Discussion Papers In Economics And Business

Issue selection flexibility and strategic rigidity: Lessons from Sharp’s crisis

Koichi NAKAGAWA
Yoichi MATSUMOTO

Discussion Paper 15-24

Graduate School of Economics and
Osaka School of International Public Policy (OSIPP)
Osaka University, Toyonaka, Osaka 560-0043, JAPAN

Issue selection flexibility and strategic rigidity: Lessons from Sharp’s crisis

Koichi NAKAGAWA
Yoichi MATSUMOTO

Discussion Paper 15-24

October 2015

Graduate School of Economics and
Osaka School of International Public Policy (OSIPP)
Osaka University, Toyonaka, Osaka 560-0043, JAPAN

Issue selection flexibility and strategic rigidity: Lessons from Sharp's crisis[*]

Koichi NAKAGAWA[†]
Yoichi MATSUMOTO[††]

Abstract

This study explores the relationship between attention to managerial issues and organizational inertia. Past research shows that rigid cognition makes managers focus on specific issues during strategy formulation, and such focus prevents from altering strategies. In this study we introduce the idea from an attention based-view that issues move in and out of the focus. Analyzing the case of the Sharp Corporation from this viewpoint, it was found that top managers frequently changed peripheral issues and their answers while central issues and answers remained unchanged. Managers used several issues flexibly for justifying their fixed answers for their central issues. From this case, we get some new propositions that flexible change of issues rather prevents from changing strategies, if the managers' cognition is rigid.

JEL code: M10 Business Administration – General
Keywords: Cognition, attention, managerial issues, organizational inertia, Sharp Corporation

[*] This work was supported by JSPS KAKENHI Grant Number 25285116 (Japan Society for the Promotion of Science, Grant-in-Aid for Scientific Research (B)).
[†] Associate professor, Graduate school of economics, Osaka University. nakagawa@econ.osaka-u.ac.jp
[††] Associate professor, Research Institute for Economics and Business Administration, Kobe University. ymatsumoto@rieb.kobe-u.ac.jp

Introduction

This study adds new understandings about how managers' rigid cognition prevents organizational change, by reconsidering the interfering effect of attention and issue selection in strategy formulation. It is well established that the decision-makers' attention mediates between their cognition and organizational change (Ocasio, 1997, Cho and Hambrick, 2006). Existing studies find, when managers have rigid cognition, they attend to a small number of specific issues (Staw, Sandelands, and Dutton, 1981, Hannan and Freeman, 1997), omit others outside of their focus of attention in decision making (Cohen, March and Olsen, 1972, Heath and palenchar, 2008, Weick, 1995). And those attitudes prevent managers from altering strategies (Tripsas and Gavetti, 2000, Gilbert, 2005). However, the other studies tell us that such dichotomous views should be refined: Managerial issues moves in and out of attention as managers' interest changes over time (Barnett, 2008, Ocasio, 1997). In this study, we introduce this viewpoint into the former research area: How do shifting attention and issues attended work in formulating strategy, when managers have rigid cognition? This is the main question of this study.

To explore this, we undertake an inductive case study of the crisis of Sharp Corporation (Sharp). Sharp, one of the most renowned Japanese consumer electronics companies, had fallen into a crisis after 2009 mainly because they persisted in a Liquid Crystal Display (LCD) focused strategy. Our choice to analyze Sharp's strategic inflexibility allows us to focus on the relationship between manager's cognitive rigidity, issue selection, and the ultimately realized strategy, as we could confirm that the company's top management team and its basic cognition did not change during the period.

From the case we find that managers in Sharp frequently changed which issues they were attending to and their solutions as the environment changed, in order to justify their unchanged answers for central issues – namely continuously investing in the LCD panel development and production. It was also found that such flexible changes in issues and answers rather intensified Sharp's inflexibility to organizational change. From those considerations, we generate some new propositions about why managers' rigid cognition prevents them from altering strategies, that adhesive managers exploit non-central issues flexibly in order to keep answers for central issues unchanged.

Theory and Research Questions

Simon (1965) notes that individuals have limited rationality, so managers have to rely on a simplified representation of the world, namely, cognition (Gavetti and Levinthal, 2000, Kiesler and Sproull, 1982). By using this cognition, managers focus their attention on a small number of managerial issues (Simon, 1965, Ocasio, 1997), and interpret them to generate answers (Smircich and Stubbart, 1985, Weick, 1995). In other words, "what decision-makers do depends on what issues and answers they focus their attention on." (Ocasio, 1997, p.187) Such an attention-based view of the firm (ABV) has been widely accepted in recent years (Ocasio, 1997, Barnett, 2008).

In studies on organizational change, the influence of cognition and attention is one of the most important topics (Kaplan, 2008, Ocasio, 1997, Nigam and Ocasio, 2010). While cognition and its resulting focus of attention help managers decide courses of action with a certain degree of quality and speed (Barr, Stimpert, and Huff, 1992, Hoffman, 1999, March and Simon, 1958), they also prevent them from changing organizations (Hannan and Freeman, 1977, Sull, 1999, Tripsas and Gavetti, 2000). Managers' cognition is based on their beliefs, knowledge, personalities, and interests. As managers' past experiences form those attributes, so their cognition tends to be inflexible, especially when their experiences were successful for a long time (Hannan and Freeman, 1977, Leonard-Barton, 1992, Tripsas and Gavetti, 2000). Such rigid cognition makes an adhesive attentional structure in managers' mind, and it constraints a number of strategic issues and answers they can take (Baron and Ensley, 2006, Garud and Rappa, 1994, Staw, 1981, Reger and Huff, 1993; Fredrickson and Iaquinto, 1989). Past studies give us rich evidence that managers with rigid cognition do not take different strategic options even in radical technological changes (Kaplan, Murray, and Henderson, 2003, Gilbert, 2005, Utterback, 1996), radical market changes (Barr *et al.*, 1992, Christensen and Bower, 1996), organizational capability restructuring (Leonard-Barton, 1992, Tripsas and Gavetti, 2000), and organizational identity changes (Ashforth, Harrison, and Corley, 2008, Bouchikhi and Kimberly, 2003).

Along with treatments for issues in the focus of attention, scholars have also investigated treatments for issues outside of attention. The issues that managers do not regard worth consideration are placed outside of their attention. Managers usually judge those objects with simple mechanical rules (March and Simon, 1958, Stanovich and West, 2000). Otherwise, managers often ignore (or "fly") them, consciously or unconsciously (Cohen, March and Olsen, 1972, Gavetti and Levinthal, 2000, Starback and Milliken, 1988). When managers' cognition is rigid, some important issues are continuously moved away from their attention, and it prevents organizational change (Hannan and Freeman, 1977, Lenard-Barton, 1992).

Although dominant existing studies examine the effects of rigid cognition on issues both within the focus of attention and outside of it, some scholars imply that such a dichotomy is too simple since the degree of attention to issues changes from no-attention to full-attention as managers' attention shifts. Managers have their own distribution structure of attention. And managerial issues are scattered in this structure (Figure 1) (Barnett, 2008, Ocasio, 1997). Managers decide which issues should be dealt with by relying on this structure and interpreting the surrounding situation (Barnett, 2008, Bowman and Hurry, 1993, Cho and Hambrick, 2006, Dutton and Ashford, 1993, Hoffman and Ocasio, 2001, Yu, Engleman, and Van de Ven, 2005). WIthin this structure of attention, some issues located at the center of attention are always attended to and some located nearly outside are almost completely ignored, as past studies about organizational inertia suggest. However, the other issues are not fixed, but rather sometimes picked up and other times not. As the (interpreted) environment changes, managers' structure of attention is reformed and the perceived importance of various issues increase or decrease. Dutton and Ashford (1993) stated that "An issue becomes strategic when top management believes that it has relevance for organizational performance (p. 397)." Therefore, issues being attended to and issues not being unattended to are reconsidered when managers recognize substantial environmental change (Barnett, 2008, Dutton and Ashford, 1993, Dutton *et al*., 1997, Dutton *et al*, 2001).

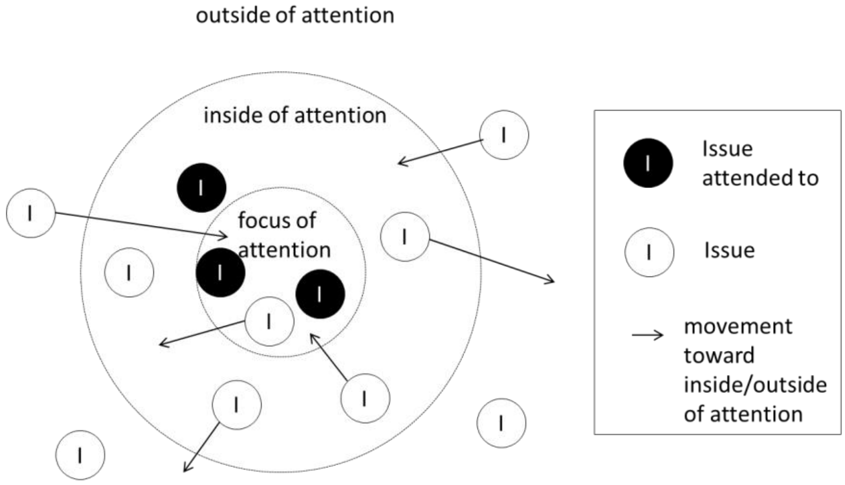

Figure 1: The structure of the distribution of managers' attention and issues

Our goal in this paper is to explore (1) how managers select issues, and (2) how this issue selection affects on realized strategy when managers show cognitive rigidity. By introducing the viewpoint of issue selection (Ansoff, 1980, Dutton and Ashford, 1993, Heath and Palenchar, 2008) we will be able to refine the understanding of the effects of cognitive rigidity on organizational inertia. After describing research methods, we conduct an inductive case study of Sharp, and articulate a set of formal propositions based on the case.

Methods and Data

This study is based on an inductive case study of Sharp's success and failure in the LCD business from 1998 to 2012. After 1998, when Machida became president, Sharp made huge financial and labor investments into LCD-panel development and manufacturing. That policy initially brought Sharp great success, but it finally led Sharp to the brink of bankruptcy. The Sharp case provides a good example for exploring the relationship between issue selection and realized strategy in the presence of cognitive rigidity. Sharp kept its core management team (Machida, Katayama, and Okuda) almost unchanged during this period, and they showed a strong adherence to possessing and investing in the LCD panel production department. Controlling for changes in the management team and of attentional focus, we can focus on the issue selection and strategy formulation.

As our questions have an open-ended nature, we think the case approach will be useful for theory building (Glaser and Strauss, 2009, Miles and Huberman, 1994, Yin, 2014). We took a medium-term historical perspective to catch the transition of the attention, environments and selected strategy. We focused on the top management team which has a critical influence on strategic decision making (Hambrick and Mason, 1984).

Data covering the entire Sharp case were gathered from publicly available archival materials, including 14 security reports, 12 information briefings from meetings with stockholders, four books (one written by Machida, the then president), 668 business articles from the *Nikkei BP*, and 74 articles from *Shukan Diamond* (both Japanese journals), from 1998 to 2012. The book, "*100 years of milestones by Sharp (Sharp hyaku nen no ayumi*)" edited by Sharp, was of especially high value as it served as a source for data prior to 1998.

We mainly use publicly available data since they are considered the second-best approach in examining the relationship between psychological and social phenomenon (D'Aveni and MacMillan, 1990, Kaplan, Murray, and Henderson, 2003). It gives us objective, time-series data about the incident and peoples' thoughts (Nigem and Ocasio, 2010). Although interviews are considered the best sources of data, data gathered by interviews in which insiders look back at the incident are not used in this case since interviewees could have several biases like justification, over/under valuation, consciousness about political interests, and self-defense. Though published sources also have some potential biases in that they are edited for managing stockholders or other interested parties, they are thought to be the only sources that have a certain degree of quality within the right time-series. In addition, some published sources, like security reports, are legally obligated to provide accurate information. For these reasons, past research has also used public data as main sources about people's cognition (e.g. Barr, Stimpert, and Huff, 1992, D'Aveni and MacMillan, 1990, Kaplan, Murray, and Henderson, 2003, Nigem and Ocasio, 2010). Thus we conclude that, given our theoretical interests in the historical transition of attention and its effect on strategy, publicly available data like journal articles is one of the ideal sources.

Analysis is structured as follows: First, we investigate the transition of attention to issues and answers for them from the strategic plan section in Sharp's security reports. Next, we conduct a case description using journal articles, books, information briefings for stockholder meetings, and financial data from security reports. The case description consists of narratives of Sharp managers and realized facts such as implemented strategies and their outcomes. Narratives are used for understanding how managers recognize situations, and we examine how they turn into concrete actions from realized facts. We integrate those findings about managers' attention to issues, realized strategies, and their outcomes in the following section, and we create some propositions about them.

Table 1: Issues mentioned in “Business situation and tasks to be tackled” in Sharp’s security reports (1998–2012)

	Amount of deals	Enhance	Change	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
(president)				Machida									Katayama					Okuda
LCD TV	15	8	7	En	Ch	En	Ch	En	En	Ch	En	Ch	En	Ch	En	Ch	En	Ch
LCD panel development	14	14	0	En	En	En	En	En		En	En	En	En	En	En	En	En	En
Solar cells	13	11	2	En		En		En	En	En	En	En	En	En	Ch	En	Ch	En
LCD panel manufacturing	11	9	2		En			En	En	En	En	En	En	En	Ch	En		Ch
mobile phone strategy	11	7	4				Ch	En	En	Ch	En	En	En	En	Ch	En	Ch	
Semiconductor	7	2	5	Ch	En	Ch	Ch	Ch	Ch	En								
LCD panel supply business	7	5	2					En	En	En	Ch		Ch	En				En
Branding policy	6	3	3					Ch	En	Ch		Ch	En	En				
Alliances policy	6	4	3			Ch	En			Ch						Ch	En	Ch
Health instruments	6	2	2			Ch			En					En	Ch	En		En
Information technology	5	2	3	En	Ch	En	Ch										Ch	
Business model	4	2	2												Ch	En	En	Ch
Home appliances	4	1	3					Ch		En	Ch						Ch	
Bru-ray recorder	2	1	1												Ch		En	
LED lighting	1	1	1													Ch		
Audio equipment	1	1	1					Ch										
multifunctional printer	1	1	1														Ch	

Un: the issue was mentioned, and its answer was declared enhancing or unchanging the current policy.
Ch: the issues was mentioned, and its answer was declared changing the policy from the past one.
Nothing: the issue was not mentioned.
Source: Sharp’s security reports (1998–2012)

The Case

The frequency of the treatments of issues in Sharp during 1998–2012

At the beginning of the case, let us check the transition of the Sharp managers' attention over the course of the period. By checking the frequency of issues and answers given in the company's security reports "Business situation" and the following "Tasks to be tackled (Table 1 and Figure 2)," we can confirm that Sharp managers persisted in continuing LCD-panel development and manufacturing. In the security reports they talked about the LCD TV business, LCD panel development, LCD panel manufacturing, the mobile phone business, and solar cells[1] more than other issues. Those issues were dealt with more than 10 times over 15 years. Thus, we can conclude that those issues were always positioned at the center of Sharp managers' attention.

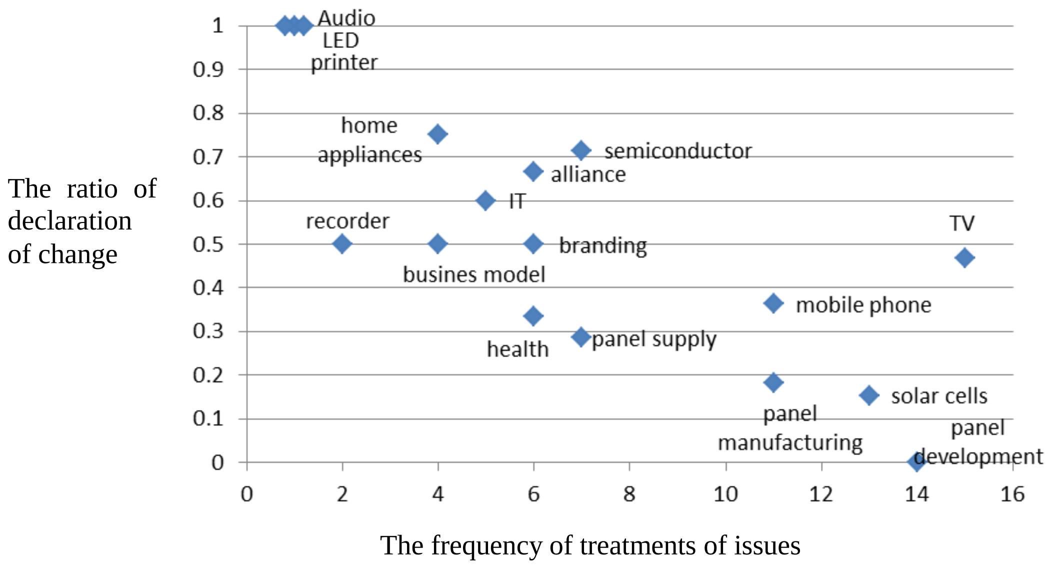

Figure 2: Attention map of Sharp managers for managerial issues and answers
Source: Sharp's security reports (1998–2012)

[1] In 1998-2012 Sharp managers set solar cells as the second main business area and kept investments in this department. The high frequency and persistence in "solar cells" shown in Figure 2 reflected this situation, and it also makes us confirm the validity of the analytical result that LCD panel development and manufacturing was the focus of the attention for Sharp's manager.

There are two ways of dealing with issues at the center of attention. The first is keeping their answers unchanged. Answers in the area of LCD panel development, manufacturing and solar cells did not change very much during the period. Managers basically strengthened the technology and manufacturing capacities of LCD panels and solar cells. The second way is by altering answers along with environmental shifts. LCD-TVs and mobile phones are final products that use LCD panels. Those LCD-related businesses were also always positioned at the center of managers' attention. However, Sharp's top managers frequently decided to change the answers for these issues. How do we explain this difference in the way of dealing with things? Currently there is little consensus on the subject, so we will consider it in the following historical descriptions.

The other issues were mentioned in less than half of all opportunities (less than eight times). A notable fact is that the answers for those issues were more frequently changed than ones at the center of managers' attention. For example, branding policy was picked up by managers in 2002, 2003, 2004, 2006, 2007, and 2008. In 2002 Sharp started an improvement of its brand image in Japan. In 2004 it changes the way of branding from simple image improvement to a strong association with LCD. Managers changed this policy again in 2006, from emphasizing branding in Japan to branding in foreign markets. Another typical example is alliance policy. It was first mentioned in 2000. At that time Sharp declared alliances with some electronics companies, but decided to stop in 2004. After that Sharp restarted alliances with global companies in 2010. Thus, from security reports, we could conclude that Sharp managers persisted in LCD panel production and development, while they frequently changed the handling of other issues at the same time. As mentioned before, so far, we have no explanation for these things. From the next section, we explore why such differences of handling among issues occurred and how they affected Sharp's strategy.

Sharp's evolution using a "spiral strategy": 1912–1997

Sharp was founded in 1912 by Tokuji Hayakawa based on his metalworking skill. Hayakawa was an inventor who introduced unique products like the Tokubijo buckle in 1912 and the mechanical pencil in 1915. From those initial innovations, Hayakawa established a company philosophy of "We are dedicated to the use of our unique, innovative technology to contribute to the welfare of people." It was named the "spiral strategy" and turned into Sharp's basic business approach. It was characterized by the simultaneous evolution of core devices and final products. Based on the spiral strategy, president Tsuji, who was president during the period of 1986–1997, decided investment into LCD and developed final products including:"LCD Viewcam," "Nintendo Gameboy," and PDA "Zaurus." Thanks to spiral strategy, by the time Mr. Tsuji retired as president, LCD panels and LCD-related products sales had grown to 3 billion USD and 3,5 billion USD. Total sales of LCD panel and applied products comprised approximately 30 percent of Sharp's total corporate sales.

Machida's inauguration in 1998

In June 1998, Mr. Machida was promoted from the foreign sales department to company president. In his inaugural press conference, he clearly set success of the LCD-TV business as Sharp's next strategic goal:

Machida (President): Sharp's problem is low brand perception. For branding, we

> have to make a “clear face” for customers. To this end, we will set LCD technology as our face. From now, every Sharp product will be related to LCD technology. TVs are a typical one. By 2005, we will replace all Cathode Ray Tube (CRT) TVs with LCD TVs in Japan. We commenced to produce LCD panels by ourselves, to increase brand perception. Customers did not evaluate our CRT TVs well, even though we produced them at the highest quality. The reason was that we did not manufacture CRTs by ourselves, but purchased them from external suppliers. To change our brand image, we have to produce a core device by ourselves … In August 2000, we will begin operations in a marvelous LCD panel plant at Taki. We have invested 60 billion JPY (500 million USD) on its construction. However, its attractiveness is not in the amount of investment, but in the way of production.[2]

Sharp therefore started its LCD TV production. As the LCD TV market had not flourished enough and no other company had tackled it seriously, Sharp was actually the first major entrant. Sharp introduced a new brand, AQUOS (LC-20C1) to the Japanese market. Sharp realized a 40 percent price decrease compared to other company’s preceding models by aggressive investment into its LCD panel plant Taki.[3] Although Sharp had a strict financial rule that a department’s investment must be less than 10 percent of its sales, less than retained earnings, and less than annual cash inflow, Machida nevertheless executed investment beyond these rules. After that, investments in LCD panel production were always treated as extraordinary outside-the-rule cases.[4]

Thanks to the success of the AQUOS, Sharp gained an over-80 percent global share and 380 million USD sales in the LCD TV market in 2001 (Figure 3).[5] In the following year, SONY and other rivals entered the LCD TV market, but Sharp maintained a greater than 50 percent share and grew sales to 710 million USD.[6] Machida gained confidence in his strategy since Sharp was able to achieve great success even while the

---

2 *Shukan Diamond*, January 15, 2000, p.115.
3 *Nikkei Electronics*, January 15. 2001, p. 40.
4 Saji CFO, *Shukan Diamond*, October 13. 2001, pp 92-93.
5 *Shukan Diamond*, February 16, 2002, p.20.
6 *Nikkei Electronics*, October 21. 2002, pp.26-27.

LCD industry environment worsened.[7]

> Machida (President): The founder, Hayakawa, said “seek unique technology.” I put it in another way, make “only one” product ... When I was the sales manager of CRT TV, retailer sales staff asked me, “Whose CRTs does Sharp use for TVs?” I felt mortified. However, now AQUOS could get a better valuation than any other model. This is the power of “only one” product. Our employees are increasingly coming to understand this.[8]

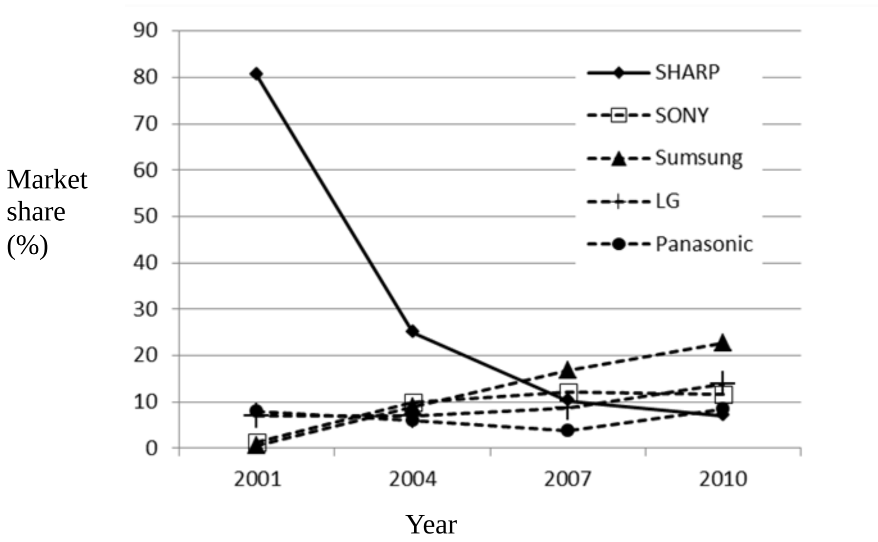

Figure 3: Worldwide market share of LCD TVs.
Source: (2001, 2004) *Nikkei Electronics*, Mar. 26. 2007,
(2007) *Nikkei Business*, Apr. 7. 2007
(2010) *Nikkei Business*, Dec. 13. 2010.

The Kameyama plant

Along with Machida’s desire for the possession of a strong core device, he realized a greater investment into a new LCD panel plant named Kameyama in 2001. The amount of investment reached 1.25 billion USD. It started operations in January 2004, and Sharp gained the world’s largest panel production capacity. It annually produced more than a million LCD panels for TVs, and earned some billions USD. The Name “Kameyama”

7 *Nikkei Business*, April 8, 2002, pp.31-33.
8 *Shukan Diamond*, November 22, 2002, pp.58-59.

became the symbol of Sharp.[9]

Machida decided to invest in Kameyama because competitors quickly caught up with Sharp both in terms of product technology and manufacturing capacity. Around 2001, Sony, Samsung, and LG decided to enter the LCD TV business and invested as much money as Sharp. In 2002, Panasonic started producing TVs with an alternative technology, Plasma Display Panel (PDP).[10] To compete with those who had larger financial capabilities, better brand perception, and more distribution channels, Machida thought the higher production efficiency of LCD panels had come to be a clear competence of Sharp. Therefore, Machida and his colleagues changed their strategy. They stopped allocating resources to departments other than those involved with LCD-related products, and focused them on LCD-related areas.

> Machida (President): Sharp will pursue success in the LCD business. We will do everything for LCDs continuously: R&D, panel production, and TV production within Sharp. However, because of resource limitations, we will focus on LCDs and stop investments in other areas of business. At first, we decreased investments into our semiconductor business. We have to change traditional modes of thought about our resource allocation.[11]

> Saji (CFO): The Kameyama plant will make LCD panels twice as large as those of Samsung. It will be more efficient than any other rival plants. In the LCD business, the source of competitiveness is efficiency. Even then, the timing of an investment is ultimately decisive, so we have to consider the timing and scale of our investments carefully.[12]

Within the construction term of Kameyama, Machida decided to conceal the manufacturing technologies and know-hows used in Kameyama in what he called a

---

9 *Nikkei Business*, February 2, 2004, p. 9.
10 *Nikkei Microdevices*, July 2003, pp.147-148.
11 *Nikkei Microdevices,* March 21, 2002, p.12
12 *Shukan Diamond*, February 1, 2003, p.92.

“Black box strategy”. This is to prevent technology leakage from Sharp to rival companies, since they could start LCD panel production by transferring technology from Japanese equipment manufacturers and other panel manufacturers. While Samsung and Sony jointly established an LCD company S-LCD in 2003 and LG and Philips established a joint venture in 2002 to share production and technical development costs, Sharp decided to remain independent.

> Machida (President): It is a mistake to set plants carelessly in an emerging country to obtain cost competence. Technical spillovers are very rapid in those countries. Therefore, we decide to master integrated manufacturing within Japan. Integrated manufacturing is our lifeline, our 21st century vision, and our unique capability to generate “only-one” product.
>
> In fact our share has declined in standardized LCD-panels supplied for PC monitors. But high-definition LCD-panels for TVs have remained competitive. To make such LCD panels, firms have to accumulate several pieces of know-how. Due to a lack of this know-how, other companies cannot produce LCD panels as well as Sharp does. Sharp alone has the proper knowledge for this, and should protect it, in the same way traditional Japanese eel restaurants protect their original sauces.[13]

Competition intensifies

Though the Kameyama plant brought Sharp considerable profits and sales from 2004 to 2008 (Figure 4), the business environment in LCD TVs worsened. In 2004 and 2005, S-LCD, LG-Philips, and Taiwanese LCD panel suppliers like AUO and CMO started the operation of a large LCD panel plant.[14] Their facilities were as large as or larger than those at Kameyama. As they continuously invested, their LCD production capacities exceeded those of Sharp (Figure 5). In 2005, Sharp’s TV share fell to 21.9 percent, while LG-Philips increased to 14.7 percent, Sony’s reached 11percent, and Samsung reached

[13] *Nikkei Business*, January 5, 2004, pp.42-43.
[14] *Nikkei Microdevices*, September, 2004, p.151.

9.8 percent.[15]

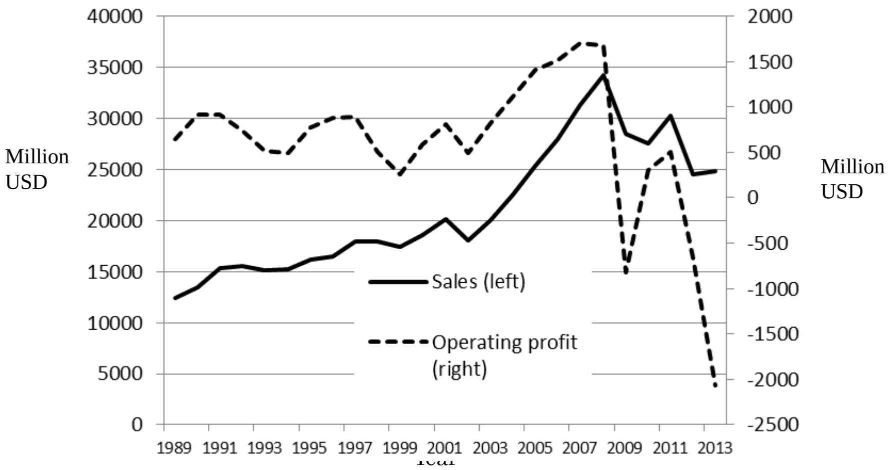

Figure 4: Sales and Operating profits of Sharp Corporation.
Source: Sharp Corporation security report, 1989–2013.

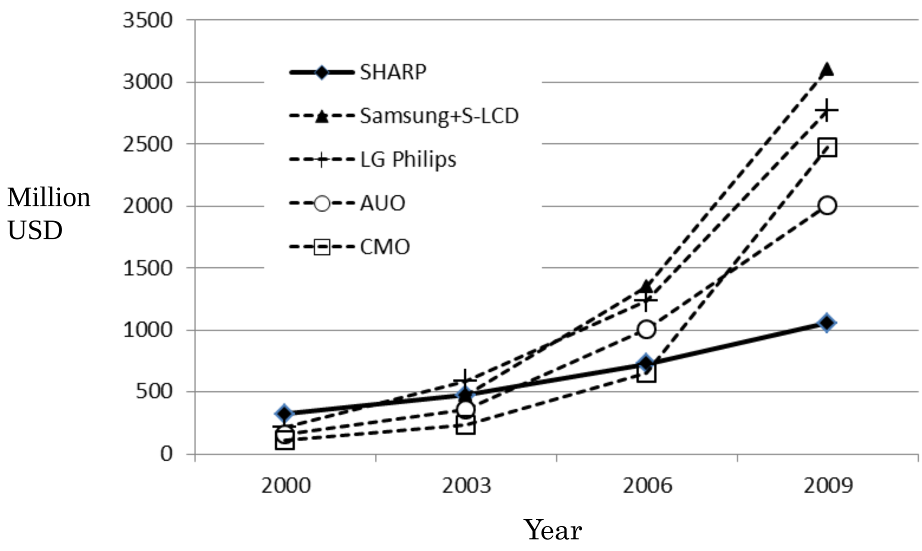

Figure 5: LCD panel shipment amounts for TVs
Source: (2000, 2003, 2006) *Nikkei Electronics*, Mar. 26. 2007,
(2009) *Nikkei Business*, Dec. 13. 2010

Under this intensification of competition, Sharp's managers decided to change the business domain, while they maintained the policy of investing in LCD panel production.

---

[15] *Shukan Diamond*, April 16, 2005, p.117.

They targeted the final product LCD-TV market and component LCD panel supply market simultaneously. In the LCD-TV market, Sharp decided to focus on the Japanese market where it already possessed largest share and brand perception, while it did not focus on competition in foreign markets. In contrast, in the LCD panel business, Sharp's managers decided to pursue the global market, since they thought their LCD panels were better performing than other external suppliers like AUO and CMO. Thus, they allocated more resources to panel sales than before.

> Machida (President): We will try to keep greater than 50 percent share in world LCD panel production. Half of our products will be sold to other LCD TV manufacturers, and the rest will be used for our own TVs. Such a plan can be achieved if we continue to invest in production capacity. Only 3 percent of the global TV market has been replaced by LCDs and PDPs. From our calculations, world total LCD panel and TV capacity will be 4.5 times than what it is now. Rivals will make huge investments in the near future. To catch up with rivals, we will also maintain our investments in LCD production capacity.[16]

To cope with this substantial investment, Sharp accelerated its concentration of business areas. In 2005, managers decided to withdraw from the personal computer business and reduce activity in home appliances.

> Machida (President): Now we have reached the time to decide whether the home appliances division continues, because it cannot make a profit even if we shift production to emerging cost-competitive countries. Also, the PC side of the business faces a difficult situation. Therefore, we have decided to stop allocating large amount of resources to them.[17]

Keeping LCD panel capacity enlargement and changing marketing strategies

After starting Kameyama Phase 2 operations, Sharp's LCD-related division's sales

[16] *Nikkei Business*, January 5, 2004, pp.42-43.
[17] *Nikkei D&M*, February, 2004, p.24.

increased by a few billion USD every year. Sales of LCD panels and TVs came to comprise over half of Sharp's total sales in 2006 (Figure 6). In the period from 2005–2008, Sharp showed its best financial performance each year, though the business conditions of LCD panels and TVs gradually deteriorated. Sharp's share of the global LCD TV market fell from No.1 to No.3, after Samsung and Sony.[18] Sharp also faced a hard fight in the LCD panel business. Machida planned for approximately 50 percent of LCD panels to be sold externally, but the result was approximately 20 percent due to severe price competition.[19]

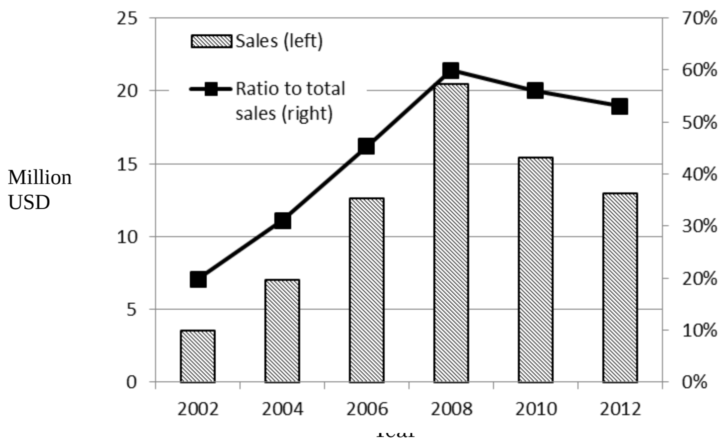

Figure 6: Sharp's LCD-related division sales and ratio to corporate sales
Source: Sharp Corporation security report (2002–2012)

In 2007, Machida handed over the role of president to Katayama. "To support young Katayama," Machida took up the newly-made chairman post, which had the right of representation. The Machida–Katayama diarchy structure was thus formed.[20] Under the Machida–Katayama structure, Sharp maintained the same basic policy of focusing on LCD device business development, with some modifications. In 2007, Machida and Katayama decided to invest in a new facility: Sakai. The amount of investment was

18 *Nikkei Microdevices*, July 2006, p.97.
19 *Shukan Diamond*, April 16, 2005, pp.117-118.
20 *Nikkei Business*, March 19, 2007, p.8.

approximately 3.4 billion USD.

> Katayama (President): When I was an engineer, I had a plan of building an LCD industrial complex like those in the petrochemical industry. The strength of Kameyama Phase 2 lies in vertical integration from LCD panels to final products. We will evolve such a vertical integration model at Sakai site. We are planning to gather several component makers and infrastructure companies together in the Sakai site.[21]

In contrast, Machida and Katayama modified the company's marketing strategy with changes in the competitive environment. First, Sharp altered the target market of their TVs from Japan to the world. Sharp lost opportunities to obtain a larger global market share since it focused on the Japanese market (Table 1). To improve world-wide sales, Machida and Katayama decided to shift marketing resources allocation from Japan to the United States., Europe, and China.

Table 2: Market share of flat panel TVs, 2006

	Japan	U.S.	Europe	China	World
Sharp	41	11	7	3	10
Sony	19	13	13	5	12
Samsung	0	12	20	5	17
Philips	0	13	19	3	11

Source: *Nikkei Electronics*, Mar. 26. 2007.

> Machida (President): I do admit that we failed to capture the global market … At first, we will execute a marketing program in the U. S., and next we will take up the challenge in Europe, where we did not have strong distribution channels. The developing speed of international competitors appears quite threatening to me now. In several business areas, the competitive environment changes rapidly these days because of the entrance of foreign newcomers.[22]

Second, Sharp ceased its secretive independent "Black box strategy." Katayama and Machida sought a potential partner able to develop LCD technology and business with

21 *Nikkei Electronics*, August 13, 2007, p.9.
22 *Nikkei Electronics*, September 25, 2006, p.170.

Sharp. Considering the capacity of Sakai, they felt that Sharp needed partners who would constantly purchase LCD panels from them. In 2007, Sharp established a special task force to make alliances, and it achieved an alliance with Pioneer in September 2007, Toshiba in December 2007, and Sony in February 2008.[23]

> Katayama (President): The market size of LCD TVs will grow continuously for a while. To keep up with that growth, we have decided to find partners with whom we can jointly invest in and develop LCD panel facilities. Moreover, the alliance is important from the viewpoint of stable operations.
>
> Of course, we are not going to change the basic policy of pursuing unique device technology. We have to keep our sales volume sufficiently high to invest in the next technology, but it becomes difficult to do this by ourselves. So we have decided to run our business together with our partners.[24]

A stumble

After 2008, when the sub-prime shock's influence spread, Sharp came to suffer from both a decrease in sales and an increase in operating losses. In March 2009, Sharp reported that its annual corporate sales had fallen and its net loss came to 1.2 billion USD. This marked the first instance that Sharp announced a net loss after being listed on the Tokyo stock exchange in 1956.

Machida and Katayama acted quickly. They closed the obsolete Taki and Kameyama plants and declared a strategy change. Sharp agreed a contract with a Chinese company, Nangjing Panda, to whom it sold Kameyama Phase 1's production capacity together with technical support.

> Katayama (President): We have already recognized our mistake that we produced TVs within Japan and then sold them to global customers. So we will quickly change our business style to one of "locally produced and consumed." Sharp will form partnerships with some Japanese and international companies to prepare a new LCD technology and facility. By using partnership contracts, we will limit our own investment and get cash flow by offering technical support to our partners.[25]

23 *Shukan Diamond*, January 26, 2008, pp.109-113.
24 *Nikkei Business*, April 7, 2008, pp.7-9.
25 *Nikkei Business*, July 6, 2009, pp.22-24.

However, they still continued construction and investment in the Sakai plant. Katayama explained such action like this:

> Katayama (President): It is not contradictory to our new policy of "locally produced and consumed" that we continue producing LCD panels in Sakai. It can take on the role of a "Mother plant" of our global LCD panel facility network. We will build our advanced technology in the Sakai mother plant, and then give it to our global partners. [26]

Uncompleted restructuring

Although Sharp modified its strategy in 2009, its crisis continued. Machida and Katayama continued to set LCD panels as Sharp's core competence. Sharp did not invest in businesses other than LCDs. Thus, Sharp's sales and profit exclusively depended on LCD TV and panel sales. However, in terms of LCD TVs, Sharp's share was only 6.4 percent, ranking it No. 5 in the world, while Samsung, at 18.8 percent, ranked as a top seller. The situation was the same in the LCD panel business. Companies that targeted emerging countries did not purchase Sharp's high price panels, so the Sakai plant's operating rate did not rise above approximately 50 percent. In 2011 Sharp's annual sales dropped approximately 10 billion USD lower than that in 2008. Net losses came to 3.7 billion USD. Since Sharp relied on debt and did not have enough liquidity on hand, it nearly went bankrupt.

Katayama resigned as president to take responsibility for this huge loss, and Okuda became the new president in March 2012. However, the actual situation did not change. Katayama remained on the committee board as a chairman after Machida. Machida retired as chairman, but he still had influence on Sharp's management, since Okuda was under his guard.[27] They executed some strategic modifications and countermeasures for the immediate financial problems. However, they essentially continued the LCD focused strategy.

---

[26] *Shukan Diamond*, September 18, 2010, pp.22-23.

[27] Some analyst thought the struggle for power among Machida, Katayama, and Okuda was one of the reasons that Sharp was unable to change in 2012. (*Shukan Diamond*, May 25, 2013, pp.10-12)

> Okuda (President): In the era of globalized competition, our independent vertical integration strategy had limitations. We have to increase our speed, through utilizing collaborations with other companies. We will depend on foreign partners for new product or market development, and we will focus on technological development of core devices. Our LCD devices are still competitive. By enhancing this technical competence, we will survive as a device supplier.[28]

Sharp's managers decided that it would become a panel supplier, and they made efforts to forge partnerships with companies that facilitate the consumer product business. They signed a contract in which Honhai would invest 6.5 million USD in the Sakai plant and pay several billion JPY to buy Sharp's TV plants. Okuda also agreed to contracts with Apple, Qualcomm, and Intel in 2012.

In addition, Okuda tried to reduce employment costs. Okuda cut down the number of regular employees for the first time since Sharp was listed in 1956. Sharp employed 56,756 personnel at that time, and he decided to eliminate approximately 8,000 jobs from across the entire global production chain. At last, approximately 11,000 employees were let go due to an unexpected increase in early retirement.

These efforts helped Sharp move further away from bankruptcy. Nevertheless, the fundamental problem of its dependence on LCD panel production did not change. Thus, sales and profit did not recover in the depressed economy. In March 2013, Sharp reported that net losses were 5.4 billion USD. To take responsibility for these losses, all three leaders, Okuda, Katayama, and Machida left Sharp. At this point, the influence of Machida was completely extinguished.

Analysis and discussion

The variety of degrees of attention paid among issues

From here, let us make links between fact findings and theoretical considerations. Looking back the Table 1, Figure 2 and the case description (it is summarized in Table 3),

---

[28] *Nikkei Electronics,* April 2, 2012, p.15.

Table 3: Summary of the Sharp case

Year	**1998–2000**	**2001–2003**	**2004–2006**	**2007–2008**	**2009–2011**	**2012–**
LCD panel Manufacturing	Construction – Taki plant (0.5 bil USD) For starting LCD-TV	Construction-Kameyama plant (1.5 bil. USD) For production efficiency	Construction - Kameyama P.2 (3bil.USD) For developing panel supply business	Construction – Sakai plant (3 bil. USD) For differentiation	Investment on Sakai plant (1.5bil.USD) as technical transfer unit	Investment stop
LCD related business	entry to LCD TV business firstly for branding	Keeping the leader position in LCD TV	Developing LCD panel supply business as well as TV business	TV: Change the target from Japan to Global Panel: Keeping Hi-end segment.	making alliance with global firms Start technical transfer business	focus on LCD panel supply
Non-LCD related business		Decrease of product line of LSI	Withdrawal from PC business	Retrenchment from home appliances business		
Business Situation	Low performance in CRT TV business	Over 80 percent share in LCD TV	Share down in LCD TV	Severe competition both in TV and panel	Sub-prime shock deteriorated LCD business	Financial crisis. LCD panel is commoditized

we can reconfirm that Sharp's managers paid most of their attention to LCD panel development and production, and they persisted in possessing and investing in them. Such an adherence to the LCD panel facilities limited Sharp's strategic options and brought on the crisis. These findings are consistent with the past research about cognition and organizational change indicating that managers are unwilling to change answers for the issues in which they were most interested (Kaplan *et al*, 2003, March and Simon, 1958, Tripsas and Gavetti, 2000).

Next, from the case, we can indicate that Non-LCD-related departments except for solar cells were disposed of, as competition in the LCD-related business accelerated (Table 3). The semiconductor department was curtailed in 2001, PCs in 2005, and home appliances in 2006. Managers recognized those products were difficult to develop, both in terms of business and technology. Multifunctional printers had some degree of presence in the market, but managers did not invest in those areas. Revisiting Figure 1, we can find that those products were positioned always nearly outside the area of focus. Figure 1 shows that Sharp's managers did not mention non-LCD-related business often: seven times for IC (four times especially for withdrawing from it), four times for home appliances, once for multifunctional printers, and PC's were never actually discussed. To summarize, managers disposed of or ignored products viewed as being nearly outside of focus. This finding is also consistent with previous studies (Gilbert, 2005, Ocasio, 1997, Cohen, March, and Olsen, 1972).

From Figure 1, we can say that issues concerning the LCD-TV business strategy, mobile phone business strategy, LCD-panel supply business, alliance policy, branding policy, health instrument business strategy and business model were shifting around in the focus of their attention. Those issues were dealt with when managers recognized they were important. They were characterized by frequent changes in answers. Figure 2 shows the frequency of answer change tends to be higher when the amount of deals is lower. In other words, Sharp managers tended to keep answers unchanged for issues which managers always paid attention to and to change answers frequently for ones that managers only sometimes paid attention.

Let us examine in detail the situation of frequent changes in issues and answers. Concerning the business strategy for LCD-TVs, Sharp managers always paid attention to it, but they changed answers for it semi-regularly. They decided to enter into the large size LCD-TV market as a substitute for CRT-TVs in 1999. They gave the role of branding for the LCD-TV business in 2001, but they changed it to Sharp’s main business in 2004. They changed market focus from Japan to Global in 2006, began focusing on the high-end segment in 2008, and focused again on the Japanese market in 2010. About the alliance policy, managers decided to become independent in order to hide Sharp’s technology and know-how in 2002 (it appeared in the security report in 2004). They did not consider it during the period from 2005–2007, but they reconsidered it in 2008 (it appeared in the security report in 2010) and started alliance building to facilitate the technology transfer business. Furthermore, Sharp managers tackled issues about business model change from 2009, while they had never dealt with it by 2008. Such flexible deals for issues and answers were quite different from those for always-central issues and issues always outside of attention. Therefore, we can add up a new proposition about the dealing with managerial issues and answers:

PROPOSITION 1. Even when managers persist in specific answers for central issues, they have a certain degree of freedom for choosing which issues to attend to and answers for them.

Issue and answer selection as a tactic for a temporary expedient

From this case, we pointed out an example of flexible changes in issues and answers for maintaining the answers to central issues: the policy of internal LCD panel development production. Checking the narratives, we find that Sharp managers changed their explanations for possessing LCD panel facilities in the changing business environment. In 1998, when Machida was promoted to president, he decided to construct a new LCD panel plant for making LCD TVs. Its objective was to improve brand perception. In 2001, Machida decided to invest in a new plant called Kameyama, for realizing more efficient production to compete with larger rivals like Samsung and Sony. When Sharp was constructing Kameyama Phase 2 in 2004, managers explained that they had to enlarge capacity for developing the panel supply business and TV business simultaneously. When continuing investment in the Sakai plant, Sharp managers explained that Sakai was vital as a "mother plant" for facilitating partnerships. Frequent changes in the business strategy for TVs, mobile phones, and panel supply, business model, alliances policy, and branding policy had been done in accordance with those explanations.

From these considerations, flexible changes toward which issues deserve attention and answers could be explained as a way of temporary expedient. When decision-makers persist in specific managerial policies, they have to develop rational reasons to convince internal members, external stakeholders, and also themselves, of the validity of their policy. And those reasons have to be modified as environments changes.

Therefore, decision-makers frequently change the meaning of the central policies, and modify peripheral settings around them. Such flexible but temporary adjustments to environmental changes are explained as an aspect of justification for immutable core policy (Festinger, 1957, Staw, 1981, Staw, McKechnie, and Puffer, 1983). Suchman (1995) discussed, in the context of organizational legitimacy theory, there are three tactics for justification: (1) efforts to conform to existing situations, (2) efforts to select among multiple environments, and (3) efforts to manipulate environmental structure. Those three tactics could be seen in Sharp managers' treatment of issues, except for those about LCD panel department.

Thus, Sharp's contrasting stickiness to central issues and flexibility for others is thought to be two sides of the same coin: the target and the means of justification. Sharp's managers wanted to keep the policy of possessing LCD panel production and development departments, so they modified answers for several related issues to give a suitable meaning to LCD panel production and development. As the environments changed, the attention distribution of Sharp's managers was restructured. Along with this attentional shift, they altered the choice of which issues were attended to and their answers, and used them to justify the possession of LCD panel department. Consequently we came to a proposition about the relationship between central issues and answers and those related to central ones:

PROPOSITION 2. When managers persist in specific answers for central issues, they flexibly pick up other issues and give answers to them to justify the central issue.

Flexible issue and answer selection rather intensifies rigidity

Flexibility about peripheral issues and answers is important in the sense of administrative science, because it prevents drastic organizational changes. If Sharp's managers did not change market strategy or alliance strategy so flexibly, or if they did not notice environmental changes, Sharp's strategic inadequacy would have become obvious earlier. Then, they could have changed their solutions to LCD panel production and development. Flexible changes of which issues to attend to and their answers around the true center of attention disguised the essential problem occurring in the central issues and answers: The inadequacy of excess LCD panel production facilities. Thus, we can discern another proposition:

PROPOSITION 3. Flexible changes of issues and answers for the sake of justification prevent drastic organizational change by disguising the inadequacy of fixed answers for central issues.

Past studies stress that rigid cognition prevents organizational change by bringing adherence to central issues and ignorance to outside ones (Leonard-Barton, 1992, Triopsas and Gavetti, 2000). By introducing an attentional view that issues and answers are moving up and down in managers' minds, we added another impact of rigid cognition on issues and answers to the middle of both. Flexibility in selecting issues and solutions is sometimes quite problematic because it disguises fundamental problems occurring with central issues, because such flexibility would be brought about by the justification bias that makes managers keep their core strategies unchanged (Figure 7).

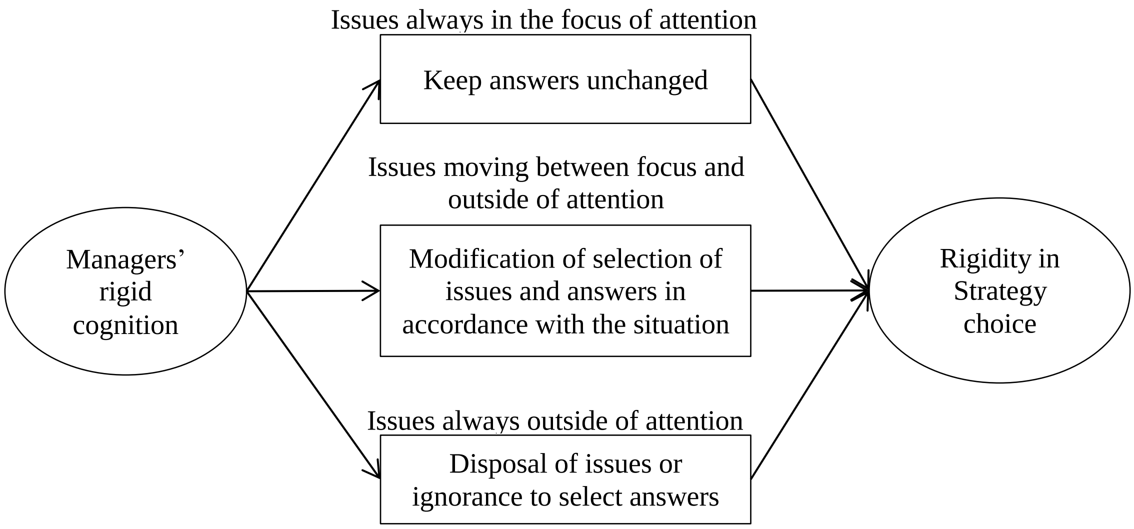

Figure 7. Ways of dealing with issues in focus, outside of focus and in-between when managers have adherence

Limitations

This study has some limitations. First, this is an inductive case study, so empirical tests are out of scope of this paper. Future work could test numerically the propositions derived from this study. A related problem concerns the duplicability of the phenomenon. We cannot say that firm managers always show flexibility in issues that are not placed at the center. How often and when this flexibility occurs should be examined in the future. To solve these problems, not only quantitative tests but also several other qualitative case analyses are needed.

Despite these limitations, we can nevertheless conclude that firm managers change which issues they attend to and their answers when they have a certain degree of adherence to central issues and answers, and it enforces the rigidity of their decisions for issues in their focus. As this study is for hypothesis generation, future research should test such hypothetical relations with more strict methods.

Conclusion: implications for academics and practitioners

In this study, we searched for the effect of managers' cognition on issue selection and organizational inertia. Previous studies mainly investigated the cognitive effect on issues either in the focus of attention or those outside of it. In order to refine the understanding of rigidities in making strategy, we introduced the idea that the degree of importance of different issues was changing. By examining the transition of issue selection, narratives by managers, realized strategy, and the final outcome from the case of Sharp crisis, we found that managers' adherences bring certain flexibility in selecting issues and answers, but it rather reinforces rigidity in making strategies for their central issues.

Finally, we would like to discuss the implications for practitioners. Our study suggests that organizational evolution is prevented not only by poor managers but also by smart ones. Managers who understand the business situation and possess good judgment often fail to make changes if they persist in something critical in changing environments. In such a situation, flexible peripheral tactic changes do not refer to the capability to change, but really mean that managers try to justify their current strategy. In this sense, managers should be reflective about their fundamental beliefs, when they confront environmental changes.

References

Ansoff HI. 1980. Strategic issue management. *Strategic Management Journal* **1**(2): 131–148.

Ashforth BE, Harrison SH, Corley KG. 2008. Identification in organizations: An examination of four fundamental questions. *Journal of Management* 34(3): 325–374.

Barnett ML. 2008. An attention-based view of real options reasoning. *Academy of Management Review* **33**(3): 606–628.

Baron RA, Ensley MD. 2006. Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management Science* **52**(9): 1331–1344.

Barr PS, Stimpert JL, Huff AS. 1992. Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal* **13**(1): 15–36.

Bouchikhi H. Kimberly JR. 2003. Escaping the identity trap. *Sloan Management Review* **44**(3): 20–26.
Bowman EH, Hurry D. 1993. Strategy through the option lens: An integrated view of resource investments and the incremental-choice process. *Academy of Management Review* **18**(4): 760–782.
Cho TS, and Hambrick DC. 2006. Attention as the mediator between top management team characteristics and strategic change: The case of airline deregulation. *Organization Science* **17**(4): 453–469.
Christensen CM, Bower JL. 1996. Customer power, strategic investment, and the failure of leading firms. *Strategic Management Journal* **17**(3): 197–218.
Cohen MD, March JD, Olsen JP. 1972. A garbage can model of organizational choice. *Administrative Science Quarterly* **17**(1): 1–25.
D'Aveni RA, MacMillan IC. 1990. Crisis and the content of managerial communications: A study of the focus of attention of top managers in surviving and failing firms. *Administrative Science Quarterly* **35**(4): 634–657.
Dutton JE, Ashford SJ. 1993. Selling issues to top management. *Academy of Management Journal* **18**(3): 397–428.
Dutton JE, Ashford SJ, O'Neil RM, Hayes E, Wierba EE. 1997. Reading the wind: How middle managers assess the context for selling issues to top managers. *Strategic Management Journal* **18(**5): 407–423.
Dutton JE, Ashford SJ, O'Neil RM, Lawrence KA. 2001. Moves that matter: Issue selling and organizational change. *Academy of Management Journal* **44**(4): 716–736.
Festinger L. 1957. *A theory of cognitive dissonance.* Stanford University Press: CA.
Fredrickson JW, Iaquinto AL. 1989. Inertia and creeping rationality in strategic decision processes. *Academy of Management Journal* **32**(3): 516–542.
Garud R, Rappa MA. 1994. A socio-cognitive model of technology evolution: The case of cochlear implants. *Organization Science* **5**(3): 344–362.
Gavetti G, Levinthal D. 2000. Looking forward and looking backward: Cognitive and experiential search. *Administrative Science Quarterly* **45**(1): 113–137.
Gilbert CG. 2005. Unbundling the structure of inertia: Resource versus routine rigidity. *Academy of Management Journal*, **48**(5): 741–763.
Glaser BG, Strauss AL. 2009. *The discovery of grounded theory: Strategies for qualitative research*. Aldine Transaction Publishers: Chicago.
Hambrick DC, Mason PA. 1984. Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review* **9**(2): 193-206.
Hannan MT, Freeman J. 1977. The population ecology of organizations. *American Journal of Sociology* **82**(5): 929–964.
Heath RL, Palenchar MJ. 2008. Strategic Issues Management: Organizations and Public Policy Challenges. Sage Publications: Thousand Oaks, CA.
Hoffman AJ. 1999. Institutional evolution and change: Environmentalism and the US chemical industry. *Academy of Management Journal* **42**(4): 351-371.
Hoffman AJ, Ocasio W. 2001. Not all events are attended equally: Toward a middle-range theory of industry attention to external events. *Organization Science* **12**(4): 414-434.
Kaplan S. 2008. Framing contests: Strategy making under uncertainty. *Organization Science* **19**(5): 729–752.
Kaplan S, Murray F, Henderson R. 2003. Discontinuities and senior management: Assessing the role of recognition in pharmaceutical firm response to biotechnology.

Industrial and Corporate Change **12**(2): 203–233.

Kiesler S, Sproull L. 1982. Managerial response to changing environments: Perspectives on problem sensing from social cognition. *Administrative Science Quarterly* 27(4): 548–570.

Leonard-Barton D. 1992. Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal* **13**(S1): 111‐125.

March JG, Simon HA. 1958. *Organizations*. Wiley: NY.

Miles MB, Huberman AM. 1994. *Qualitative data analysis: An expanded sourcebook*. Sage Publications: Thousand Oaks, CA.

Nigam A, Ocasio W. 2010. Event attention, environmental sensemaking, and change in institutional logics: An inductive analysis of the effects of public attention to Clinton's health care reform initiative. *Organization Science* **21**(4): 823-841.

Ocasio W. 1997. Towards an attention‐based view of the firm. *Strategic Management Journal* **18**(S1): 187‐206.

Pfeffer J, Salancik GR. 1978. *The external control of organizations: A resource dependence perspective*. Stanford University Press: CA.

Reger RK, Huff AS. 1993. Strategic groups: A cognitive perspective. *Strategic Management Journal* **14**(2): 103–123.

Simon HA. 1965. *Administrative behavior (Vol. 4)*. Free Press: NY.

Smircich L, Stubbart C. 1985. Strategic management in an enacted world. *Academy of Management Review* **10**(4): 724-736.

Stanovich KE, West RF. 2000. Advancing the rationality debate. *Behavioral and Brain Sciences* **23**(5): 701–717.

Starbuck WH, Milliken FJ. 1988. Executives' perceptual filters: What they notice and how they make sense. In *The executive effect: Concepts and methods for studying top managers*, Hambrick DC (ed). JAI press: Greenwich, CT; 35–65.

Staw BM. 1981. The escalation of commitment to a course of action. *Academy of Management Review* **6**(4): 577–587.

Staw BM, McKechnie PI, Puffer SM. 1983. The justification of organizational performanece. *Administrative Science Quarterly* **28**(4): 582–600.

Staw BM, Sandelands LE, Dutton JE. 1981. Threat rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly* **26**(4): 501–524.

Suchman MC. 1995. Managing legitimacy: Strategic and institutional approaches. Academy of Management Review **20**(3) 571–610.

Sull DN. 1999. The dynamics of standing still: Firestone tire and rubber and the radial revolution. *Business History Review* **73**(3): 430–464.

Tripsas M, Gavetti G. 2000. Capabilities, cognition, and inertia: Evidence from digital imaging. *Strategic Management Journal* **21**(10–11): 1147–1161.

Weick KE. 1995. *Sensemaking in Organizations (Vol. 3)*. Sage Publications: Thousand Oaks, CA.

Yin RK. 2014. *Case study research: Design and methods*. Sage Publications: Thousand Oaks, CA.

Yu J, Engleman RM, Van de Ven AH. 2005. The integration journey: An attention-based view of the merger and acquisition integration process. *Organization studies **26***(10): 1501-1528.