When Cognitive Institution Collapses: Investigating the "Master Kim" Case through a System Dynamics Model on the Action-Driven Sensemaking Process

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Abstract

This study illustrates how minor social norms, which have even negative meaning in organizations, might be able to be dominant by the action-driven sensemaking process. Based on the Weick(1995)'s argument of the action-driven sensemaking process, a system dynamics model is constructed. To examine the properties of the sensemaking process, the system dynamics model built is applied to the case of a Korean maverick named "Master Kim" on cyber pornography. The analytical application shows that the strange epiphany involved in the case of Master Kim can be explained by the dynamic relationship between dominant social norms and deviate social norms. It means that norms, beliefs, and traditions can be collapsed by other cognitive institutions through as social interactions, such as the action-driven sensemaking process, particularly exchanging feedback comments on the hot issues on internet. Moreover, we have to notice that the evolution of cognitive institution could not be emerged unless the formal institution which facilitates the sensemaking process, such as the service of news comments on internet were established. Therefore, this study can be furthered in investigating not only practical implications to strategically make desired breakthroughs in our organizations, but also theoretical insights in the perspective of new institutionalism.

Key Words: sensemaking, cognitive institution, system dynamics, internet news comment

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Introduction

Since reality, defined as "a quality appertaining to phenomena that we recognize as having a being independent of our volition," is socially constructed (Berger & Luckmann, 1967), selectively perceived, rearranged cognitively, and negotiated interpersonally (Weick, 1979), the cognitive institutions, such as norms, beliefs, traditions, in which behaviors are dominated can be also contextually selected by a certain organization. For example, the behavior which is people believe apparently undesirable within their certain organizations, is not always bad at another organization. Unlike the inter-organization approach to investigate the cognitive institutions causing different individual behaviors, i.e. how different the cognitive institutions are in different organizations, the within-organization approach covers which one is the more dominant to affect individual behaviors in an organization. In fact, there are many minor beliefs in a certain organization; they are also socially constructed within an organization for a long time, just as dominant ones are. However, since most people don't accept the minor beliefs, it is hardly possible that the idea is justified, or even legitimated within the organization. However, in reality, the justification of these minor beliefs might be able to be derived from social interaction, such as the sensemaking process. During the sensemaking process, since whatever ideas or understandings people form have been directed backward from a specific point in a time (Weick, 1995), all ideas people suggest are also perceived and experienced from their organizations and their environments, not from universe. However, various sensemaking actions from participants of the sensemaking process may not be deviated from their organization-specific values or beliefs. It is not secure that all people in the same organization think about a social phenomenon only according to the major beliefs of their organization; some ideas which are far from the dominant beliefs in a certain organization can be patronized; even a stigma, for example, can be sometimes brought out as a legitimated one during the sensemaking process. If there is the moment that a stigma is accepted and absorbed by many people, we can say that at that moment the stigma is regarded as dominant belief - the cognitive institutionalization (Scott, 2001). The social change from a stigma to a seemingly dogma is not only cognitively structured with the shared knowledge and belief system (Berger & Luckmann, 1967; Giddens, 1984), but also it exists in the integrated and standardized behavior of individuals (Hughes, 1939).

Then, how does stigma transit into dogma? Note that the process of the cognitive institutionalization is to be accomplished through sense-making (Weick, 1995). It can be proposed that even stigmas can be dominant when they are institutionalized through the sensemaking process. To understand the evolution of the minor cognitive institution, this study builds a system dynamics model adapting the action-driven sensemaking process (Weick, 1995); then the system dynamics model is applied to the case of a Korean maverick named "Master Kim" on cyber pornography; finally, the results of the simulation featured with the real case provide some significant insights on cognitive institutionalization.

Institutionalization and Sensemaking

Institutionalization can be defined as the process by which a significant new structure or practice is incorporated into a system of existing structures and practices (Scott, 2001). As Scott (2001)'s classification, cognitive institutionalization involves widespread acceptance of the value of an activity; it occurs as individuals take it for granted that a certain way of doing an activity is the best way. However, since cognitive process is affected by recent experiences (Nisbett & Wilson, 1977), it is not straightforward to conceptualize cognitive institutionalization. Therefore, we'd like to introduce the concept of sensemaking because institutional theory, especially cognitive institutionalization, and sensemaking are "ripe with intriguing connections (Weber & Glynn, 2006; Weick, Sutcliffe, & Obstfeld, 2005). Sensemaking is "a search for contexts within which small details fit together and make sense" (Weick, 1995). It consists of perceptions, interpretations, and actions (Daft & Weick, 1984). Thus from a sensemaking perspective, a cognitive institution contains typified actors, typified situations, and typified actions (Weber & Glynn, 2006). In this perspective, the verbal activities of individuals as the typified actions are important in studying cognitive institutionalization. The sensemaking actions of the individuals *per se* illustrate us their point of view about things they look at. According to the properties of sensemaking, those activities are based on the previous experiences; the experiences are represented by certain activities (Weick, 1995); therefore those activities vary depending on their previous activities concerning their experiences. Particularly, of the properties of sensemaking, the concept of enactment suggests that people construct reality through their own acts, and in doing so generate "the materials that become the constraints and opportunities they face." (Weick, 1995) In addition, as Follet (1924) said, "The activity of the individual is only in a certain sense cause by the stimulus of the situation because that activity is itself helping to produce the situation which causes the activity of the individual." (Weick, 1995) Therefore, all kinds of activities people create are a part of their own environments, keeping actions and cognition together (Thomas, Clark, &, Gioia, 1993).

A System Dynamics Model

The objective of this study is to illustrate the evolution of a minor cognitive institution. To model the cognitive institutionalization, this study focuses on the behavior of the sensemaking actions for the minor cognitive institution over time. In explaining the sensemaking process, Weick (1995) classified two structures with which sensemaking can arise: belief and action. Sensemaking can begin with beliefs and take the form of arguing and expecting, or sensemaking can begin with actions and take the form of committing or manipulating. While belief enables actions regarding sensemaking to initiate, action enables sensemaking process to arise. Shortly, "the sensemaking starts with actions rather than beliefs" (Weick, 1995). In this aspect, we can think that, once sensemaking occurs in an organization, although beliefs are an obvious anchor in sensemaking, we have to look into the actions involved in the sensemaking process. It is natural that, in investigating cognitive institutionalization in the perspective of sensemaking, it is much easier to observe the action than the belief in the sensemaking process. Therefore, the action-driven

sensemaking is more appropriate than the belief-driven sensemaking to describe the mechanism of cognitive institutionalization.

The action-driven sensemaking process consists of commitment and manipulation (Weick, 1995). Commitment is a process to attract and bind actions for sensemaking. People have efforts to construct meaning around the actions to which their commitment is strong. In the process of commitment, accountability makes the actions representing certain beliefs more visible, more salient. Generally speaking, even if the patronized actions for the minor cognitive institution are emerged, people may tend to possibly resist the awkward conception consisting of the significantly new cognitive structure. Nevertheless, if we had accountability for the minor cognitive institution, the actions for it could arise. The other process of the action-driven sensemaking is manipulation. Manipulation is a process to make an intentional change. People can put something to influence their environments. Sensemaking by manipulation involves actions creating a "new" environment that other people can figure out. If people try to conduct the sensemaking by manipulation on the basis of a minor belief in their organization, they must provide sensible niches for the minor belief (Weick, 1995). For example, if there is a moment when a stigma started getting pervasive via the manipulation process of sensemaking, the moment is only when the logic of the actions for the stigma, or sensible niche, are significant enough to be internalized to overcome the inner resistances which have been formed by the previously cognitive institutions. In addition, according to the human cognitive process, sensemaking actions can be diminished unless the sufficient arousal for them is occurred. It is related to one of the properties of sensemaking, ongoing; "it provides a warning that there is some stimulus to which attention must be paid in order to initiate appropriation action" (Weick, 1995). The perception of arousal means that sensemaking actions would get vanished over time unless the additional initiating stimulus is injected persistently.

Eventually, we can think that sensemaking actions are a function of committing, manipulating, and forgetting. Therefore, we get an equation on sensemaking actions:

$$Sensemaking\ Actions= INTEG\ (Committing + Manipulating - Forgetting)$$

The flow variable Committing is made up of two parts: legitimacy and attraction for action regarding the normative boundary. As sensemaking actions for a minor behavior increase, the legitimacy for the actions may increase or decrease, according to the ratio of the deviate social norm to the dominant social norm advocating the minor behavior. The more legitimate sensemaking actions are during the sensemaking process, the more sensemaking actions might be able to occur. Also, the increased legitimacy enables accountability to increase, enticing more sensemaking actions. However, if the level of accountability is relatively small to the dominant social norms, people don't want to participate in the sensemaking process supporting for the minor behavior. Generally, accountability is hard to get enough to attract others' actions. It is because committed and uncommitted people perceive the minor behaviors in the different ways according to their own beliefs (Weick, 1995). For the conformity of norms among all people, adjusting time is essential. Therefore, we can have the equation of the flow committing like this:

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Committing=
   Attraction for Actions * Legitimacy * (Dominant Social Norm -
   Sensemaking Actions)
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By definition, the flow Manipulating has no feedback loop. Instead, the inflow of the manipulation includes a discerning concept to affect other feedback loops: sensible niches. Daft and Weick (1984) suggests that the way in which people create sensible niches for themselves and others is a good place to start in comprehending sensemaking by manipulation. In institutional theory, there is a concept of institutional logic related to the sensible niches. Institutional logics are belief systems, as they represent that means which are believed to bring about a given end, and thus affect the way individuals select their strategies (Friedland & Alford, 1991). Therefore, the sensible niches are driven by supportive ideas of the sensemaking actions. However, to form sensible niches for the minor behavior enough to be internalized in their organization, manipulators have to consider the intense sensemaking actions. Analyzing the organization with a violent earthquake in Italy, Lanzara (1983) stressed that there were intense social activities that added epiphany to the environment, the epiphany that is a new feature that people have not had before. With the intense sensemaking actions for the newly introduced cognitive institution, duration retaining those actions is also important. Since sensemaking is an active ongoing process, consistent arousal is needed (Weick, 1995). Moreover, the human cognitive process makes some delay to perceive the new cognitive structures. Therefore, we can assume that the sensible niches are a smoothing function of supportive idea, which is dependent on intensity and duration of the manipulation.

Lastly, the outflow Forgetting simply is intervened to decrease sensemaking actions with the average lasting time. In addition to the sensemaking process, this model has a feedback loop regarding social norms. The stock variable, Dominant social norms, is internalized cognitive institution in a certain organization. With increase in the effect of sensemaking which is derived from the increased accountability, the boundary of the dominant social norms may be blurred. As the boundary of the norms is lowered, new social norms, which have been considered as stigmas for, example, can be emerged. However, since the new norms are just deviate social norms from the dominant social norms, they are destined to revert to the previous dominant social norms.

As mentioned above, three mechanisms of the action-driven sensemaking process, committing, manipulating, and forgetting, can be figured with a system dynamics model as shown below:

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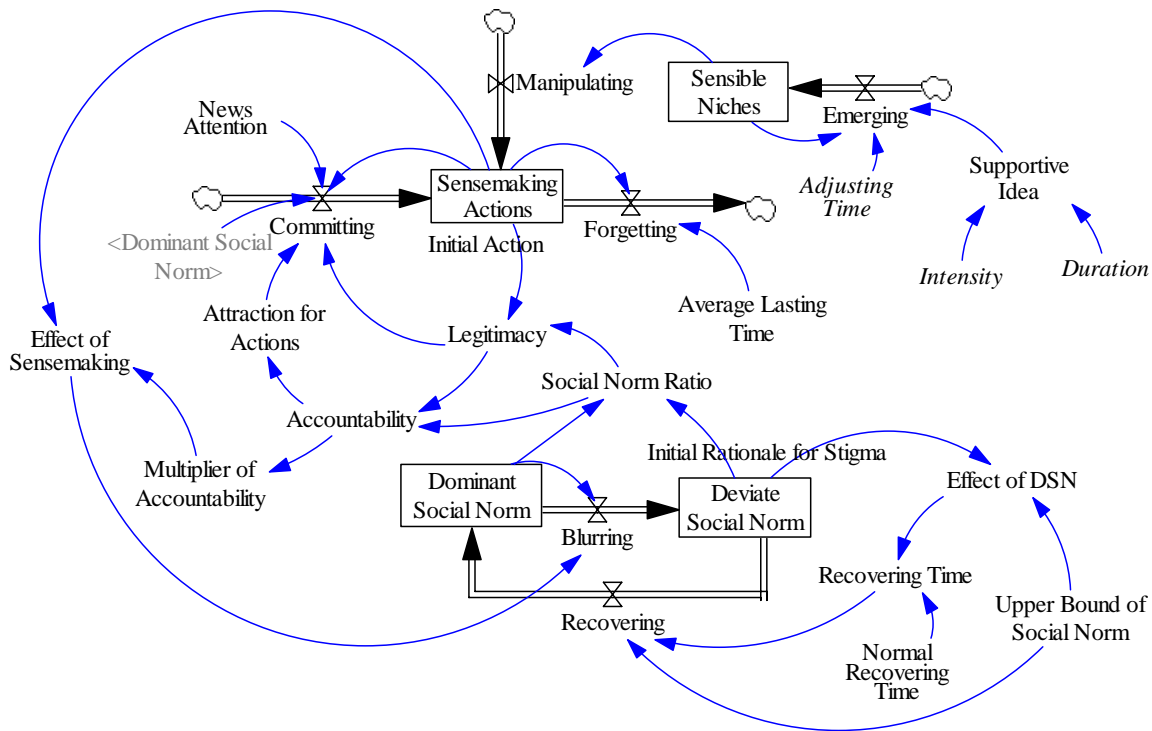
Figure 1 System Dynamics Model on the Action-Driven Sensemaking Process

To understand behaviors of the model, we perform sensitive analyses examining the impacts on the sensemaking actions under the assumptions that the respective parameters are uniformly and randomly distributed: one parameter is intensity which is varied between 0 and 1; the other is duration which is varied between 0 and 10. Figure 2 shows the effects of the intensity of the manipulated sensemaking on the behavior of the sensemaking actions; Figure 3 is the combined effects of the intensity and duration of the manipulated sensemaking. To examine the response of the system, the variable *Supportive Idea* is assumed as a pulse function starting at time 2.
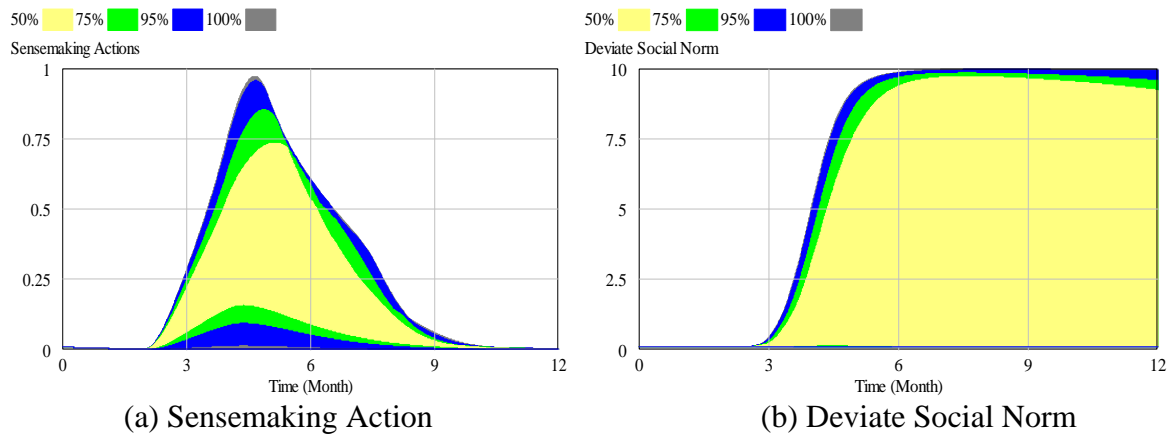
(a) Sensemaking Action

(b) Deviate Social Norm

Figure 2 Sensitivity Analyses with Intensity of the Manipulation

(a) Sensemaking Action   (b) Deviate Social Norm
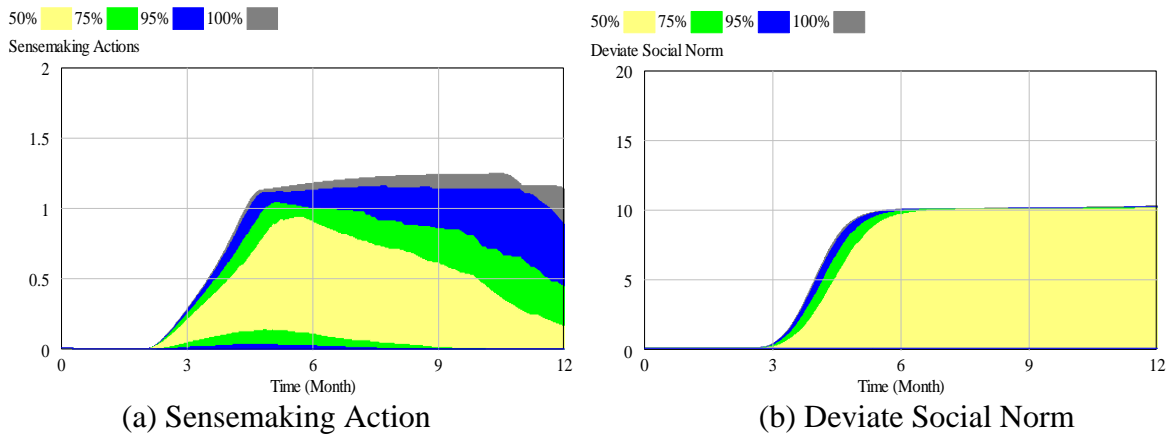
Figure 3 Sensitivity Analyses with Intensity and Duration of the Manipulation

A Case: Master Kim

Through the system dynamics model, we can examines a case of cognitive institutionalization happened on internet, the "Master Kim" case. "Master Kim" is a suspect who has long provided Japanese adult video files with peer to peer (P2P) users through P2P websites. The name "master" was put forth by the users at the P2P websites to reflect his consistent activities to provide the newest Japanese pornography. When the news on his arrest was released to public, despite his crime, a large number of people have surprisingly begun to admire him with intensive discussions and debates at some web portal sites: some people analyzed Master Kim's contributions to local economy; others posted poems in praise of him. A group of people, particularly the participants on internet, pleaded to release him, despite his illegal conduct, on the police website by insisting his innocence. Eventually, those activities of web users to admire the criminal suspect led people to discuss seriously about the behavior of pornography - watching that has long been a kind of stigma in society, and affected collective social actions for solicitation of Master Kim.

The phenomena didn't appear at the beginning of the news release. As the feedback comments about the news were accumulated, some people started supporting him, forming supportive moods. At the beginning of those moods, the first comment for supporting him was simply written with a sense of humor. However, the effect of the comments was so powerful and legitimate that other kinds of analogously metamorphic comments are tremendously generated. One interesting thing was that those metamorphic comments supporting "Master Kim" played a significant role attracting other supportive comments for him. As a result, many people believed "Master Kim" should be relieved, and some people posted the solicitation for "Master Kim" on internet, even at the bulletin board of the police website, where people should officially post their opinions with their real names.

In short, the close observation about the behaviors of the internet users explains that the "Master Kim" case can be characterized with a kind of transformation of the individual minds – cognitive institutionalization. Surprisingly, people on internet might have taken it for granted that "Master Kim" was innocent because he much had contributed to Korea: pornography in Korea, which "Master Kim" mostly had distributed, is very helpful for

men's metal health, which can increase productivity in their works; furthermore, pornography helps some industries to improve their intrinsic technology, such as online file sharing technology, and to increase their sales, such as tissue papers. We don't believe that, due to the "Master Kim" case, those socially constructed behaviors on internet about the culture of sex have been completely internalized among people; it might disappear in near future. However, in spite of the instant institutionalization, the case is very meaningful to study cognitive institutionalization in that people can show a collective action with the blurred normative boundary of behaviors.

This study investigated feedback comments of the online news about Master Kim at a major portal website to analyze the cognitive institutionalization. We focus on protocol analysis in studying the Master Kim case because the protocol analysis can handle a sheer amount of data, the qualitative nature of the data, the complexity of the data, and the subjective nature of its interpretation (Cooke, 1994). Particularly, content analysis (Krippendorff, 1980), a way of organizing a mass of open-ended materials by objectively and systematically identifying specific characteristics, is worth applying to analyze the Master Kim case. To begin with, we generate a dataset from 6,455 news comments at a Korean portal website. Then, we count the new comments representing a collective action for Master Kim. Operationally the collective action is identified as (1) insisting his innocence, (2) suggesting or urging a social movement for him, or (3) posting a particular phrase meaning his praise. Here is the behavior of the collective action for him.
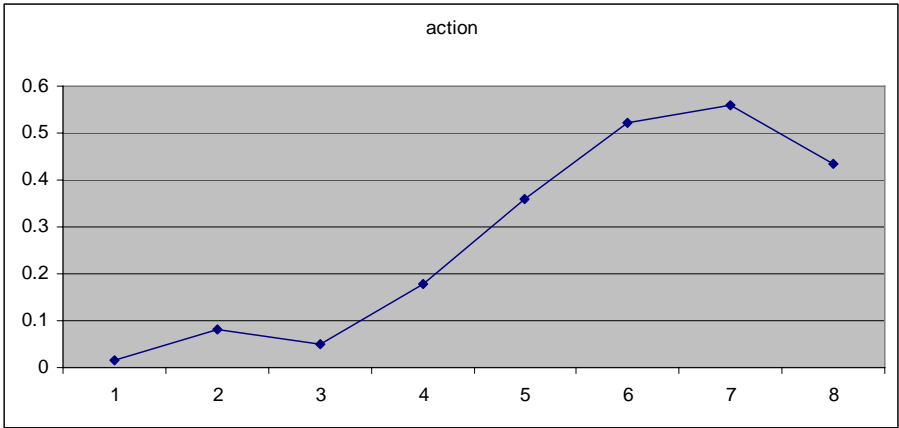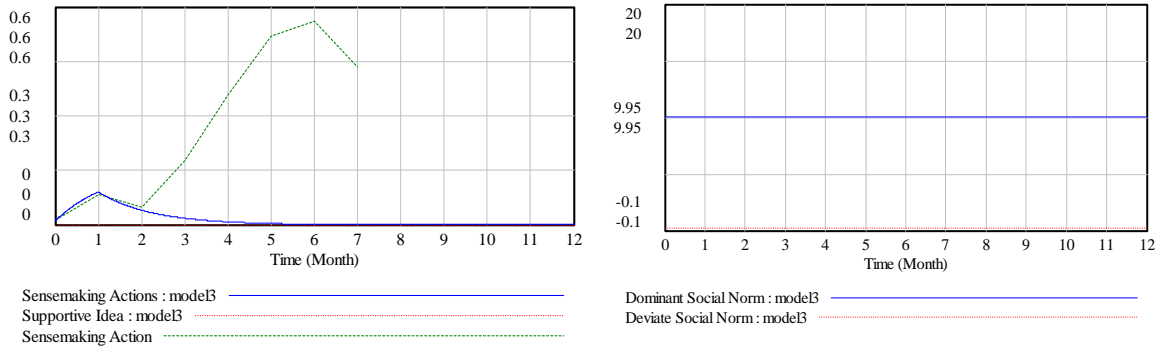

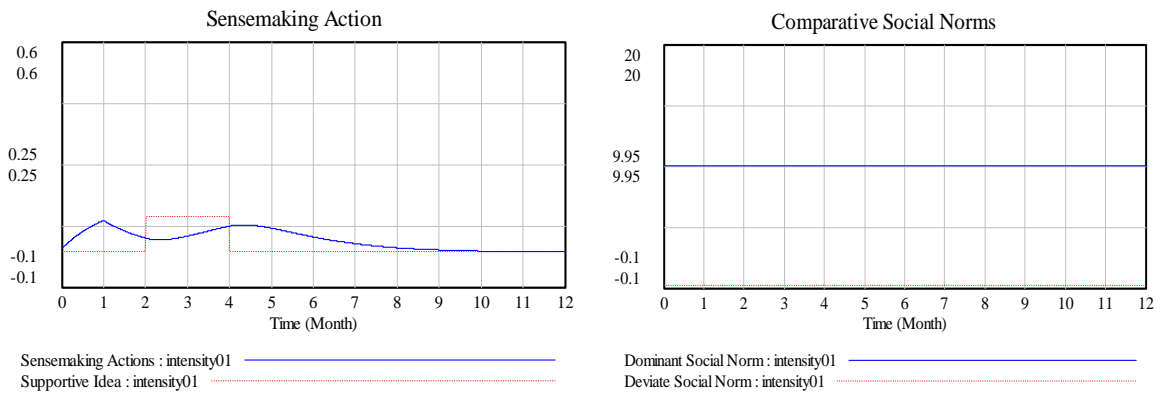**Figure 4** The Behavior of the News Comments Featured with Collective Actions

Application

To illustrate the "Master Kim" case with the system dynamics model, we need to have some assumptions. At first, exchanging news comments on internet are a kind of sensemaking process. It is because people express their minds, beliefs, thoughts through their news comments. Second, in terms of action, posting news comments is much more motivated to participate in the sensemaking process as actions than reading ones. Thus, we don't need to consider the number of reading as sensemaking actions. Third, initially there is the arousal effect of the news release. At the beginning, sensemaking is initiated by the news on Master Kim. Lastly, initial manipulating sensemaking actions start at time 2.

As the base case, Figure 5 shows the behavior of the sensemaking action. Because of the effect of news release, sensemaking is initiated. However, since additional actions are suppressed by dominant social norms, sensemaking actions go to zero.
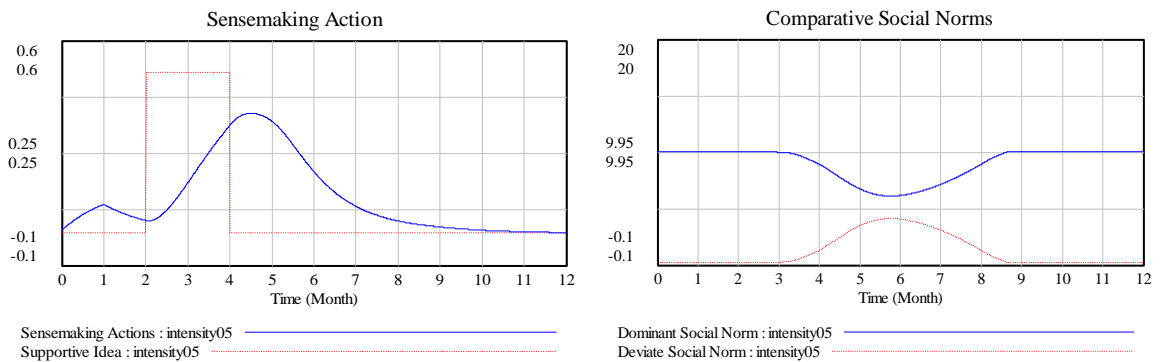

Figure 5 The Behavior of the News Comments Featured with Collective Actions

With fixing duration to 2, the variation of intensity makes different behaviors of sensemaking actions.
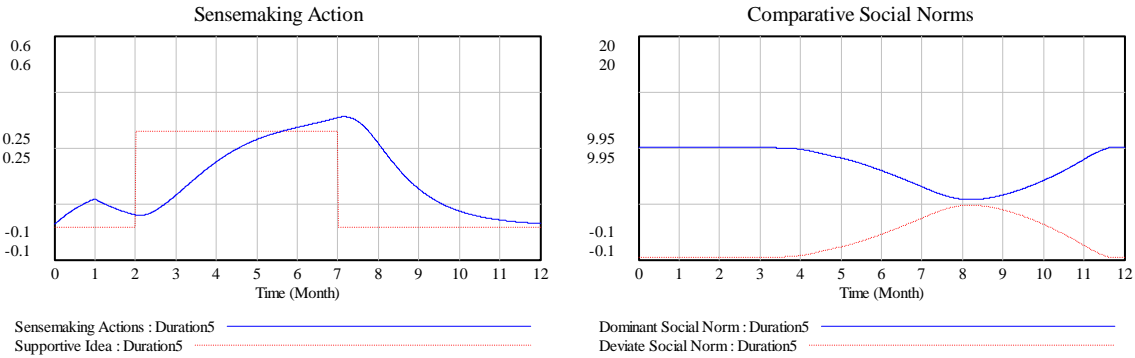


(a) A Case of Intensity 0.1 at Duration 2

(b) A Case of Intensity 0.5 at Duration 2
Figure 6 The Behavior of the News Comments Depending on Intensity

Depending on the higher intensity, sensemaking actions are also enhanced and then disappeared gradually. However, when intensity is quite small, there is no change in the deviate social norm, indicating that the manipulation is not effective to turn around the existing dominance of the social norms. On the other hands, when intensity is 0.5, the deviate social norm has increased depending on the soaring sensemaking actions. However, it has got back to the previous level. In that case, we can say that a fad has established by the results of the temporary intense sensemaking. These behaviors are cause by the failure of the committing. Intense but temporary manipulation can increase the sensemaking actions, but the immediate increase in those actions hardly can secure strengthening accountability among people. Therefore, we should consider duration of the manipulation. Let's add the variation of duration to the system. I set duration to 5 and 7 with the fixed intensity as 0.3. The results of the simulation are shown below. In the case of duration 5, the change in sensemaking actions over time has declined due to the limitation of intensity. However, when we extend the duration from 5 to 7, the sensemaking actions exponentially increase though their immediate fall is following before long. The second increase in the behavior of the sensemaking actions represents that through the manipulating sensemaking process which results that the actions are familiar with the new deviated belief, people start committing sensemaking actions. As the results of the intervened commitment, the dominant social norm has collapsed and a new cognitive institution has established.


(a) A Case of Duration 5 at Intensity 0.3
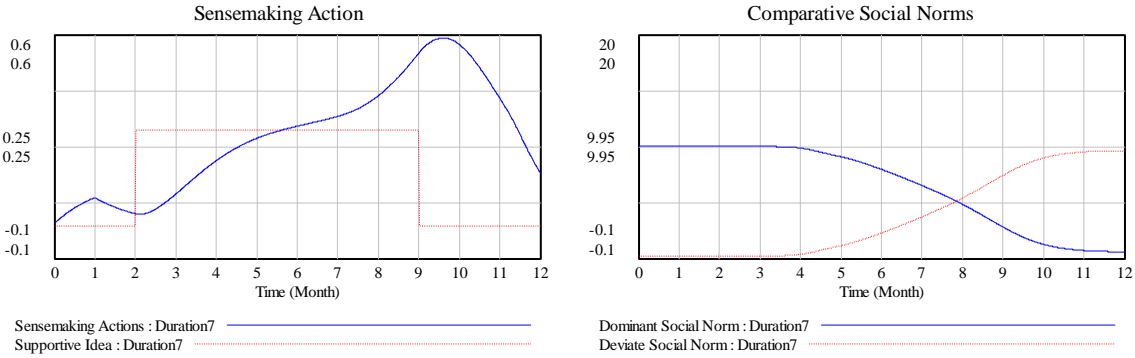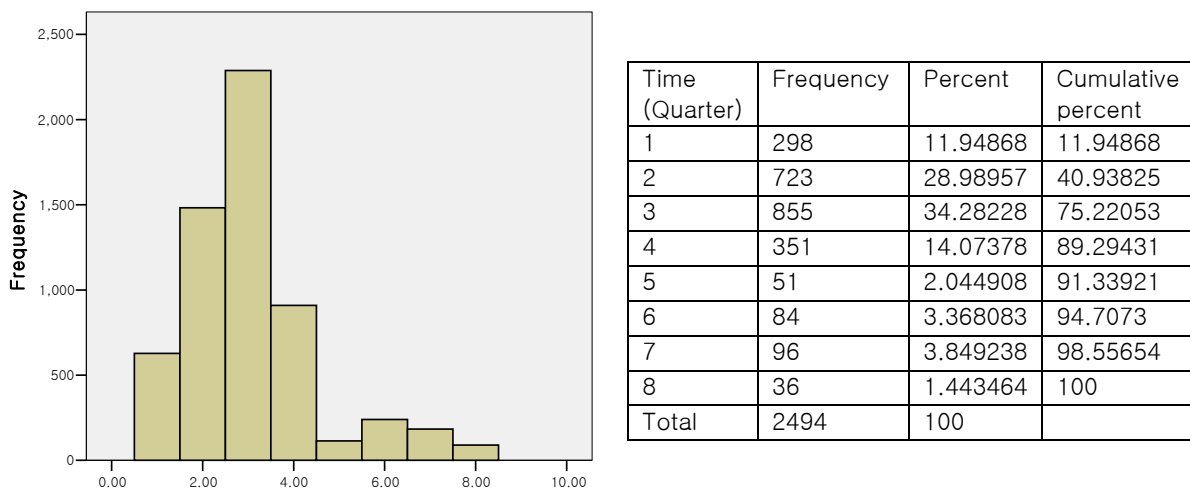

(b) A Case of Duration 7 at Intensity 0.3
Figure 7 The Behavior of the News Comments Depending on Duration

How about the exact behavior of the sensemaking actions in the "Master Kim" case? To get estimates maximizing the payoff of the variable sensemaking action, we can calibrate three parameters: intensity, duration, and adjusting time. The results are shown below:
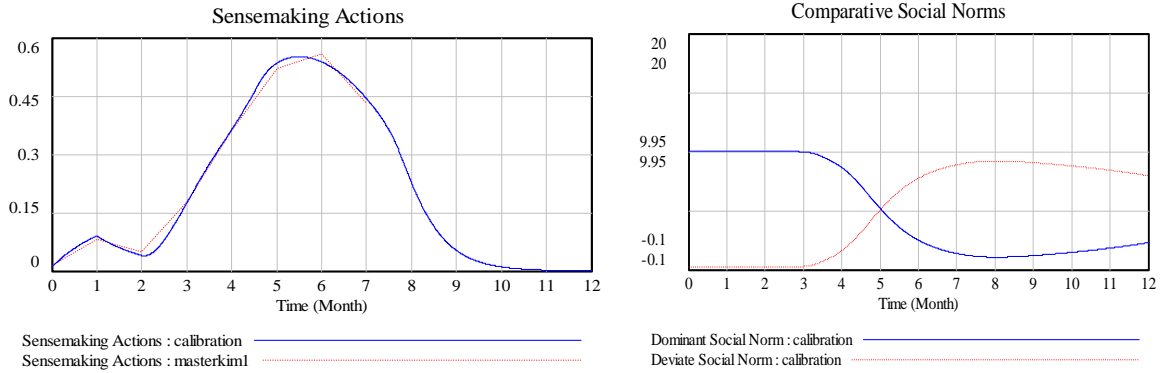
(a) Sensemaking Actions   (b) Comparative Social Norms

Figure 8 The Calibrated Behavior of the News Comments

The maximum payoff is found at (1) intensity 0.498246, (2) Duration 2.57448, and (3) Adjusting Time 0.843649. These results are obtained through 288 simulations. As the results of the sensemaking process, the deviate social norm exceeds the dominant social norm (Figure 8(b)), indicating that dominant cognitive institution has collapsed and the newly introduced cognitive institution, a positive point of view concerning sex in this case, has been taken for granted among internet users. Actually, Figure 8 shows that the Master Kim case is characterized with a short-term institutionalization, resulting in turning back to the previous norms in the future.

Time (Quarter)	Frequency	Percent	Cumulative percent
1	298	11.94868	11.94868
2	723	28.98957	40.93825
3	855	34.28228	75.22053
4	351	14.07378	89.29431
5	51	2.044908	91.33921
6	84	3.368083	94.7073
7	96	3.849238	98.55654
8	36	1.443464	100
Total	2494	100	

Figure 9 Histogram of the News Comments

To compare the results with real data, we have a histogram concerning the number of news comments per quarter a day. At Figure 9, frequencies per quarter a day flopped at

time 5, when the calculated duration by simulation is almost same. It means that intense sensemaking has occurred between time 2 and time 4.

The "Master Kim" case can be featured with the moral problem derived from blurred normative boundaries concerning taboos, superstitions, or myths: people tend to speak some words about sex without reserve only when they are in private; otherwise, they usually express the vulgar words by using other words – euphemism. The news on "Master Kim" and its tremendous feedback news comments on internet from many users might have made the normative boundary of sex in Korea collapsed. The collapse was caused by the achievement of the institutional logic for "Master Kim:" many news comments carried the cognitive institutional logics which advocated him and further the culture of sex and that of pornography; through the news comments, users on internet formed their own shared beliefs – another particularistic norm; the particularistic norm enables the individuals to join the collective social action which seems to be strange to other organizations. We can say that the collective action was derived from social contagion by exchanging the news comments. However, the more important thing is that, since it is possible for people to express and insist their own norms on internet, the mass sensemaking activities on internet can make a breakthrough represented with a collective action.

Conclusion

Through this study, we can have some insights to strategically make desired breakthroughs in our organization. After all, the human cognition exists as a visible form in our mind as Giddens (1984), insisted structuration, although it remains essential invisible in reality. Like other formal institutions, norms, beliefs, and traditions can be collapsed by other cognitive institutions through as social interactions, such as the action-driven sensemaking process, particularly exchanging feedback comments on the hot issues. It is because "as individuals absorb a plethora of value-infused beliefs, there may be ambiguity about which beliefs to follow in a certain situation" (March, 1994). Although traditional norms, previously dominant as cognitive institution, justify individual behaviors, relative minor norms can be the *latent* cognitive institutions, which could emerge as dominant norms only if its logic becomes in fashion between and among individuals. In other words, sensible niches, or institutional logics may enable these various forms of cognitive institution to have influence with organizational behaviors in many aspects in terms of cognitive institutionalization. Therefore, it is essential to understand the formulation process of the cognitive institution under the blurred normative boundary particularly in the cyberspace.

Moreover, we have to notice that the evolution of cognitive institution could not be emerged if the formal institution which facilitates the sensemaking process, such as the service of news comments on internet were not established. Therefore, this study can be furthered in investigating not only practical implications to strategically make desired breakthroughs in our organizations, but also theoretical insights in the perspective of new institutionalism.

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Appendix

Sensemaking Actions= INTEG (Committing+Manipulating-Forgetting,Initial Action)
Committing= IF THEN ELSE(Dominant Social Norm<Sensemaking Actions,News Attention,Acting Parameter*Attraction for Actions*Legitimacy*(Dominant Social Norm-Sensemaking Actions)+News Attention)
Manipulating= Sensible Niches
Forgetting= Sensemaking Actions/Average Lasting Time

Accountability=Legitimacy/Social Norm Ratio
Legitimacy= Sensemaking Actions*Social Norm Ratio
News Attention= PULSE(0,1)*0.125
Social Norm Ratio=Deviate Social Norm/Dominant Social Norm
Acting Parameter=0.5
Attraction Parameter= 3
Average Lasting Time=1.25
Initial Action= 0.01
Attraction for Actions= WITH LOOKUP (Accountability*Attraction Parameter, ([(0,-0.2)-(2,0.25)],(0,-0.2),(0.350877,-0.177632),(0.649123,-0.14057),(0.877193,-0.0855263),(1,0),(1.11579,0.0861842) ,(1.25614,0.139474),(1.48772,0.173026),(1.75439,0.190789),(2,0.2)))
Effect of Sensemaking=Sensemaking Actions*Multiplier of Accountability
Multiplier of Accountability= WITH LOOKUP (Accountability,([(0,0)-(2,1.2)],(0,0),(0.154386,0.3),(0.421053,0.621053),(0.666667,0.831579),(1,1),(1.25614,1.08947),(1.49474,1.13684),(1.72632,1.16842),(2,1.2)))

Deviate Social Norm= INTEG (+Blurring-Recovering,Initial Rationale for Stigma)
Dominant Social Norm= INTEG (+Recovering-Blurring,Upper Bound of Social Norm)
Blurring=Dominant Social Norm*Effect of Sensemaking
Recovering=IF THEN ELSE(Deviate Social Norm<Initial Rationale for Stigma,0,(Upper Bound of Social Norm-Deviate Social Norm)/Recovering Time)

Recovering Time=Normal Recovering Time*Effect of DSN
Initial Rationale for Stigma=0.1
Normal Recovering Time=20
Upper Bound of Social Norm=10

Sensible Niches= INTEG (Emerging,0)
Emerging=(Supportive Idea-Sensible Niches)/Adjusting Time

Supportive Idea=Intensity*PULSE(2,Duration)
Adjusting Time=1
Duration=2
Intensity=0.38
Effect of DSN= WITH LOOKUP ((Deviate Social Norm/Upper Bound of Social Norm)/(0.1/10),([(0,0)-(10,20)],(0,20),(0.0842105,15.4386),(0.238596,10.9649),(0.364912,7.80702),(0.512281,4.91228),(0.750877,2.45614),(1,1),(1.34737,0.6263),(1.67018,0.3632),(10,0.2)))

TIME STEP = 0.0078125

14