

Intra-organizational Conflict and Innovative Performance in Media Industry: An Exploratory Simulation Study

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ABSTRACT

Media industry is attempting various types of strategic innovation in the content and organization as they enter transition period. However, previous research has casually treated the organizational culture from the management and realized that cognitive/cultural differences between the specific departments yield conflicts. This means the researchers explored less on the decision-making process with the conflict between sub-groups and constituent in the organization. Our study reviewed the most positive method to achieve the innovation outcome through the conflict management within the organization based on the behavioral theory of the firm and applied computer simulation model for analysis to construct the quantitative scenario and infer the result. Conflict always found while media organization experiences innovation within the groups. However, in the long term, securing the independence through the certain state of 'anarchy' which possibly lead consensus implies significance rather to comprise collegiate system for unilateral control. In specific, this study explored the issues in 'conflict management' that has been evaded in media organization research through NK simulation model.

✉ keyword : Organizational Conflict, Intra-firm Conflict, Innovative Performance, Behavioral Theory of the Firm, NK Simulation

1. Introduction

Current media industry can be defined as 'turbulence period'. Following the media convergence in which various media and technologies merged on the basis of information communication technology (ICT), the needs of the audience have also been complicated and diversified which increased the duty of media enterprise [1]. Specifically, traditional media sector including newspapers and broadcasters, has experienced business renewal called 'digital first strategy' due to the transition of business value chain from mass-communication system that centered supplier and provider in the market to consumer centric value.

In order to adapt to changes in the external environment,

media organization attempted product modifications including entertainment content or media service, and a necessary revision of the organization system [2]. Moreover, the changes in resource allocation strategies such as future investment and compensation plan for the manpower, are inevitable. In the time when the newspaper solely published with paper, highlighted its organization structure of department/field had been divided based on the different attributes of targeted subject, but after digital first, new systemic shifts has been detected [3]. In case of broadcasters, the organization emphasizes more on business management department besides production organization that includes reporters and program director (PD) who were considered as the core group in broadcasters to find alternative revenue streams and strategic investment [2]. Therefore, the innovation process of the transition accompanies various types of changes within the organization [4].

Change and innovation always incur cost. Particularly in the circumstances that requires change in various routines in the organization, conflict is an unavoidable consequence since the opposition forces of new system acceptance or the different opinions on the innovation are created [5]. In fact,

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media enterprise is the group that has grown based on strong path-dependence. Thus, individual members of the organization are strong in sense of vocation, resulting in a conservative organization culture [1][6]. It is because that media enterprise has not only the identity as the producer, but also the economic agents having a strong sense of identity accomplishing social responsibility. As a result, the ecosystem of the organization is structured with the political/economic and ideological sub-groups representing the different societal interest, and each group participates the evolution process of the organization by repeated experience between cooperation and conflicts.

Past studies on media organization have attempted phenomenological level of studies to understand the media enterprise's politicalization [1][7].

Other studies pointed out organization's collapse due to androcentrism, authoritarianism, and nepotism, and one of the studies applied the competing values framework from organizational culture study into media enterprise [8][9]. This study answers to the question which is the desirable strategy in managing the conflict within the sub-groups of media organization. Various organizational studies have mentioned delegation of authority to subordinate or autonomy, but not many of the studies have not investigated on the conflict as internal and the friction in sub-groups relationship [4][10]. It is because research have seen it as negative component and problem-solving issue. This study understands conflict as a inevitable result in the innovation process which sees how 'satisficing' occurs in the process of innovation among sub-groups sharing different interest and find the impact of conflict from the governance intervention.

The aim of this study is to investigate what is the most reasonable approach for the media enterprise to coordinate the conflicts within the organization having different perspectives in the innovation phase. According to the Behavioral theory of the firm (here in after 'BTOF'), business conflict has been resolved unclearly within sub-groups [4]. The main reason is that the organization is composed of different political alliance, and they tend to make decisions through reasonable level of consensus based on mutual interests [6]. The existing accounts fail to analyze how conflict management can lead to the best outcomes. This study therefore explores how best to save when there

are sub-groups in different organizations via computer simulation model. The overall structure of the study follows the order: we discuss the literature review on conflict within the media organization, and review its limitations based on the framework of the behavioral theory of the firm. Lastly, we analyze the predicted outcome through the computer simulation model and then identify the conclusions and implications.

2. Literature Review

Media enterprise considers creativity important in its organization compared to other industries. Thus, empowerment level for the members in the organization is high, and the organization derives its business performance based on members' competence. Therefore, the business of the media organization needs to consider work efficiency so delete as the autonomy [7][8]. Public interest is also beneficial to the group organization, and as a result the organization needs to accomplish not only the economic success but also the social goals [6]. Therefore, various stakeholder's institutional intervention and attention will naturally follow. Each sub-group in the intra-firm organization in media industry that co-exists with the different types of audiences acknowledging their foundations, develops in the process of conflict and cooperation [7].

Sometimes, however, in the discourse of the organizational culture in media found the new issues. Previous researchers suggested that newspapers and broadcasters are authoritative and its culture is very androcentric [7][8]. There are more theoretical disputes that were introduced stating that the media organization is not a rational and efficient group, but a politicized one [9]. Also, the members of organization in media take different political roles of representing the interest that based on the characters of the subject or the negotiator [4][11].

For instance, such departments in a newspaper, political or the city desk where writing the article critical manner may want the article to be the factual report besides advertisement or sponsorship. This irritates the relationship of media organization from external business partners or public institutions. Whereas business and industry desk considering the advertisement or sponsorship as critical business, having communication with the stakeholder is crucial. Since these

relationships are directly connected to the profitability to the organization, the group weigh more value on the business interaction than the role of media. This indicates that each department in media organization experience the conflict toward on a single event due to opinion gap and the content [7].

Individuals such as journalist and PD are important to media organization. This allows the organization to provide reward systems or organization structure to maintain a unique identity. Unlike manufacturer and service business, media organization deals with employees that are self-assertive and individualistic [11]. They recognize their identity as an expert which characterize them to move freely in the labor market [8]. Therefore, the organization's control authority on the individual is relatively low compare to other industry and it gives extreme diversity and autonomy in the organization [11].

Moreover, the appearance such as authoritarianism, and nepotism in the organization of media causes the important reason of dismantling [12]. There were studies on broadcasting organization that different departments put different values, for instance the department of culture-education or radio showed low cohesiveness and individualized network organizational culture, whereas bureaucratic culture was dominant in the business management department [9]. These differences are often based on cohesion within the department, trust level, and preference for structural autonomy [5].

In fact, the past studies on the organizational culture and conflict in the media have certain limitations. Although they agreed on the fact that different cultural aspects of each department causes the conflict between the departments, how specifically the conflict emerged were not highlighted. In addition, the discussions of development in organization achievement or innovation accomplishment after the conflict have been occurred which demands an alternative framework.

3. Theoretical Framework

3.1 BTOF and Organizational Conflict

In this study, BTOF was considered as the main theoretical frame. The past studies on Management Science focused on rationality and efficiency as the studies followed in economics and financial theory, but the multidisciplinary

work in social science after the 60s, 'bounded rationality' of human became a matter of primary concern [13]. BTOF served as one of the frame that explains the organic characteristics of the organization.

'Search' is the most important variable that the behavioral theory of the firm attains the great interest [10]. This theory that developed mutually with the evolutionary economics stated that the innovation and change derived from the desire of the organization searching the new fields [14]. And the desire always deeply related to the goal setting, aspiration level to reach a specific situation in the long-term and performance feedback that assists to realize the gap between the aspiration and the actual performance are pointed out as the critical variables [5][14].

However, the organizational innovation also connotes the conflict within the inner groups. The assertion of BTOF on conflict is that it is unsolved and reside in the organization [13]. According to the discussion above, organizational conflict is inevitable which spoils the goal of the organization due to the exaltation, the gap between reality and ideals, or the various interests of different sub-groups [15].

Also, they argued the organization behaves only when the assignment is given in the zone of acceptance or zone of indifference. Therefore, if the requirements failed to meet the satisfaction, conflicts within the organization or between the entities are created. The concepts of the conflict between stakeholder explained in Agency theory or Transaction cost economics motivated BTOF to describe the notion of 'conflict' [13][16].

3.2 Organizational Conflict and Innovation

From the study, we proposed the question how change and innovation from the organization are related to conflict. First, Organization theorists studied the organization as the political union. Thus, an organization rooted from one system may pursue various directions and this may result the groups to be inconsistent in directions. [17]. According to some studies, substitution effect have found in the organization between strategies for long-term learning and short-term learning [17][18]. Organizational ecologist Hannan and Freeman [19] also revealed another substitution effect from the organization relationship between strategy

reproduction and innovation, and this change caused switching cost which may generate structural inertia. Many other studies influenced from Organizational learning theory and BTOF suggested different types of organizational attention and orientation raise conflict [5][10][14].

Study of Ethiraj et al. [17] is known as the groundwork for the organization's conflict and innovation, they conducted simulation modeling to observe the development of conflict in a space-time context of the organization's multi-level goal. The study has been influenced by some studies investigated the structure of the organization's conflict in exploratory direction [18]. However, the study focused on the conflict itself within the exploratory direction rather than the conflict of different sub-groups of the organization or the politicalization [11][20]. Therefore, it seems that a formal study has not been conducted that includes media enterprise, the group consist of complex entity and political intervention. In fact media enterprise relatively shows loosely coupled system compare with other industries. Thus, its organizational environment always has a possibility to generate conflict due to the collision in goals and value of each department. In such situation, coordination methods considered one of the significant variables in the innovation process of the entire organization. In fact, BTOF mentioned the organization is integrated to certain governance status called 'dominant coalition', this also requires the specific entailed analysis depending on the direction of the organization [4][5][21]. Therefore, the study aimed to address the following research questions and the study result is expected to be considered as a useful framework for analyzing the realistic context in which the performance of innovation depends on the politicalization analysis existing in the organization and the organization drift of authority.

[RQ1] How does conflict influence one innovative performance when a media enterprise pursue in a various directions?

[RQ2] How does the performance of innovation differ by the methods of solution (power distribution)?

4. Method and Analysis

4.1 NK Simulation Modeling

In this study to investigate on the conflicting issues within sub-groups in the media enterprise, computer simulation from NK model was applied. NK model, one of the highly acknowledged research methods for complex system analysis originally applied to study the change of organization and its ecosystem based on evolutionary perspective. Analyzing the most adaptable organizational structure (hierarchy versus. independent) for each industry, suggesting the scenario for the innovation process, and analysis of a case for the best organizational performance are the representative outputs of the model [21][22].

First, NK model put several constraint conditions in the case of interaction between the organization and the environment. It also premises optimal compromise solution and global optimum to solve the problem. In the complex organizational ecosystem between the sub-groups, rugged space is easily emerged with different types of optimum, and the entities constantly put effort to find the fittest status [23][24].

First N stands for the number of gene in biology [23]. In this study, it represents the number of 'power within organization' or 'sub-groups'. K is interaction level between entities or the influence that one factor impacts on how many other factors. Theoretically, the maximum value of K have a value of N-1, the number of all entities excluding the self. Therefore, if K becomes 0 as $K=0$, it means that all the entities within the ecosystem are independent. In this case, simple terrain map that the mountain with only one top can be drawn. However, increased in K results in different types of interaction which makes the system complex. The value from the number of N factor can be measured as the effect of change in N and A, in calculation N^*A .

In fact, NK model premise the concept of 'contribution', this indicates the extent to which the population changes depends on the number of N components and number of different characteristics of K. In media case based on NK model, one media enterprise can be divided into four types which is the number of N component $N=4$. In addition, contributions of four components can be measured as

$K=N-1=3$ that tells the interactions of each entities to determine the influence of organizational performance. To calculate the level of the contributions, the combination of interaction is $2^{K+1}=16$. Traditional NK model assigned random probabilistic values to the role of N components in the adaptive system. However, K is the variable that determines the interaction or the correlation between the sub-groups which indicates the larger the number of K more likely transform the entire space into a rugged terrain [23].

Since NK model demonstrates active interaction between the entities, complex and rugged space are shown in the result which is different from other simulating method, for instance agent-based model. Media industry in particular the organization assessment is not limited to financial factors (viewing rate, public opinion, etc) [6][12]. It is known to have highly complex organizational characteristics that are influenced by the results of individual decisions and actions of sub-groups [7][11]. Accordingly, the study tries have holistic understanding in organization conflict by applying simulation method where N refers the number of entity and K of interaction among the entities.

The nature of K is differ by the interaction between N entities. As mentioned above, when $K=0$, all units do not share the interest but work independent. However, when $K=N-1$. the nature contributes on adaptation system, and the environment becomes highly interdependent. In general, $(N-1) \geq K > 0$ relationship established [23].

4.2 Analysis Method and Procedures

The study conducted simulation modeling. In particular, the study applied Kauffman’s NK model [21][23] that had been utilized in organization theory and hypothesized various sub-groups exist in the media enterprise. For instance, once the business policy have presented in the media enterprise, there are two options found (1) agree on the policy, and (0) disagree. The study supposed this as binary variable and maximum number of (2^N) as the alternatives.

Another significant factor from the simulations study based on the behavioral theory of firm is ‘topography’ (e.g. geography, landform, terrain, ground). If the flat ground have shown in the environment where the entities coexist, the ground means the level of uncertainty is low. However,

rugged ground is considered as the environment having various shapes of complexity and threats. The study referred to the model of Gavetti and Levinthal [10] and reviewed 10 different types of strategic directions and its surrounded situation. They found 10 strategies are enough in the computer simulation to view the complexity and conflict of the organization.

‘MATLAB’, one of the frequently used program in the simulation studies for the analysis. NK model has a robustness check in which the number of iterative calculations is high, and the identical model is computed from 1000 to 2000 times and applied to each of the ‘r’ different situations. Therefore, the study computed 2000 times ($t=2000$), and tested whether the results are similar in 5000 different situations ($r=5000$).

The study has set two different sub-groups in the media enterprise. For example, broadcasters, journalists, producer directors, technical works in relation to the content design and set configuration, and the each group shows different identities and sub-groups [22][24]. Two different sub-groups are targeted in this study. For instance, the group having the leverage called dominant coalition D1 as the variable following the random distribution, the other group D2 was presumed as 1-D1 for the initial value. Also, the study differentiated three cases for the power scenario: (1) D1 exerts influence with D2 (2) D1 and D2 control their own power and independently react to one another. (3) D1 and D2 individually maintain the independence.

(Table 1) NK Simulation Model Summary

Unit of Analysis	Measures
N	Number of core components in the organization
K	level of the interaction between entities (Judging variable of contribution level)
Choice set of individual org. (a_1, \dots, a_{N-1}, a_N)	$a_j \in \{0, 1\}$ (The influence of organizational innovation)
set level of a_j	$c_i(a_i, a_{-i}) \sim U[0, 1]$
Innovation outcome	$V(a_1, a_2, \dots, a_n) = 1/N \sum_{i=1}^N c_i(a_i, a_{-i})$

The simulations were developed as follow: case 1, N=10 changes found in K=0, 2, 4 level, case 2 50:50, and case 3 maintains the independence. Brief descriptions of NK model and the summary of the case results of the study were stated in Table 1 and Table 2.

(Table 2) NK Model Subject of analysis Case

Case	Description
Case1	D1 leveraged on D2 (dominant)
Case2	D1 and D2 had 50:50 leverage (50:50)
Case3	D1 and D2 were independent (independent)

4.3 Analysis Results of Simulation Model

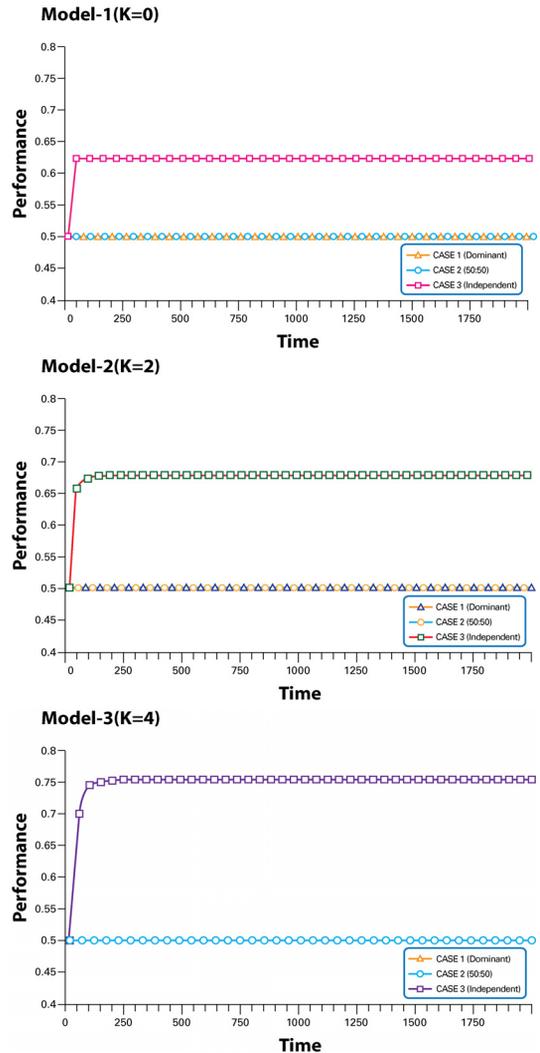
Among three cases running through the simulation, the third case showed the outstanding innovation performance. When the organization seeks the environment for the innovation, D1 and D2 are the most appropriate to maintain their independency.

However, second case (D1 and D2 are having similar power and interact) and first case (D1 completely dominant D2) are poor in innovation performance. In order to compare case 1 and 2, we separated the performance analysis and drew upon a graph Figure 1.

In case 1, D1 showed symmetry performance against D2 by 0.5 basis. This meant that the performance of D1 gets 0.6, D2 gets 0.4. Also in case 2 symmetric units resulted by 0.5 basis.

According to the result, both case 1 and 2 converged to 0.5 basis. However, each performance differed from the case where one entity affects another entity and the case where random selection is possible while maintaining the influence of 50:50. Case 1 that D1 rule over D2 showed the performance had a linear shape. On the other hand, in random selection case, performances were symmetrical which were also significantly probabilistic.

This result implies when media enterprise's sub-groups or each department builds on different view on innovation, one-way convergence or ambiguous compromise does not serve a positive role in organizational performance. Studies in the past defined the characteristics organizations of media



(Figure 1) Results of Simulation Model of average performance of Case1~3

*Setting: t=2,000, r=5,000, N=10

as authoritarian and path-dependent in decision making [1][6]. At the same time, however, the media enterprise emphasized creativity and autonomy in the organization to create content [11][17]. Therefore, it is necessary to endeavor valuable strategic direction through the diversity of internal members and the co-existence of various decision-making perspectives [5][25]. Diversity allowed the organization to retain flexibility when the radical changes have gone through

entire industrial environment [26]. It has the effect of portfolio investment in various industrial fields. Based on the effect, researchers have stated the diversity can be interpreted as one of the strategic options [25].

Therefore, the media enterprise need to manage decision making discretions by ensuring independence from each organizational unit that grant appropriate levels of empowerment and the trust [15][17]. Not only the first case that one sub-group exercised influence to other sub-groups, interchanging influences by 50:50 in second case suggested congestion and politicization of the inner part of the media organization disrupt innovation performance. The interdependent ecosystem between the organizational units may function as knowledge-sharing infrastructure, but this also causes each sub-group to check and raise adjustment costs which leads to structural inefficiency. ‘Storytelling’ is considered one of the critical competitive edge in the media enterprise. Theorists viewed unconventional thinking and liberal atmosphere are important to creative industry [7][20]. Therefore, autonomy and empowerment between sub-groups are the key virtue for the organization.

In fact, the complex interaction (K) between the entity (N) within the simulation model is advantageous to draw out the optimized performance of the independent structure. Unlike Model 1, Model 2 and Model 3 showing the organization having frequent interaction, independence among sub-groups is beneficial to the innovation.

(Table 3) Result of Analysis

Model	Result
Model1	Dominant mode is the most optimal (No interaction between entities)
Model 2	Independent is optimal (Medium interaction between entities)
Model 3	Independent is optimal (High interaction between entities)

5. Conclusion and Discussion

This study aimed to investigate how conflict within various groups impacted the innovation process, in specific organization scope of media enterprise, experiencing

transition. Past studies on media organization were superficial and mostly focused on organization from a cultural perspective, but we tried to investigate how conflict serving critical role in decision making in the group impacted innovation performance and the role of coordination [14][27]. The study considered behavioral theory of the firm as a fundamental component in understanding conflict within the organization and innovation process [16][28].

Moreover, through virtual simulation modeling, NK model analysis found ensuring independency was significant when conflict happened inside the organization rather than during interaction, coordination and the convergence to one side. It meant the effort of ‘across the enterprise’ are inefficient in the changing circumstance for media organization, whereas active and discretionary decision-making by organizational agents were significant for innovation performance [3][15]. For instance, newspapers can develop the department of the organization influence by branding or via social media strategy securing own channels from the audiences of individual journalist. Broadcasters needs to consider organizational strategies and society, it showed the needs of increasing the adaptability through delegation and trust for faster decision making for the production department. Independency implied organizational diversity: it stated that the appropriate level of variation is also likely to adapt to environmental changes and that in the long run the organization plays a very positive role in regenerating organizational learning and reform [26][29].

There are two major implications found in this study. First, unlike the manufacturing and service industry, the media enterprise shows high levels of internal conflict and the implicit rules that exist in the organization disrupt the process of reaching consensus. Therefore, accommodating the problem by the owner or manager’s one-sided perspective is not appropriate, whereas developing the consensus on the condition that both groups adequately share the stake. In October 2017, Korea media industry established precedent in the conflict resolution of SBS between a labor union and company. SBS labor union asked for transparency of corporate by allowing the participation of labor union in the appointment of CEO and board members. It was because the company was not able to avoid political scandal from the company management. Indeed, the company arranged a

compromise to ask for consent from the labor union in the appointment of CEO and the board members. It can be considered as a case that the media enterprise and the labor union tried to adjust the conflict.

The traditional management system of manager-centric on centralized media ownership seems to confront the limit. Public interest in media centered to the justification in the operation of organization, media enterprise attempts to apply different management systems from manufacturing and service industry [12]. This is relevant strategy in certain degree not only for enhancing the learning capacity level of the organization but also the level of organization creativity meaning various management strategies [29][30]. Multiple strategies are shown: Cooperative, employee ownership, or the owner's management controls are limited in case of SBS. Therefore, the possibility found in the empowerment through voting or consensus while vanishing the unilateral manager designation [31]. Under the situation, the manager is required to invest on time and cost on the discussion to resolve conflict rather than arbitration using status and power [26]. Ensuring the independence through 'distribution of political authority' will become an important issue whereas the delegation through modular and team system were preferred in the past. It is because the management of the organization of media enterprise has entered a new transition period [2][12].

The final implication is that the study conducted the empirical studies on the conflict of the media enterprise and the existence of the political sub-groups via simulation modeling. Although there has been conceptual discussions on the existence of labor relations and political groups in the media enterprise, there is less focus concentrated on specific analysis of how to solve the actual problem [31]. The authors inferred effective strategies of adjustment of conflict embedded in the groups based on BTOF. Therefore, the study is significant because it provided an opportunity for theoretical development, specifically in the media culture and the organization studies.

There are limitations to the study. Since this study was based on simulation modeling which was conducted in a virtual experimental environment and the result was based on estimation, statistical verification through empirical data is lacking. Also, the simulation analysis in this study did not

set the model based on variables that reflect the heterogeneity of each data. However, the simulation performed in an exploratory manner as in traditional economics analytic model that premise the condition in advance which has limitations in scientific generalization and secure the external validity [21][24]. For the future research, developing more complex search on organization conflict scenario through anthropology study and in-depth case study on the internal media organization. Moreover, analyzing the perception and behavioral analysis within or among sub-groups may give effective result. Using the survey to analyze the performance of organization based on the difference of governance system and sub-group recognition. Future research is required to conduct longitudinal study using panel data and to balance of the study by triangulation method. Developing the study can contribute to various studies criticized creativity of media enterprise and work on analyze multidimensional in relation to power theory.

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