier] direct and find out if I gave her the right answer, for almost an entire year. And I was going nuts.…And now, she'll call me for everything and anything under the sun and trust everything that I say.

[My favorite broker] takes the frustrations of our industry in stride. He doesn't lose it.…And they're very supportive of us and everything we do here. Even though we mess up, even though we frustrate him at times, he's fair.

[A good broker] understands the relationship. This is a relationship where I benefit him through the services that I provide, and he benefits me by doing the business with me. It is an understanding that we are here to work together.

With its mission of rationalizing the small group health insurance market, WebGA expected the brokers to change their current practices, upgrade their software and learn new skills. The following quote from a sales representative reflects some of the reactions this was eliciting from brokers:

We already have e-mails [from management] saying, "Find out whether the broker has Windows 97 or Windows 2000. And, if they don't have that, [the new Excel-based quoting engine output] is not going to work".…So, now, the broker says, "Wait a minute. Now, we've got to figure out if we have all these things in order for us to use your quoting system? Why don't I just fax it to you [as I always did] and you do it and send it back to me."

Those brokers willing to incorporate WebGA's Web-based tools into their practices nevertheless had to find the time to learn the technology. As this sales representative indicated, this presented a challenge:

These poor brokers are trying to do their business and fight their renewals and make some money. And carriers are challenging and the rates are so high. And then we're also trying to show them, "just take a step back for a minute and look how you run your business. Here's some tools for you".…And unfortunately, the income and the renewals and everything take 90 percent of the time. That it's hard on the [sales representatives] to bring up the technology.

As evident in the following sales representatives' experiences, training brokers on the new technology was also no guarantee that they would adopt it:

Every time we go through something that requires more training, we have to do so much hand holding and damage control [with the brokers].

Sometimes [the technology] makes it more complicated [for the brokers] and they get sick of it and they're like, "forget it, this is just too much for me."

Furthermore, the quote below highlights that technological change (and the training it requires) was not just a one-time occurrence, especially not in an Internet company that needs to continuously develop its technology to enhance its competitive position.

> And it's, also, don't forget those brokers that are top producers have been with me for three years or two years. So I've gone through all the Internet Website changes and I think at this point they're kind of sick of it. Because every time they get used to it and comfortable with what is there, it changes again.

The ongoing need for training meant that the sales representatives needed to expend a significant amount of their time to teach the brokers how to use WebGA technologies. Since the brokers did not always want to spend the time on training, such training also implied an expenditure of the sales representative's social capital. Furthermore, when the technology had flaws, as most new technology does, doing "damage control" taxed the confidence and respect inherent in an embedded relationship. The responses given in the sales representative survey to questions (Table 1) designed to probe the impacts of WebGA's technology on the representative's relationship with his/her brokers provide an indication of how widespread was this concern was. The mean index score for this scale (Cronbach's α = .816) was 3.569 (standard deviation = .931), indicating that the sales representatives tended to agree with the items.

Table 1. Selected WebGA Sales Representative Survey Responses

Please indicate your agreement with each of the following: *(strongly disagree=1 … strongly agree=5)*
1. Teaching brokers to use our technology, e.g., Internet quoting, detracts from selling health insurance.
2. When the technology that we offer brokers, e.g., Internet quoting, breaks down, it undermines my credibility.
3. Promoting the use of our [non-Internet] technologies, e.g., Proposal Generator, gets in the way of selling insurance.
4. When the technologies that we offer brokers fail, it hurts my relationships with my brokers.

It is in contrast to another scale that the significance of these results becomes more apparent. Table 2 presents the questions used to assess the sales representatives' perceived impact of "cues filtered out" theories in their work. The mean index score for this scale (Cronbach's α = .867) was 2.194 (standard deviation = .755), indicating that the sales representatives tended to disagree with these items.

Table 2. Selected WebGA Sales Representative Survey Responses

When my brokers run quotes on the Internet …   *(strongly disagree=1 … strongly agree=5)*
1. I don't interact with my brokers as often as I should.
2. my brokers do not perceive me as value adding.
3. my interactions with my brokers become less personal.
4. it makes it harder for me to maintain my relationship with my brokers.
5. I am less able to give personal service to my brokers.

What these survey results indicate is that the WebGA sales representatives were relatively more concerned about technology breakdowns and training needs undermining their relationships with brokers than about the leanness of computer-mediated communication. The representatives attribute challenges with embedded relationships less to insufficient contact and personal interaction with their brokers than to the distraction of promoting technology to brokers and training them on it. According to the interviews with the sales representatives, their follow-up phone calls to brokers created the conditions for regular, personal interactions, which helped maintain the sense of trust and even friendship of the embedded relationship.

These insights suggest that the challenges of a complementarity strategy are more associated with the tensions inherent in integrating rationalization and relationships than with media traits such as leanness and loss of social presence. Instead, WebGA's efforts at rationalization relied on the social capital that individual representative's had built with their brokers, in some cases,

over years. This highlights another tension inherent in a complementarity strategy: the firm's technology mission taxing the representatives' individual resource, namely social capital.

As indicated earlier, when the quotes were prepared in-house, the sales representative frequently made decisions about which plans to quote. In the online quoting technology, the representative's judgment was not available. Not only did this place a burden on brokers to be more knowledgeable about plans, but it also led some brokers to wonder how WebGA could justify earning an override, when they—the brokers—were doing all of the work (both clerical and conceptual). As these sales representatives noted:

> I'll tell you right now, dealing with brokers [in this northeastern state], the minute they realize that they're doing 100 percent of the work, they're going to come looking for some of our money in the form of override.

> The advantage is, yes, they do a lot of things on their own. I can focus on what their needs are outside of that. But, on the other hand, they become so self-sufficient that they may think, "I'm not so sure what your value is any more. I'm doing everything myself." I guess it means I just take them to more ball games, more lunches, more dinners, or more happy hours.

Furthermore, some brokers indicated that they felt less "guilty" about generating online quotes if they were not placing business with WebGA. As one broker noted, he felt less beholden to the technology than he did to a person:

> I have always been a shopaholic and I've always felt guilty about going to my brokerage representatives because there would be years where I wouldn't give them business. I'd get their stuff. They'd be high [in their rates] and that would be that. And I think it's unfair for the person that I'm shopping, but I wanted the information, but I wasn't giving them the business.…But it kind of eliminates that need now because now I can go to the Internet and do it myself. And so, I am less reliant upon a direct relationship with the brokerage representative to get the quotes out.

This discussion about how technology mediates the relationships between sales representative and broker has highlighted that technology changes the nature of the relationship. Self-serve technology changes the division of labor and the responsibilities shouldered by each role occupant. As the brokering aspects of WebGA's role as a general agent are emphasized through its online quoting technology, the sense of interdependence, reciprocity, and obligation associated with embedded relationships is weakened. Since social capital is key in getting brokers to submit cases through WebGA rather than a competing general agent or a carrier representative, these results highlight the risks associated with integrating online self-serve technology, which is associated with arm's-length relationships, into an environment where embedded relationships and social capital are critical success factors.

5 CONCLUSION

This paper has explored the implications of introducing self-serve, Web-based technology into an industry where relationships are regarded as critical to success. In particular, this study has explored the tensions inherent in a strategy that seeks to combine rationalization and relationships. Relying on observational, interview, and survey data from a single firm ethnographic study, this research has highlighted two challenges of managing a complementarity strategy: information technology emphasizes brokering over partnering, and self-serve technology mediate customer-provider relationships in unintended ways. Examination of these two challenges has revealed a set of tensions. These include:

- living up to the *brokering* commitment made to carriers while *partnering* with brokers
- integrating *global, standardized* processes and interfaces with the *local, state-specific* needs of brokers
- profiting from the *efficiencies* of brokers doing Internet-based self-service quoting without undermining their *sense of obligation and reciprocity*
- relying on the sales representatives' *individually owned* resource, i.e., social capital, in order to implement a *firm-wide* initiative of rationalization through technology
- managing the *discontinuous* technology change within an embedded relationship defined by *continuity*

In the face of these tensions, many of WebGA's representatives relied increasingly on their personal relationships with brokers to transact business. For some, this meant that they discouraged their brokers' use of WebGA's online technology. For others, it meant that they asked their customers to at least attempt quoting online since they, the sales representatives, earned a higher commission if the first proposal of a sold case was quoted online. Such requests were frequently made along with assurances that the representative would revise the quote personally so that the broker would end up with a quality proposal. This suggests that

the sales representatives managed WebGA's complementarity strategy in their own work by relating to their customers primarily through embedded relationships. In other words, only with embedded relationships and the expenditure of social capital could the sales representatives implement WebGA's strategy of efficiency though self-serve technology. The results of this study thus highlight the tensions inherent in a strategy that seeks to integrate rationalization and relationships in practice. Managing the tensions between these two approaches has to be viewed as an ongoing effort.

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