

UNINTENDED INTERACTION: HOW SUBJECTIVE INTERPRETATION GENERATES NEW BUSINESS

Work-in-Progress Paper

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Abstract

Purpose of this paper:

The purpose of this paper is to show the role of unintended interaction. Unintended interaction is defined as a process which amplifies our cognitions, in which a certain event is regarded as critically important. Through our two years of field research, we found a typical case showing how unintended interaction created new business.

Research method:

This paper is based on our two years of field research observing the change in the relationship between GEHC and Chugai. During this period both companies were studied extensively. We had large amounts of information about them since the early stages of SAS to the end of the settlement of it. Though this information mainly consisted of quantitative information, it was also supplemented by qualitative data extracted from interviews. In order to build a managerial theory from this information, a case study is appropriate for the methodology.

Research findings:

There are two main findings in this paper. First, even under unpredictable conditions companies sometimes start new businesses. As for relationship condition, relationships with ambiguous agreement could create new business better than relationships with well-defined agreement. The hiding hand effect, a condition which creates unintended interaction, can help a company discover several innovations. Second, perhaps there are some organizational conditions which aid in fostering the hiding hand effect, which in turn lead to an effective innovation.

Main contribution:

There are two contributions of our research. Theoretically, against orthodox view on innovation management, we describe a role of mutual misunderstandings for innovations. We tried to indicate several points which are related to develop new analytical framework in the future research. As for our managerial contribution, to maintain their innovative capabilities, firms must continually seek out and participate in exploratory and interpretive conversations with a variety of interlocutors and this will require a rebalancing of managerial strategies.

Keywords: case method, subjective interpretation, time perspective, unintended interaction.

INTRODUCTION

The purpose of this paper is to show the role of unintended interaction. Interaction is the key concept of the industrial marketing and purchasing (IMP) group. Business interaction is not necessarily intended or planned. In a relationship, a party puts a subjective interpretation upon the action of another party and the world surrounding them. Unintended interaction means the process in which unanticipated consequences including some innovation occur as a result of diversity in subjective interpretation between firms. Through our two years of field research, we found a typical case showing how unintended interaction created a new business. In this paper, we will explore what conditions promote unintended interaction.

The paper is structured in the following way. First we briefly review the concept of unintended interaction and some difference from similar concepts. Through our review of several previous works, we found that unintended interaction was related to subjective interpretation. Second, we explore the characteristics of the relationship history between GE Health Care Company and Chugai Pharmaceutical Co., LTD as the case. After that we will show a new business occurred by driving unintended interaction and will discuss what organizational conditions can lead to subjective interpretation. Then we will indicate the managerial implications for a manager and theoretical implications for future research.

BRIEF REVIEW OF PREVIOUS STUDIES

Roles of Interaction and Subjective Interpretation

In this section, we briefly refer to our theoretical logic. Our theoretical logic is based upon relationship management theory (Hakansson(ed.), 1982). This theory has paid attention to the interaction between two companies. According to the theory, the concept of interaction is defined as a kind of action that occurs as two or more objects(i.e. companies, in this context) have an effect upon one another. Through this interaction process, two companies exchange several resources and adapt to each other. This is the main reason that transactions of the industrial companies often tend to be stable and long-term.

The theory supposes both companies in interaction have heterogeneous resources, problems, and aims. This fact means that each company has own purpose respectively. Even though, interaction makes both companies choose adaptive behaviours. Therefore, that the companies should not fail to manage their counterpart, due to its unanticipated behaviours. Nor can we consider what happens between these heterogeneous companies as a linear flow of goods or services. To the extent these heterogeneous exist, we may expect that variety of subjective interpretation always remains whatever we could manage interaction very well. "Subjective interpretation means that the actions of actors will be based on their individual interpretation of the actions of others and of the world around them" (Ford and Hakansson, 2006, p.15). Subjective interpretation teaches us that each actor(i.e. each company in this context) will consciously or unconsciously interpret the meaning of their own interaction.

The Mechanism of Unintended Interaction

Subjective interpretation refers to the probability with a person's degree of conviction or belief in one proposition or another how they will interpret facts. Subjective interpretation is important, since it aims to apply probability theory to the real world. One important consequence of this is that subjective interpretation separates the reasons for actions from their effects (Ford and Hakansson, 2006, p.15). This logic is related to unintended interaction.

We defined unintended interaction as a process which amplifies our cognitions, in which a certain event is regarded as critically important. It is not a communication problem, rather an

epistemological issue. One of the persuasive explanations why unintended interaction happens is given by Hirschman(1967, pp.13-14) with cited Marx. Hirschman(1967) said, "Mankind always takes up only such problems as it thinks it can solve." Unintended interaction would be easily assumed, if we could approve the Marx's hypothesis.

Unintended interaction means the process in which unanticipated consequences including some innovation occur as a result of diversity in subjective interpretation between firms. The meaning of interpretation in the subjective dimension is important, as there will be variation in subjective interpretation of different parties (Ford and Hakansson, 2006, p.15). Variation in subjective interpretation could create an ambiguous situation. Hirschman (1967) reported several cases in which ambiguous conditions led to "creative responses".

However, subjective interpretation is not random but is a consequence of previous experiences, reactions and re-reactions of parties (Ford and Hakansson, 2006, p.15). Present interaction is also constrained and enabled by past actor bonds, historical precedent, norms, social systems, language, and culture (Medlin, 2004, p.188). Subjective interpretation could move towards convergence as well as divergence.

The balance between convergence and divergence of subjective interpretation is important because ambiguity can create some innovation while ambiguity without consensus results in chaos. Unintended interaction refers to the process that contain a certain degree of ambiguity. This concept emphasizes the unintended and unplanned aspect in business interaction.

Some Related Concepts to Unintended Interaction

Unintended interaction is the process, not actions. But indeed it is difficult to clearly divide actions and processes practically. Because processes sometimes are consisted with a series of actions. So unintended interaction is not completely the same to unanticipated consequences(Merton, 1936). Unanticipated consequences are created as any intervention in a complex system may or may not have the intended result, however it will inevitably create unanticipated and often undesirable outcomes. Actually, unanticipated consequences occurs a certain event, and this event shall become a critically important, for example. Unanticipated consequences, however, defined as outcomes, not the process. So it is not the same concept to unintended interaction.

RESEARCH METHOD

This paper is based on the temporal result of our field research observing the change in relationship between GEHC and Chugai. During this period both companies were studied extensively. We had large amounts of information about them since the early stages of SAS to the end of the settlement of it. Though this information mainly consisted of quantitative information, it is also supplemented by qualitative data extracted from interviews. In order to build a managerial theory from this information, a case study is appropriate for the methodology. (Carlile and Christensen, 2004; Christensen and Carlile, 2009).

Since very complex, evolving, and entwinement relationships in industrial transaction have been happened, the case method must be suited to our study (Halinen and Tornroos, 2005). Studies on the event with unanticipated consequences have sometimes adopted the case methods. In innovation management, Lester and Piore (2004) recognized two types of innovation abilities that were analytical and interpretive processes. They criticized that the scholarly literature on innovation, competitiveness, and economics had concentrated on the analytical process, but that the interpretive view had not been widely understood or even fully recognized. They emphasized the important role of the interpretive process in innovation and competitiveness. According to Lester

and Piore (2004) , the interpretive process determines the range of alternatives from which business choices are actually made. If the interpretive process is truncated, that range will become too narrow. This range is sometimes ambiguous and this ambiguity often leads us to trial and error.

In development economics, Klitgaard(1997) found a similar mechanism in his four observations during anti-poverty research. There are four cases, milk consumption research in India in 1970, changing the deciding method of the interest rate in Indonesia in 1985, introducing free-market adjustment programs in Bolivia in 1985 and introducing a free-market economy in 1985 in Gambia. These cases all showed “unanticipated consequences.” In each case, policy changes have been made in the direction most economists and aid officials would favor. In India there was a free market for milk. In Indonesia the interest charged on rural loans was determined by market forces, not government subsidies. In Bolivia the Emergency Social Fund built on bottom-up initiatives, enjoyed political commitment and had plenty of money. In Gambia, free-market economic policies complemented a multiparty democracy. Nonetheless, in each case things were not working out as people hoped. Why did these failures occur? Klitgaard(1997) argued that the policies were correct but their implementation was wrong. “We should look at the institutions through which the policies are being carried forth,” he said, “in particular at information and incentives.” That is the same logical emphasis as case method advocates.

In our case, two companies began to conduct business in a situation where both had their own expectations respectively. It is natural that there is no guarantee these expectations were similar. Even under this condition, the two companies could commence conducting a business. Rather we could say, mutual misunderstandings led them to do so. To comprehend this kind of interaction, we need to understand role of time. Because time, especially past time always restricts our interpretation.(Medlin, 2004) In our case, time plays very important role when the company chose the next activity. We will deliberately describe transaction sequence, that is time perspective, in our case in the next section.

THE CASE

The empirical background of this paper was a study over two years with informants in both of the case study companies. The case we will look at in this paper is the ten year interaction between GE Health Care Company and Chugai Pharmaceutical Co., LTD. (hereafter GEHC and Chugai, respectively). In this case, we can describe how a company creates a new business from its interaction. However this interaction was not based on mutual understandings, rather misunderstandings. The misunderstandings in this case mean over- and/or under- estimation from both companies.

GEHC was established on 1st August 2009 by merging GE healthcare bioscience and GE-Yokogawa medical systems. The capital of GEHC is 6,016,485,000 Yen (48,520,040 Euro, 1EUR = 124JPY). And their sales are 12.3 billion Yen (as of December 2008) with about 1890 employees. Their main businesses are medical diagnostic imaging systems, biotechnological equipments, testing and software for bio science. A summary of the history of GEHC is shown in Figure 1.

Chugai is a pharmaceutical company established in 1925 with capital of 72,966,826,000Yen, 6,485 employees and gross sales of 428,947million Yen (as of December 2009). It is one of the leading pharmaceutical companies in Japan. On October 2002, based on a strategic alliance with F. Hoffmann-La Roche, Ltd., Chugai was merged with Nippon Roche. Roche holding Ltd. and two other companies became holding companies. Chugai plays an important role and is a major player in the worldwide restructuring of the pharmaceutical industry.

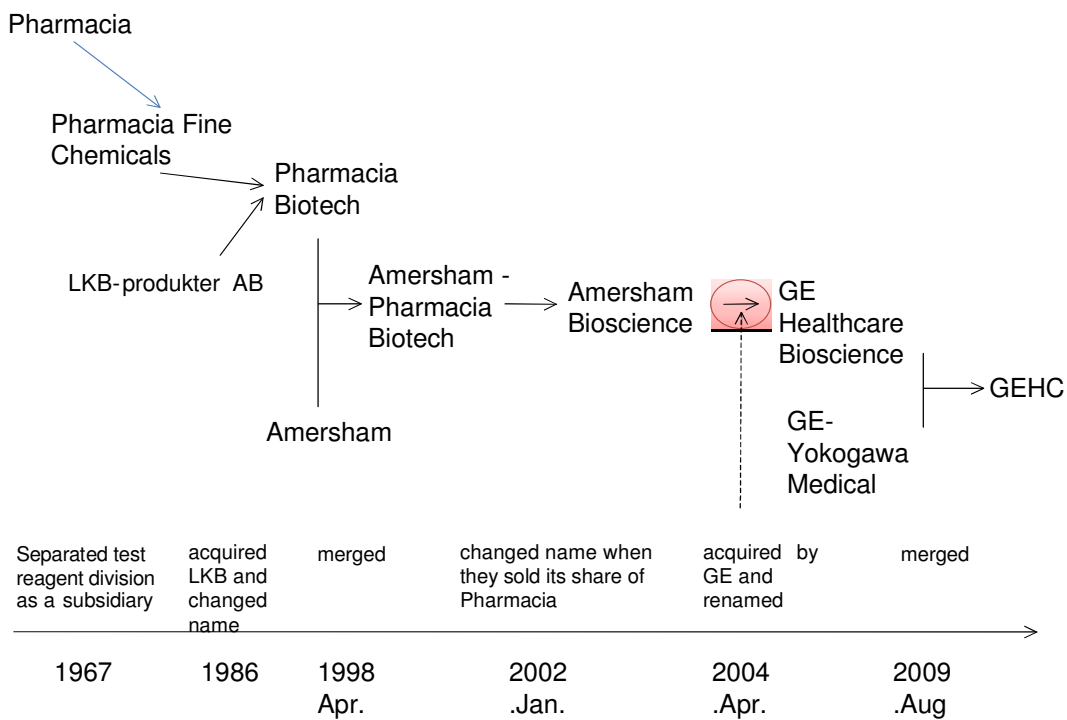


Figure 1 Brief history of GEHC

This case is constructed with six stages.

Stage 1 Longitudinal Relationship

There was a longitudinal relationship between Chugai and GEHC for a long time before GEHC was merged by GE. GEHC had sold test reagent and equipment for bio science to Chugai. In this stage GEHC was recognized as a excellent manufacturer with excellent technology for protein purification but was just one small vendor with only a one or two percent share of delivery for Chugai's gross purchase.

Stage 2 Embryonic Movements in the Changing Relationship

On April 2004, Amersham Bioscience, one of the forerunners of GEHC, entered the GE group. At this time, embryonic movements of change occurred in GEHC. First of all, GEHC received big backing from the GE group. GEHC learned various know-hows and received entire resources for business. As GEHC was a bridge to the pharmaceutical company, GEHC had become the focus of attention in GE group. Group members interested in the pharmaceutical company's rich money and pharmaceutical business raced to give advice on business with the pharmaceutical company. Most importantly, one of the concepts learnt was Enterprise Selling, which became widespread in GEHC. Enterprise Selling is a concept to sell not only the product itself but also the entire resources of the whole company i.e. the enterprise itself. It was a kind of paradigm shift for GEHC. This paradigm shift that had occurred in GEHC was the second and most important change of entering the GE group.

Since those days, GEHC began to put more effort into emphasizing the entire services of GE. However this effort did not result in any progress at that time. GEHC tried to propose various services, but these proposals were not accepted by Chugai. In these trial and error process however Chugai was recognized by GEHC as a company with various capabilities.

The new strategy, Enterprise Selling, would bear fruit eventually. GEHC invited executives of Chugai who were interested in the know-hows of the GE group to the famous Crotonville training

center, where they received training. For GEHC, who were just one of the vendors at that time, it was unimaginable to meet with the executives of Chugai. This triggered new developments such as a personnel training program provided by GEHC for Chugai. These new developments did not lead to big business. Yet in these new developments, GEHC gradually gained an understanding of what Chugai really wanted and Chugai gradually began to regard GEHC as an equal partner with various capabilities.

Stage 3 Proposition and Acceptance of SAS

On September 2006, GEHC having understood the needs of Chugai, put forth a new proposition, SAS. SAS stands for abbreviation as Scientific Asset Services. It is a management service for the laboratory equipment, by undertaking all equipment management at single provider it would improve efficiency. SAS offers a comprehensive life cycle asset management solution beyond equipment maintenance designed to help your company improve productivity while reducing costs. The GE group had a reputation for this service scheme; especially maintaining jet engines in their best condition by using embedded sensors and diagnosing possible trouble before failure occurs. In the medical industry, the GE group had a record of undertaking equipment management as a single provider for hospitals in the U.S.

The management service for laboratory equipment is different from the management services in other industries that the GE group already undertook. First, unlike production equipment there is not necessarily an urgent need in laboratory equipment management. If production equipment is stopped, it means production activities are also stopped. So production equipment can not be stopped. In the case of laboratory equipment having some trouble is not such a critical problem. That is why there is a lot of room to improve efficiency. Therefore GEHC regarded the situation as a big chance. So GEHC proposed a management service for the laboratory equipment.

At this time however GEHC was not convinced of the existence of a need for such a service on laboratory equipment. They just thought that the maintenance cost of laboratory equipment must be high to cover the cost of labor for FE (Field Engineers i.e. service personnel). As the labor cost for FE is high, a remarkable cost reduction could be expected. Yet everything was just an expectation, GEHC proposed SAS to the manager of the purchasing department instead of laboratory. One reason was GEHC trusted the personnel in that department. Another reason and the most important reason, was GEHC was not convinced their proposal would be accepted. Actually GEHC was just looking to get some suggestions.

However the resulting decision was very successful, GEHC's proposal fit completely with the managers thoughts. Chugai had been struggling in the restructuring of their business since they had merged with Roche. So they could not control everything about their business. The manager was told by his boss that he should promote outsourcing to improve efficiency, even the jobs in the laboratory. He talked about SAS to a general manager, skipping his immediate superior. The general manager told him to review the proposal of SAS.

This does not mean the SAS project started immediately. Chugai required GEHC to submit evidence about how SAS could improve the efficiency of the laboratory. Unfortunately GEHC had no evidence about it. Both GEHC and Chugai did not have the correct data on the equipment of the laboratory. So GEHC could not submit any evidence. In this situation, GEHC promised a certain amount of cost reduction. Based on this commitment, a further serious review was started.

However this commitment had no evidence to back it up. GEHC was not sure whether they could achieve the commitment, Chugai was also not sure. However Chugai knew there was much room to improve efficiency in their laboratory. Chugai was convinced that GEHC would not cause them any losses. If GEHC caused a loss for Chugai, it would mean a crisis for GEHC.

Stage 4 New Problems and Solutions

In December 2006, Chugai decided to request that GEHC manage their laboratory equipment. At this time, GEHC did not even know how much equipment there was in Chugai's laboratory. Chugai also were not aware of the exact operation results of their laboratory equipment. Nobody knew whether GEHC could keep their promise. So it was just an agreement to start the project, not a formal contract.

Then they started to investigate the operation results and operation costs of the laboratory equipment. They started by putting a label on equipment so GEHC could manage. Placing labels on the equipment started in February 2007. Placing the labels had finished within two months, but it took almost a year for GEHC's service to start. The service started in an uncertain situation and revealed unexpected problems.

One of the unexpected problems was caused by the existing management scheme of Chugai. There was a fixed asset ledger and all the equipment was booked in this. However because of research work, equipment had been moved away from its designated installation place. GEHC claimed that they would like to use third party software to manage the equipment. Testing this software took a long time and this was another reason for the delay.

However the real problem was in the existing operation process itself. Previously, laboratory equipment was managed by many different vendors and manufacturers. They tried to unify contacts to a single vendor, GEHC. It met with strong resistance from researchers in the laboratory. All vendors provided different services for individual researchers' needs. In reflection of the different services, maintenance costs were varied and could be more than tripled for the same equipment. This variety in vendors was not due to the price offered but the difference of test items. A standard calibration test did not exist as it could cause adverse effects on research accuracy. A major overhaul was required to include daily usage of equipments process.

These investigations revealed that these problems not only cost money but were also a problem for the research process itself. For Chugai it was impossible to overlook them. For GEHC they were beginning to understand that it was more complicated work than expected. However GEHC were also beginning to understand the potential of this service. Even problems that could be immediately solved by the resident field engineer of GEHC took about two or three weeks to solve by the original equipment manufacturer.

During these investigation processes, GEHC felt sure there was the possibility for a huge amount of cost reduction. Hearing "thank you" from the researchers of the laboratory to the field engineers of GEHC encouraged them to try even harder. GEHC began to think that even if this service stayed in the red, they could get something other than money from it.

Stage 5 Temporarily Unsettling and Final Decision

Chugai began to recognize the problem was more important than they expected and also began to be worried about leaving the management of laboratory equipments to GEHC alone. GEHC was just a small vendor with only 1 or 2 percent delivery share. Chugai asked other vendors to provide the same service as SAS. Yet no vendor would comply with the request from Chugai. They were also unanimous that GEHC must give up the service soon. As a result, a small vendor with only 1-2 percent delivery share became a single provider of the management service for the laboratory equipment.

Chugai also started to discuss with their group companies about spreading the service in order to improve efficiency. However the group company disagreed with SAS. It was clear that keeping in line with the group companies would lead to a delay in starting the service, so Chugai decided to

start SAS by themselves. As a result they spent almost all year 2007 to prepare and begin carrying out SAS on a full-scale operation.

Stage 6 After the Introduction of SAS

After the introduction, SAS reduced administration and improved efficiency. Researchers were freed from the job of managing equipment and they could devote more time to research. The efficiency of research jobs was highly improved.

Chugai and GEHC discussed spreading the SAS to the production department of Chugai, but GEHC could not meet the request because the cost of SAS was higher than GEHC expected. GEHC tried to reduce the operation cost of SAS by changing resident FE to on-line service in order to reduce labor cost.

RESEACH FINDINGS

The **above** empirical example describes how GEHC could actually introduce these new services, i.e. SAS. Our focus is on the organizational innovation that made GEHC do something that other companies hesitated to do. Especially now GEHC had become a crucial supplier in maintaining the assets of the laboratories in Chugai, but GEHC was not a major supplier in Chugai's procurement network at that time. We derive two findings from the above case; these are the role of strategy shifts and the role of subjective interpretation to creating the new business.

Stratgy Shift

First, we would like to pay attention to the strategy shifts of both GEHC and Chugai. As for introducing SAS, it was easy to find that GEHC was required to change its development and delivery processes. Of course, GEHC developed and sold its products, e.g. AKT, but SAS was a maintenance service and included maintaining its competitors products. As many researchers insisted for a long time, there are many differences between **just** selling products and providing services. Indeed, in our research some informants in GEHC told us that the other major companies which constructed their strategies based on products had negative opinions **on** SAS. It is reasonable and natural to place a priority on existing businesses and to retain them lastingly.

It was one of the important reasons, however, why some companies can do service business successfully and the others cannot. Since 1981, Jack Welch was promoted to CEO, and GE had shifted its business orientation from products to services. In GEHC, strategists sometimes borrowed some previous strategic concepts from GE's experience. To think what service came first was orthodox and natural in GEHC. Compared to GEHC, other big suppliers tended to sell their products and focused on this not services. Therefore it was difficult for them to shift their dominant strategies to service-oriented ones.

As for the interactive theme, the strategy shift of Chugai influenced the success of SAS. Chugai was trying to change cost-intensive procurement in the R&D department. Since Chugai and Nippon Roche K.K. merged based on a strategic alliance with F. Hoffmann-La Roche Ltd in Swizerland, Chugai employed several new management techniques from Roche.

Before the strategic alliance, Chugai had employed "laissez-faire" R&D management as many companies did. Laissez-faire literally means "let do", though it broadly implies "let it be" or "leave it alone." Actually this management method meant managing nothing, but this thought was based on theory referring to creativity (Pisano, 2006: 118-120). Creativity required no restriction and constraint. According to this thought, the R&D department had always procured anything required by the researchers. After the strategic alliance, Chugai was trying to manage the procurement in the

R&D department, but no one knew what should be done first. Chugai did not realize that SAS worked effectively and efficiently for R&D procurement management at that time, but SAS became a good initiative to reform it. Through interaction, GEHC convinced that Chugai might find importance of asset management, SAS. Against GEHC conviction, indeed, Chugai did not recognize the necessity of asset management. So, this fact is very related to next finding.

Role of Subjective Interpretation

Second, both companies respectively had subjective interpretation. Both GEHC and Chugai overestimated that SAS would be operated easier and it could produce positive effective results quicker. These overestimations are exactly the definition which Hakansson and Ford(2006) gave to subjective interpretation. As we described in the above case, it was not an easy process to both GEHC and Chugai to settle SAS as an effective management methods, but through trial and error processes they learnt new roles from each other. In sum, we can describe this finding as shown in Figure 2 below.

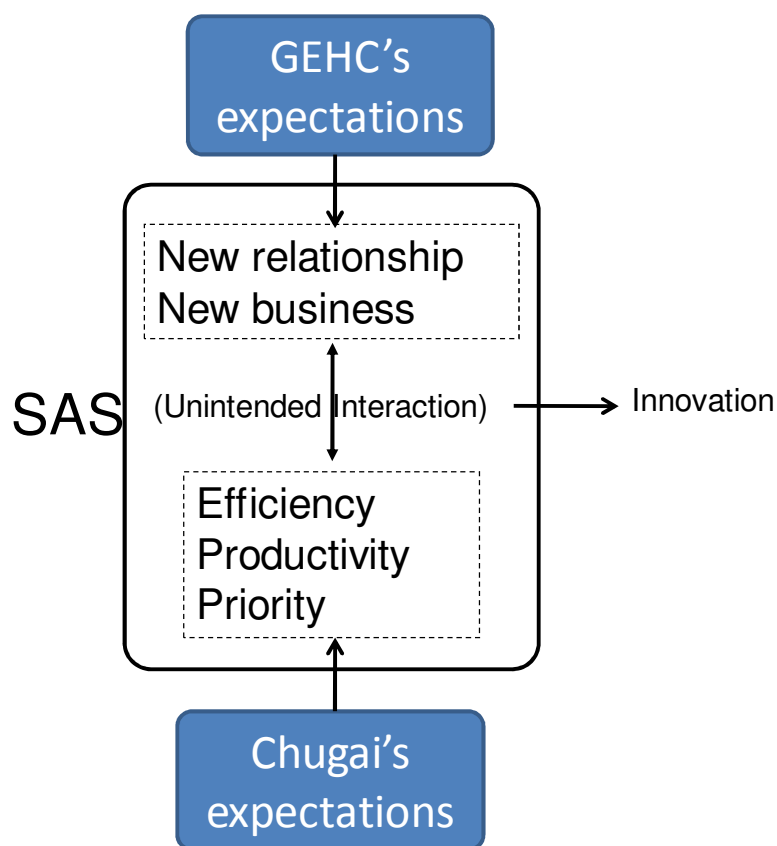


Figure 2 Unintended Interaction

MAIN CONTRIBUTIONS

Theoretical Implications

Subjective interpretation plays an important role in business interaction (Ford and Hakansson 2006). “Their own subsequent interaction will be based on that interpretation” (Ford and Hakansson 2006, p.15). Therefore the direction of future interaction is difficult to predict. However Hirschman (1967) reported several cases in which ambiguous conditions led to “creative responses”. Actors in

joint projects tend to underestimate the risk or outcomes of the project in ambiguous conditions, and so the projects are undertaken bravely. Without ambiguity we would be far more hesitant to do so. Hirschman (1967) called these underestimations that beneficially hide difficulties from us the “Hiding Hand”. The Amoebic project we mentioned above may be an organizational requirement for managing the project in ambiguous situations.

Managerial Implications

Amoebic projects are also important for practitioners in business interaction, especially in ambiguous situations. Future direction of a business interaction tends to be unpredictable. Amoebic projects can be crucial in managing such an unpredictable business interaction. So establishing a management system for amoebic projects is crucial for a manager in unpredictable business interaction.

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