

**South Korea's Diplomatic Identity as an Emerging Middle Power:  
Adopting Network Theories and Examining Cyber Security**

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## **I. Introduction**

In recent years, South Korea has come to be regarded as an emerging middle power in diplomatic arena. For example, it played impressive roles in various international conferences held in South Korea, such as G20 Summit in Seoul (2010), High Level Forum on Aid Effectiveness in Busan (2011), Nuclear Security Summit in Seoul (2012), Conference on Cyberspace in Seoul (2013), and ITU Plenipotentiary Conference in Busan (2014). Behind the increased diplomatic roles, there are South Korea's military and economic capabilities, achieved for the last several decades; in 2010 South Korea's military budget ranked 12th and GDP ranked 15th in the world. Now, there is a growing consensus that South Korea should play a middle power's role corresponding to its increased material capabilities; it should figure out new identity as an emerging middle power in the 21st century. In particular, South Korea has to realize what kinds of roles are expected to it, and under what structural conditions it plays those roles in effective ways.

Most of the previous studies on middle power had generally intended to explain diplomatic behaviors of Canada and Australia, which could be categorized as "the 1<sup>st</sup> generation of middle powers." Indeed, those countries have quested for their active roles as middle powers throughout the systemic change of world politics—especially the U.S. hegemonic decline in the Post-Cold War (Cooper, 1992; Cooper, Higgott and Nossal, 1993; Cooper ed., 1997; Ravenhill, 1998; Ungerer, 2007; Gilley and O'Neil eds., 2014). It must be reasonable to say that North European countries, such as Sweden and Norway, belong to "the 1.5<sup>th</sup> generation of middle powers." It is because their normative orientation of middle power diplomacy distinguishes themselves from Canada and Australia, but the structural conditions, in which those four countries were located, could not be understood in entirely different contexts (Lawler, 1997; Browning, 2007).

Of the BRICS countries in the 1990s and the 2000s, three countries—India, Brazil, and South Africa (excluding Russia and China), which are known as IBSA, have become to be regarded as middle powers from the international society. Those

countries, of which political systems are mostly authoritarian and economic conditions are still developing, should be distinguished from other middle powers of the Western origin, of which domestic political systems were democratic and economic affluence was attained. In this sense, IBSA countries could be categorized as “the 2<sup>nd</sup> generation of middle powers” (Selcher ed., 1981; Jordaan, 2003; Alden and Vieira, 2005; Hurrell, 2006; Narlikar, 2006; Soares de Lima and Hirst, 2006; Flemes, 2007; Serrão and Bischoff, 2009; Ruvalcaba, 2013).

Considering the evolutionary diversity of middle power diplomacy, we could understand that South Korea’s middle power diplomacy belongs to the new generational category of middle power diplomacy that is different from its predecessors’. Above all, the circumstances of world politics, which South Korea as an emerging middle power currently is facing, has apparently become complex than ever before. In the age of globalization, informatization, and democratization, the tasks of global governance have become too complex to be solved only by the hands of a few great powers. Along with the traditional security and economic issues, various transnational challenges are accelerating the complexity of world politics. Indeed, it is the time when middle and small powers, even non-state actors, have to participate to the process of global governance. Moreover, the rise of China as a potential challenger to the U.S. hegemony is likely to open a totally new horizon of complex world politics in the 21<sup>st</sup> century. In this context, the structural conditions, in which South Korea is now placed, could be characterized as a more complex and networked environment than those that middle powers of the previous generations had confronted (Ha and Kim, eds., 2006; 2010; 2012).

Nevertheless, existing studies of middle power diplomacy are inadequate for providing sufficient theoretical resources to explain South Korea’s middle power diplomacy in the age of complex networks. It does not make sense to apply the theoretical frameworks, which were cultivated to explain middle power behaviors of Canada, Australia, Sweden, Norway, India, Brazil, and South Africa, to the new case of South Korea as a newly rising middle power without any revision. Most of all, South Korea is not placed only in the different structural conditions, but also has a different praxeology. Studies of South Korea’s middle power diplomacy should predicate their theoretical works upon a new platform. In this context, this paper suggests the so-called “Theory of Middle Power Diplomacy in the 3<sup>rd</sup> Generation” as a new theoretical framework for exploring South Korea’s identity and strategies of middle power. The attempt to declare a new generation of middle power diplomacy does not mean only an academic challenge of presenting a theory; but it is also concerned with discursive practice to lead South Korea’s future strategies. In this sense, the motivation of this paper is analytic and prescriptive.<sup>1</sup>

To theorize middle power diplomacy in the 3<sup>rd</sup> generation, this paper does not rely only on theoretical resources in International Relations, but also on network theories

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<sup>1</sup>Concerning the diplomatic strategies of South Korea as an emerging middle power, my discussion on the middle power diplomacy of the 3<sup>rd</sup> generation in this paper relies on various works that I have conducted for the last several years; for example, Kim (2011a, 2011b), Kim (2014a, esp. ch.8.), and Kim ed. (2015). For literature about middle power diplomacy written in English, see Kim (2014b; 2014c).

in natural and social science.<sup>2</sup> This paper maintains that existing studies of middle power are inadequate for providing a guideline for South Korea. They mostly look to individual countries' attributes or capabilities to explain the generalized roles of middle power in world politics. Thus, they fail to explain the proper roles of middle power under a certain structural condition that might be a more essential determinant for middle powers' action than for world powers'. In contrast, network theorists in International Relations adopt an anti-attribute imperative that rejects all attempts to explain actors' actions solely in terms of actors' attributes. They maintain that it is an actor's "position," not its attributes, that creates opportunities for a country, and that how actors are connected to others influences its diplomatic discretion. In this context, this paper adopts this notion of "positional approach," which has an origin from network theories, to understand middle power diplomacy (Hafner-Burton and Montgomery, 2006; Goddard, 2009; Nexon and Wright, 2007; Nexon, 2009).<sup>3</sup>

Relying on network theories, particularly on the positional approach, this paper attempts to develop a theoretical framework to understand the diplomatic identity of South Korea as an emerging middle power. Then, this paper applies the framework to empirical cases of South Korea's diplomacy in the world politics. The exemplary fields, about which South Korea's roles of middle power are discussed, include emerging security issues such as atomic energy, global warming, health security and cyber security, and other economic issues such as official developmental aid (ODA), global trade and finance. Of them, cyber security issues are considered as one of the newly emerging agendas that South Korea is likely to play a meaningful role as a middle power. Identifying the structural conditions in the domain, this paper explores the possibilities or the dilemma of South Korea's middle power diplomacy in the cyber security sector. In particular, this paper uses network theories to deduce a series of conditions under which South Korea's middle power diplomacy is more or less likely.<sup>4</sup>

This paper is composed of three main sections. In the first section, adopting network theories, it outlines various concepts in network theories, and introduces three critical notions—structural holes, positional power, and translation strategies—to conceptualize structural attributes of networks and the roles of middle powers in a dynamic sense. In the second section, along with providing a theoretical platform for middle power's identity and strategies, it briefly presents some empirical cases of South Korea's middle power diplomacy, which have brought controversy to academia in IR. In the third section, applying network theories—especially the positional approach—to middle power diplomacy, it suggests that South Korea should manage

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<sup>2</sup>This paper does not provide a comprehensive literature review of network theories. In fact, network theory is not a single theory; there are different variants. For an overview of network theories from an IR perspective applied to the Korean context, see Ha and Kim, eds. (2006; 2010; 2012) and Kim (2014a).

<sup>3</sup>The theoretical framework of this paper is in a similar context to other IR studies that adopt network theories (Hafner-Burton, Kahler and Montgomery, 2009; Kahler ed., 2009; Maoz, 2010). However, my framework of "the Network Theory of World Politics" (NTWP) is more comprehensive than other attempts that have mainly relied on social network theory. Along with social network theory, my framework also pays attention to the other camps of network theories, e.g., network organization theory and actor-network theory. For the outline of NTWP, see Kim (2008a; 2008b; 2014a).

<sup>4</sup>Concerning South Korea's middle power diplomacy in the cyber security sector, my discussion in this paper mainly relies on Kim (2014c; 2014d).

three strategies of brokerage, collection, and complement in coping with the “inter-network politics” of cyber security. This paper concludes with a brief summary of this paper, and presents further research concerns.

## **II. Network Theories for Middle Power Diplomacy**

Network theories provide IR theorists with an alternative account of middle power diplomacy; they hold that a particular type of network creates favorable conditions for participating actors and how actors are positioned in the network facilitates their ability to compete or cooperate with others (Goddard, 2009: p.253). In this view, middle power’s actions are dependent upon the structural condition of the network in which a country ties to others. In other words, depending on how the structure is shaping, middle powers are likely to enjoy a certain degree of roles. Then, comparing to other theoretical approaches, how does the network perspective define the structural condition—i.e., “structure” in general?

A neo-realist, Kenneth Waltz, conceptualized structure as a distribution of power among nations in terms of the actors’ capabilities (Waltz, 1979). The neorealist concept of structure is useful in revealing the overall outline of material structure in the international system. However, it basically reduces the concept of structure to the level of internal properties or material resources held by nation-states. Thus, neo-realists neglect the relative context of actors’ interaction itself when they conceptualize the elements that form the structure of international politics. They understand structure as an entity that is derived from the categorical attributes of actors. For this reason, it has been criticized that it takes too abstract and macro of an approach to properly grasp the dynamics between actors’ strategies and the structure of international politics.

For social network theorists, however, structure is not actors’ interests, capability, or ideology, but the relations among actors that are causally significant. Structure is emerging from “continuing series of transactions to which participants attach shared understandings, memories, forecasts, rights, and obligation” (Tilly, 1998: p.456; Goddard, 2009: p.254). Here, structure is understood as the relational configuration among actors or the patterns of transaction themselves. Relatively durable, but fundamentally dynamic interactions constitute the structural conditions in which actors operate (Nexon, 2009: p.25). In short, structure is not a kind of fixed entity reducing to actors’ internal properties or attributes, but a social relationship among or across actors (Nexon and Wright, 2007).

This view is useful to identify the role of middle power occupying a specific position in the network. It is not an actor’s attributes or interests but its positions that enable middle power’s agency. The positional perspective in social network theory holds “that how actors are positioned in a network facilitates their ability to act as entrepreneurs. Because social and cultural ties provide power, information, and ideas, an actor’s ability to introduce new norms, manipulate symbols, and radically influence political outcomes, all depends on network position” (Goddard, 2009: p.257). Middle powers’ strategies are more likely to succeed if they accommodate the requirements of the structural conditions in the network. If the concept of middle power is defined

in terms of structural position in a network, what specific roles would a middle power play under a certain network structure?

Among various roles of middle power, this paper pays special attention to the advantages of brokerage empowered by positioning within a strategically important spot in a particular network structure. According to Ronald Burt, people who hold brokerage positions enjoy a competitive advantage over others who are less well placed. When they capture strategic places that connect otherwise disconnected groups, those people can exercise a special kind of power. In particular, he gives us some analytic insight; the unique forms of cleavages, which usually are conceptualized as “structural holes,” found in a network which provide structural opportunities for some actors—known as brokers. By bridging the structural holes, brokers occupy central positions in a network structure, acting as nodes through which multiple transactions coalesce (Burt, 1992; 2001; 2005).

It is this structural position, not an actor’s attribute that enables middle powers to exercise a certain kind of power. The structural conditions of a network—e.g., number of nodes, pattern of links, and architecture of the whole network—enable or disables middle powers to play particular roles and thus to have more possibilities to exercise powers. In this sense, the power of broker—i.e., brokerage power—could be called “positional power” (Gould and Fernandez, 1989; Chang, 2009). Positional power is contrasted to the existing notion of “resource power,” which refers to the power based on resources held by actors. In this respect, positional power is one aspect of recent theoretical attempts concerning “network power” that derives from one’s relationships with others (i.e., networks) rather than its attributes (Grewal, 2008; Kim, 2008b; Castells, 2009; Hafner-Burton, Kahler and Montgomery, 2009).

In wielding the positional power, the pre-stage of the game is to identify the nature of network committed, and to contextualize middle power’s position within the network structure of the whole system. In other words, a major task here is to comprehend the overall configuration of the network, and define the coordinating or conflicting interests of the actors who are engaging the network game. For a middle power, a central task at this stage is to read the context of which world powers set the scheme. Only after reading the context, a middle power can assign itself roles within the network. Those roles of middle power could be articulated by understanding three aspects of network strategies: brokerage, collection, and complement.

First, situated at the interstices of networks, a middle power is likely to play the role of brokerage. Brokerage may alter network structures, leaving actors with a fundamentally different set of network ties, and changing the agenda in a network. This occurs because the brokerage process is usually accompanied by the process of “asymmetric coordination of relationships.” This is to make certain ties stronger and to sever others. Simply, a process of network diplomacy is to break existing ties on the one hand, and to build new relationships on the other hand. It is this process of integrating and destroying ties that lies at the heart of brokerage. Indeed, this process of connecting and disconnecting ties belongs to the realm of strategic choices at the risk of opportunity costs.

Second, the enriched pool of supporters in the network enables middle powers to play active brokerage roles. In fact, a large portion of middle power’s brokerage roles

comes from its ability to bring more actors than others do. Being aware of the limitations of their brokerage roles, middle powers have to rely on collecting and attracting as many like-minded countries as possible. This carries with it the basic ideas of network power—i.e., “social power” (Hafner-Burton, Kahler and Montgomery, 2009; Kahler ed., 2009) or “collective power” (Kim, 2014a). The patterns of power remind us of online collaboration, conceptualized as “collective intelligence” (Levy, 1999). In particular, middle powers seek to exercise the collective power through coalitions or alliances.

Finally, middle powers may exercise a “programming power” as new architects of the network program. However, middle power’s programming power is concerned with the ability to complement and possibly further renovate the whole system, designed by world powers. Indeed, its unique position in the existing system requires middle powers to play a complementary role to the existing world order, not to play an exploitive role through challenging world powers’ initiatives. In this sense, they do not necessarily have to be a whole system designer; for middle powers, sufficient is to be a complementary programmer, who can provide system adjustments and adaptations that increase interoperability and compatibility, and further reinforce normative values and legitimation.

To specify the direction and stages of middle powers’ strategies for exercising positional power, this paper relies on the actor-network theory (ANT), which emerged in the sociology of science and technology during the mid-1980s (Latour, 1987; 2005; Law and Hassard eds. 1999; Harman, 2009; Hong ed., 2009). ANT explains the above process of networking (i.e. wielding network power) through the notion of “translation.” Therefore, ANT can also be considered a “theory of power”: the stabilization and reproduction of some interactions at the behest of others, the construction and maintenance of network centers and peripheries, and the establishment of hegemony. ANT’s notion of power is concerned with network power rather than resource power in that it is especially measured via the number of entities participating in the networking. In this sense, ANT maintains that power is generated in a relational and distributed manner as a consequence of ordering struggles (Law, 1992; Hong, ed., 2010: p.25).

A French ANT theorist, Michel Callon, presented a popular framework to understand the specific process of translation (Callon, 1986a; 1986b). In his widely-debated study on how marine biology researchers tried to restock St. Brieuc Bay in order to produce more scallops, Callon defines four “moments” of translation: i) at the moment of problematization, the researchers seek to become indispensable to other actors in the program by defining the nature and the problems of the researchers’ program of investigation; ii) at the moment of *interressement*, a series of processes are deployed by which the researchers seek to lock the other actors into the roles that were proposed for them in that program; iii) at the moment of enrollment, a set of strategies are adopted in which the researchers seek to define and interrelate the various roles they had allocated to others; iv) at the moment of mobilization, a set of methods is used by the researchers in order to become properly able to represent the actor-network and not betrayed by the participants. Here, Callon argues that translation is a process, never a completed accomplishment, and it may fail (Callon, 1986a: p.196).

These four moments discerned by Callon are useful for understanding various cases in which the lens of networking strategies should be applied. In spite of significant controversy over its relevance, Callon's four moments are largely cited in numerous studies throughout the various fields of the social sciences. For example, the framework of translation is applied in empirical case studies in the system of information technology and standard competition (Walsham, 1997; Lee and Oh, 2006; Kien, 2009). This paper also tries to adopt his framework of translation to analyze South Korea's diplomatic strategies from an IR perspective. However, it modifies the terms by used Callon into simpler concepts: i) framing and positioning, ii) connecting and disconnecting, iii) collecting and attracting, and iv) standard setting. Now, let us turn the theoretical discussion about structure and position into a more empirical examination of South Korea's middle power diplomacy.

### **III. Identity and Strategies as an Emerging Middle Power**

The network framework generates new theoretical considerations of diplomatic strategies of South Korea as a middle power. First, identifying structural holes or social capital, South Korea has to contextualize its position within the network structure of world politics. Second, recognizing the roles of a broker in the network structure, South Korea has to be familiar with managing the asymmetric game among network partners. Third, being aware of the limitations of a middle power's brokerage roles, South Korea has to rely on collecting and attracting as many like-minded countries as it can. Finally, positing its proper roles upon the platform designed by great powers, South Korea should seek to complement and further renovate the network structure in favor of small and middle powers.

#### ***Framing and Positioning in the Network***

The first stage of networking strategies, which is Callon's moment of problematization, refers to the "framing and positioning" of the network. A major task here is to comprehend the overall configuration of the network and define the coordinating or conflicting interests of the actors who are engaging in the network game. This process is similar to news framing in mass media. For a middle power, a central task at this stage is to understand which great powers set the scheme. Only after reading the context, a middle power can assign itself roles within the network. Joseph Nye conceptualizes this ability as "contextual intelligence." Contextual intelligence is the ability to understand an evolving environment and to capitalize on trends. There is a wide variety of contexts in which leaders have to operate. Important dimensions of contextual intelligence include the abilities to understand the distribution of power resources and to follow needs and demands, time urgency, information flows, and culture (Nye, 2008).

For middle powers, however, Nye's notion of contextual intelligence is somewhat inadequate for explaining their networking strategies. What middle powers need could be better articulated as the notion of "positional intelligence," which is more sensitive to structural conditions working as facilitating or constraining factors, not as a neutral environment, over middle powers. Along with positional intelligence, the so-called "niche intelligence," which means the ability to identify kinds of "niche markets" in the network context, is also crucial for middle powers. Positional or niche intelligence

is predicated on two kinds of abilities. One is the ability to exploit structural holes; the other is to capitalize social capitals (Burt, 1992; Putnam, 1993). For both abilities, it is critical to recognize that those structural holes and social capitals, which exist in a subtle tension, do not physically pre-exist in the network. They are likely to be socially constructed by actors who are playing network games.

In fact, this ability to frame has been monopolized by great powers in IR history. Likewise, the United States and China are currently competing for framing and positioning in East Asia, as well as in the global arena. China is increasingly assertive, while the United States is responding through the complex strategies of engagement and balancing. This development is likely to make it more difficult for South Korea to pursue a configuration favorable to its positional roles. Less tension among great powers is critical so that they can be more willing to cooperate with middle powers for their benefit. Indeed, middle powers will discover more effective diplomatic roles when great powers do not engage in conflict. If the U.S.-China power competition escalates into military tensions, middle power diplomacy in the Asia Pacific region will be weakened (Lee, 2012: pp.10-13).

In this context, South Korea must seek to frame the configuration of the East Asian regional system in order not to create a dilemma where South Korea has to choose one side or the other and to place itself into a favorable structural position. The fate of the Korean Peninsula, located between two great powers, is likely to fall into the realm of great power politics. It is necessary for South Korea to mitigate rivalries between the great powers and, indeed, transform the nature of power politics in Northeast Asia. In this context, South Korea needs to learn from its previous slippery attempts of framing and positioning concerning the ideas of “Balancer in Northeast Asia” or “Hub State in East Asia” in the early 2000s. In particular, South Korea should overcome the previous self-centered ideas of national strategies and make a renewed effort to read power configurations among surrounding countries.

### ***Connecting and Disconnecting Ties***

The second stage of networking strategies matches Callon’s moment of *interressement*; it is “connecting and disconnecting” to make certain ties stronger and to sever others. This means a process of network diplomacy to break existing ties on the one hand, and to build new relationships on the other hand. It is this process of integrating and destroying ties that lies at the heart of brokerage. Brokerage processes may alter network structures, leaving actors with a fundamentally different set of network ties and changing the agenda in a network. In this sense, this process is usually accompanied by the process of “asymmetric coordination of relationships.” This is in the similar vein with exploiting structural holes and capitalizing social capitals, as described above.

In coordinating the asymmetric relationships, with what criteria should a middle power build or break ties? Social network theory would advise to weave networks to enhance three kinds of centrality. Above all, networking strategies should depend on enhancing “degree centrality”; the more numerous an actor’s ties are, the more influential the actor is. Increased density creates social capital and trust, and it generally increases an actor’s influence over other surrounding actors. Moreover, networking strategies should be implemented to enhance “closeness centrality.”



While degree centrality is concerned with the number of ties, closeness centrality is the notion to measure the distance or strength of ties. The closer or stronger an actor's ties are, the more influential the actor is.

Basically, networking strategies—particularly asymmetric coordinating strategies—should be devised in terms of elevating these two kinds of centrality. However, it is not easy to achieve this goal of asymmetric coordination especially because the establishment of a new relationship would mostly require the cost of destroying an old relationship. In particular, problems arise when it is necessary to break as much as is built. In other words, strengthening ties with an actor usually means weakening ties with another, as we observe in a triangular relationship between men and women. Although it is difficult to build a general principle to understand how to manage the asymmetry, South Korea's nineteenth-century diplomatic history might provide precious lessons.<sup>5</sup>

The issues of connecting and disconnecting should be further examined from the perspective of brokerage. The goal of brokerage depends on how to enhance the third aspect of centrality—"betweenness centrality." Betweenness centrality in the network affects an actor's power. If an actor has an exclusive tie between other two actors, then it is more likely to influence the actors, who are connected via the actor itself. Further, it is likely to transform the structure of the game in the network. In this sense, the power concerning betweenness centrality is the brokerage power that controls the flows of information or meaning in the network. This could be understood as the positional power, which originated from occupying advantageous spots in the network structure. In this sense, situated at the interstices of networks, a middle power must be equipped with positional power which is strong enough to employ various resources for its network diplomacy.

In this view, South Korea is likely to play a brokerage role among East Asian countries since it is located among them at the geopolitical crossroads. For example, South Korea's positional power as a broker in the regional power structure could be realized between North Korea and other four countries—the United States, China, Japan, and Russia. Also, South Korea's bridging role could be significant in regard to the territorial conflicts between China and Japan since it shares a common historical experience with each country. A brokerage role between the United States and China, which are engaging in hegemonic competition, seem to be possible, but it is less feasible. For the coming decades, the most important strategic issue for South Korea is to manage the asymmetric relationship between its traditional military alliance with the United States and increasing economic interdependence with China.

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<sup>5</sup>In the late-nineteenth century, Huang Zunxian, the Qing dynasty's diplomat in Japan, compiled a policy paper with recommendations for Korea's foreign policy. This document, known as "*Chosun Strategies*," advised Korea to build ties with neighboring countries. He wrote that, to defend (防) against Russia, Korea should keep close (親) to China, build bonds (結) with Japan, and connect (聯) to the United States. Here, the scenarios of keeping close, building bonds, and connecting refer to differentiated types of relationships with other countries. Overall relationships should be managed by a diplomatic awareness of asymmetric coordination. What diplomatic prescription would be included in a policy recommendation paper for twenty-first-century South Korea? It is not difficult to imagine that the most critical part of the paper would deal with how South Korea handles its traditional alliance (盟) with the United States in coping with a newly-rising China and threatening North Korea (Kim, 2014a).

### *Collecting and Attracting Like-minded Groups*

The third stage of network diplomacy — the stage of enrollment in Callon’s term—is “collecting and attracting” like-minded groups in the network. What matters at this stage is to bring together other actors for common interests. The actor constructs a new network around itself after deconstructing prior relationships. And, the actor defines the new roles for like-minded groups and to attract them as supporters for a long time. In particular, middle powers need to have as many supportive actors as possible in the network that they built. An enriched pool of supporters in the network enables middle powers to play active brokerage roles. In fact, a large portion of middle power’s brokerage roles comes from its ability to bring more actors than others do. This is the basic ideas of “collective power”—the power generated from bringing heterogeneous actors together.

To attain the goal of collective power, it is necessary to recognize that the nature of actors in middle power’s networking strategies should be different than great powers. While great power networking can be compared to a spider weaving a web, middle power networking is similar to honeybees building a hive. Impressively, the result of the honeybees’ collaboration is a network that has multiple hubs within it. It is contrasted to the mono hub network structure of the spider’s web. Adopting this analogy, middle power network diplomacy can be called “collaborative diplomacy.” In this sense, middle power diplomacy could also be called “collective diplomacy” or “coalition diplomacy,” pursuing “collective power.” In particular, middle powers seek to exercise collective power through cooperative alliances. These alliances are intended for all neighbors to enhance their influence over regional and world politics by collecting and integrating their fragmented capabilities.

In fact, aggregating capabilities to form collective power has long been a major concern of statecraft in international politics. For example, balance of power, a classical IR notion, could be regarded as a kind of collective power, since the idea was derived from small powers’ intention to unite against the strongest in the system at the time. In the case of traditional international politics, collecting and balancing powers are driven in terms of hard power, such as military capabilities and economic resources. Rather than hard power, which is the ability to push and coerce, today soft power is what gains wide currency, which is the ability to attract and persuade arising from the attractiveness of a country’s culture, political ideals, and policies (Nye, 2004). Considering middle power capabilities, which are less powerful than great powers in terms of hard power, soft power as a different measurement of power would be quite attractive for leaders of middle powers.

In this view, it is natural that a middle power’s major concern lies in deploying “soft power diplomacy” or “attractive diplomacy.” In diplomatic areas, South Korea as a middle power has launched a variety of developmental and cultural policies and thus aimed to convene as many supporters as it can. For example, South Korea’s new roles in the international conferences recently held in South Korea provide channels to conduct middle power diplomacy. South Korea’s collective diplomacy would shed light on critical security issues such as North Korea’s nuclear threat, if it gains support from international society. In deploying collective and attractive diplomacy, South Korea is now actively utilizing the public policy tools of social network services (SNS), such as Twitter, Facebook, and YouTube.

The ideas of collective diplomacy may provide some insights for South Korea, located between the United States and China geographically and diplomatically. As discussed above, South Korea should be cautious not to place itself in the middle of the power competition between the United States and China. However, if South Korea is fated to be situated between the two powers, then it would be better to seek alignments with other small or middle powers that share similar security concerns. In other words, South Korea has to seek cooperation with other countries in order to avoid confrontation between the two powers. In this case, the primary candidates could be Japan and Russia as neighboring countries. However, South Korea has to make an effort to seek behavioral support even from geographically remote countries, and attempt to create a favorable network configuration around itself.

### *Complementary Standard Setting*

The final stage of network diplomacy is the “standard setting,” corresponding to Callon’s moment of mobilization. The main concern of this stage is to impose generalization or universality on the network constructed (or reconstructed) in the previous three stages. In this stage, it is important to reinforce established networks, to keep it sustainable, and to make it acceptable for the participants. In Callon’s explanation, actors who finally succeed at the end of the voyage called “translation” will gain the authority of “representation” and can mobilize other actors up to the platform that they built. Then, they will exercise programming power as the new architects of the network program. They do not necessarily have to design the whole system. For middle powers, it is sufficient to be a complementary programmer, who can provide system adjustments and adaptations that increase interoperability and compatibility and further reinforce normative values and legitimation.

However, the power of programming a rule in the game of world politics has rarely belonged to middle powers. Rather, great powers have wielded the programming power that sets institutions, norms, and philosophical goals and values in world politics. In this sense, it might not be required for middle powers to set the strategy of “designing the whole web,” but, instead, maintain the strategy of “hanging on and trying not to fall from the spider’s web,” already woven by the great powers. In order not to wind up as prey for spiders on the web, middle powers must become acquainted with the nature of the spider’s web—i.e., its architecture and operating mechanisms. In this context, middle powers’ “programming diplomacy,” if any, should be complementary to the existing system. This paper adopts three analogies from computer programming to describe the complementary roles of programming power, which have special implications for middle power diplomacy.

First, middle powers are likely to have the privilege of problematizing normative legitimacy that the existing world order may lack. It could be known as the strategy of “normative programming” in the sense that diplomatic concerns are with normative, not with positive, aspects of the programs. For middle powers that have less military capabilities and economic resources, norm- or value-oriented diplomacy is a crucial and effective means to attain the goals. Indeed, diplomatic strategies which are inclusive and close to international norms are more likely to be attractive to other countries. Moreover, if the middle power pursues collective diplomacy, and mobilizes supporters around the world, the authority of normative diplomacy will be reinforced.

These ideas of normative diplomacy could gain some precious insights from the movement of open source software, such as Linux, which delegitimizes the so-called proprietary software, such as Microsoft's products, by monopolizing software source codes that might be critical for further innovations in the software programmer's community.

Second, although middle powers are not allowed to design the whole system of world order, it is likely and even desirable for them to patch up some niche programs upon the platform designed by the great powers. I would call it the strategy of "application programming." This term suggests a computer program, in which various application software programs are working upon a platform—an operating system software. In this sense, middle powers could design complementary governance programs, devised to accelerate the effective operation of global governance in various fields. Those complementary programs might target some niches or holes that great powers neglect due to their ontological and epistemological limitations. In particular, their unique position in the existing system requires middle powers to play a complementary role to the existing world order, not to play an exploitive role through challenging great powers' initiatives.

Finally, middle powers' roles as brokers have affinity with the strategies of combining or mixing existing programs, rather than creating entirely new programs. I would call it the strategy of "meta-programming," comparing it to that of "substantial programming." Social network theorists say that brokers have more capacity for blending ideas than other actors in world politics, although they cannot introduce entirely new inventions. Whether or not broker's ideas are attractive to others is not so much a matter of content as context; it depends on how brokers incorporate various contents found in existing networks. South Korea's experiences in economic and democratic development provide good examples for the meta-programming, in the sense that the South Korean model of political economy, which can be called the "Seoul Consensus," is likely to combine the concerns of developing countries as well as those of advanced countries. Indeed, although the South Korean model began with the authoritarian model of pursuing economic growth, which has recently conceptualized in the "Beijing Consensus," it achieved the goal of democracy after remarkable economic development, which is called the "Washington Consensus" and is prescribed by advanced countries, especially the United States (Sohn, ed., 2007).

#### **IV. Middle Power Diplomacy in Cyber Security?**

Theoretical notions, discussed above, are useful to understand the structural conditions of the cyber security sector, and particularly of the cyber security sector, and South Korea's middle power strategies under the unique structural conditions. In recent years, South Korea as an Internet power is likely to play diplomatic roles in easing cyber conflict between world powers, and to building a new global mechanism for cyber security governance. To achieve these tasks of middle power diplomacy in the sector, it is essential that South Korea properly identify the structural conditions in which it currently operates, and determine adoptable options for the future to aid in its success. Now let us turn to the discussion about the cyber security sector, characterized by triple structures as described below.

## *Identifying the Structural Conditions of Cyber Security*

Cyber security issues have largely been the domain of computer experts and specialists since the Internet began as a small community where an authentication layer of code was unnecessary and the development of norms was simple. But as it grew, everything changed and although cyberspace offered an arena for business and social activities, it also became an environment for crime, hacking, and terror. Governments, private companies and non-state actors are making efforts to develop stronger capabilities for securing their resources and activities in cyberspace. Foreign policy makers and International Relations scholars are struggling to understand cyberspace's basic structures and dynamics, which are different from traditional security sectors. It is obvious that cyber security issues are becoming a major concern of International Relations in various senses (Nye, 2011; Deibert, 2013; DeNardis, 2013).

Amid the fast spread of hacking technologies, many countries and international organizations focus more on crafting security measures and enhancing multilateral cooperation to fend off cyber threats, which could be as devastating as physical military strikes. For example, they are making efforts to build a global framework for Internet governance, of which cyber security is one of the contentious sub-fields; but their consensus has not been framed yet. In particular, the United States and China, two world powers in the 21<sup>st</sup> century, have recently been in conflict with each other over hackings and espionage. The issue of cyber security is becoming an ever larger presence in U.S.-China relations and is seriously affecting threat perceptions on both sides. Indeed, despite it being such a new issue, the cyber realm is proving to be as challenging as the more traditional concerns that have long dominated the U.S.-China agenda.

South Korea, which has a high reputation as an "Internet Strong Nation," is expected to play a contributive role in the cyber security sector. South Korea boasts cutting-edge digital technology, efficient computer networks and the world's top high-speed Internet penetration rate. But behind these feats is an unpleasant truth: its vulnerability to cyber threats, suspected as the work of North Korea. There is a concern that the on-line attacks are likely to be coupled with off-line nuclear attacks. It is urgent and crucial for South Korea to build capabilities enough to fend off any attacks through cyberspace. However, securing cyberspace is not solely based on fostering material capabilities, but also figuring out diplomatic solutions among committed actors (Kim, 2014c; 2014d).

To achieve these tasks of middle power diplomacy in the sector, it is essential that South Korea properly identify the structural conditions in which it currently operates, and determine adoptable options for the future to aid in its success. In other words, a major task here is to comprehend the overall configuration of the technological and political structures, and define the coordinating or conflicting interests of the actors who are engaging the game. In this context, it is essential for South Korea to identify the structural condition that could be epitomized at three levels: i) techno-social structure of cyberspace, ii) issue-specific political structure in global cyber security governance, and iii) geopolitical structure generated by the U.S.-China competition.

First of all, cyber security issues have a number of particular technological and structural characteristics, which are different from traditional security issues. Among them, the key to understanding the potential magnitude of cyber threats is the complex character of the Internet as a network of networks. Cyber threats are continuously evolving, as well as increasingly blurring distinctions between civil and military domains, non-state and state actors, and even human and non-human actors (Deibert, 2002; Galloway and Thacker, 2007).

Second, two groups of countries are competing for global cyber security governance. The existing model of cyber security, in a broader sense global internet governance, has been driven by Western countries that believe the Internet should be more open and free. In recent years, however, the challenges, driven by a coalition of states—including Russia, China and other developing countries, are organized and have a clear, more state-controlled vision for the Internet (Mueller, 2002; 2010; Kim, 2014a, esp. ch.13).

Finally, the United States and China—two world powers in the 21<sup>st</sup> century—are competing over cyber security. For the last few years, the issue of cyber security (or IT and the Internet in general) as a leading sector has been elevated to a top priority within the overall U.S.-China relationship. Different approaches to cyber security in technical standards, regulatory policies, and security discourses are contrasting between the two world powers and such differences are likely to spill over into a broader tension between them (Lieberthal and Singer, 2012).

Cyber security issues do not belong to the realm of “international politics” between nation-states competing over traditional security issues; but do belong in the realm of asymmetric “inter-network politics” between complex actors. Moving beyond the traditional framework of inter-governmental organization, various state and non-state actors are recently participating to the new global frameworks for cyber security; at some point in the future, it may be possible to reinforce these global frameworks with certain fundamental norms, but the world is at an early stage in such a process. The next decade is going to be filled with various clashes as those complex actors in world politics are competing for their own political needs and desires. Under these circumstances, it is critical for South Korea as a middle power to figure out what kinds of specific roles are expected of its middle power diplomacy. The above discussion about structure and position offers the directions of diplomatic strategies that a middle power has to pursue. Based on these notions, this paper suggests three strategic pillars of middle power diplomacy—brokerage diplomacy, collective diplomacy, and complementary diplomacy.

### ***Brokerage Diplomacy in Cyber Security?***

Identifying overall structural conditions of the sector, South Korea has to contextualize its position within the network structure of cyber security politics. In other words, required for South Korea would be the strategies of adjusting itself to the structural conditions of the sector. With regard to the adjustment strategies, this paper pays special attention to the middle power’s strategic roles of “brokerage.” The unique forms of cleavages found in the sector are likely to provide middle powers with structural opportunities of brokerage. But, the structural conditions are also likely

to create a situation threatening South Korea's attempts for brokerage on the following three aspects.

First of all, it is probable that South Korea has opportunities and difficulties between two different technical standards. In fact, brokerage issues in the cyber security sector would be concerned with choosing a technical standard between the United States and China. Does South Korea keep compatibility with dominant standards of the United States? Or does it cross the threshold and move into an alternative standard that China wants to set in East Asia as well as in China? In the case that China takes a technological offensive with its cyber security standards, what would be the decision for South Korea, which has heavily relied on U.S. technical standards, such as Microsoft's Windows operating systems and Internet Explorers, and Cisco's network equipment? In reality, it happened that South Korea was dissuaded by the United States when South Korea attempted to introduce network equipment provided by Huawei, a Chinese telecommunications company, in early 2014.

This sort of choice must be very tough because it is not only related to technologies, but also involved in diplomatic issues: will South Korea stick to the U.S.-Korea alliance or will it broaden the existing Sino-Korea cooperation? Indeed, the choice means a process of "connecting and disconnecting" that might build new relationships on the one hand, and break existing ties on the other hand. It is usually accompanied by the process of "asymmetric coordination of relationships," belonging to the realm of strategic choices relating to the risk of opportunity cost. This process of integrating or destroying ties lies at the heart of brokerage in the sense that brokerage may alter network structures, leaving actors with a fundamentally different set of network ties, and changing the agenda in a network. Recognizing the roles of brokerage diplomacy, South Korea has to be familiar with managing the asymmetric coordination game among network partners, but must not forget to pursue compatibilities between two networks.

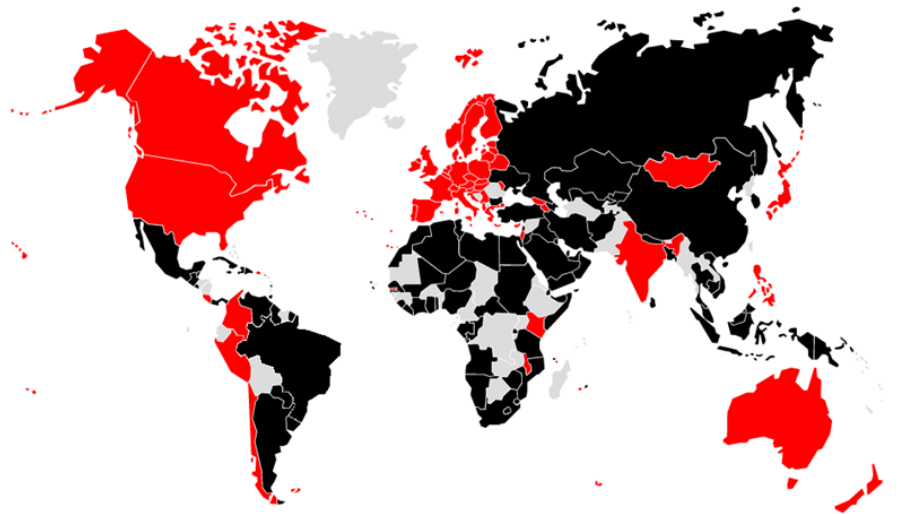
Second, along with technical standard issues, those opportunities or difficulties imposing on middle power's brokerage are also detected in the issues with regard to Internet policies and regulatory institutions. In building the Internet policy and governance models, South Korea's choice is placed between the private-sector-driven model of *multistakeholderism* pursued by the United States and the state-interventionist model of Internet control supported by China. Is South Korea likely to play a brokerage role between these two seemingly incompatible models of Internet policies and institutions? Here, we note that the middle power's role as a broker has an affinity with the strategies of combining or mixing existing models, rather than creating entirely new models. I would call it the strategy of "meta-model" or "meta-programming," comparing to that of "substantial programming." Brokers have more capacity for blending than other actors in world politics although they cannot introduce entirely new inventions. Whether or not a broker's ideas are attractive to others is not so much a matter of content as it is context; it depends on how brokers incorporate various contents found in existing networks.

South Korea's experiences in politico-economic development provide good examples for the meta-model, in the sense that the South Korean model of political economy, which I would call "Seoul Consensus," is likely to combine the concerns of

developing countries as well as those of advanced countries. Indeed, although the South Korean model began with the authoritarian model pursuing economic growth, which is recently conceptualized “Beijing Consensus,” it has come to achieve the goal of democracy after remarkable economic development, which is usually called “Washington Consensus,” as prescribed by advanced countries—especially the United State (Sohn, ed., 2007). In this context, it is a plausible scenario to develop a model of “Seoul Consensus for cyber security” in the sense that South Korea has achieved prosperity in the Internet economy, initiated by the private sector although it is still regarded as a country that has state initiatives against social activities in cyberspace.

Finally, South Korea has opportunities and difficulties between two different positions with regard to global Internet governance. Indeed, South Korea has difficulties in positioning itself between two different visions for global Internet governance. One vision has been driven by Western countries that believe the Internet should be more open and free; the other driven by developing countries supports for the inter-governmental approach and state sovereignty over cyberspace. South Korea’s official position is now known to support the open and flexible approach to global Internet governance initiated by various international entities such as UN, ITU, OECD, and ICANN. The approach could be called the complex strategy of Internet governance, combining the two competing visions.

<Figure-1> Country positions on ITR proposed at WCIT 2012



Source: *Dong-A Ilbo*, 2012-12-17

However, it is expected that South Korea would have difficulties in structural positioning in the sector. For example, South Korea was crammed between advanced countries and developing countries in the vote for updating the ITRs at WCIT in 2012. At last, South Korea voted for the ITRs so that it joined the group of 89 developing countries (Black in Figure-1), and thus took an opposite position to the 55 countries that publicly opposed the ITRs (Red in Figure-1); non-member states of ITU are in grey. Right after South Korea’s vote, a South Korean newspaper denounced that the South Korean government when it revealed its intention to control the Internet (*Dong-A Ilbo*, December 17, 2012). Although the government released that the updated ITRs did not contradict with domestic regulations and national interests, the newspaper was worried that South Korea, which a member of OECD and a host country of G20 in



2010, took a different position from Western countries that believed in the democratic political system and the free trade system. It is uncertain what consequences South Korea’s decision at WCIT will cause in the future. However, it is not difficult to imagine that South Korea will be positioned in a very similar situation at the coming conferences.

***Collective Diplomacy in Cyber Security?***

To attain the goals of middle power diplomacy in cyber security, South Korea has to rely on the strategies of collecting and attracting as many like-minded countries as it can. In other words, South Korea has to define the new roles for like-minded groups and continue to attract them as supporters. It is critical for South Korea as a middle power to adopt this strategy of collective and attractive diplomacy, as it will help alleviate the dilemma of being a broker in the cyber security sector (Kim, 2014a; 2014b).

With regard to collecting like-minded countries in the cyber security sector, Maurer and Morgus (2014) conducted research for the Centre for International Governance Innovation (CIGI), identifying some interesting patterns among certain groups of states voting at WCIT 2012. A core group of potential swing states—a total of 30 countries—is identified based on their voting behavior. The research “essentially marries the voting record on the ITRs with a series of other indicators to identify patterns and the group of countries likely to act as swing states in the global Internet governance debate in the future due to path dependence, logic of appropriate behavior and state interests” (Maurer and Morgus, 2012: p.4). These 30 swing states are sorted into the four groups of countries as follows (see Table-1).

<Table-1> Top 30 Global Swing States

Against the ITRs	For the ITRs but...		
I.	II.	III.	IV.
	OECD Member	FOC Member	Potential Swing States Based on Indicators
Albania Armenia Belarus* Colombia Costa Rica Georgia India Kenya Moldova Mongolia Peru Philippines Serbia	Mexico South Korea Turkey	Ghana Tunisia	Argentina Botswana Brazil Dominica Indonesia Jamaica Malaysia Namibia Panama Singapore South Africa Uruguay

Source: Maurer and Morgus (2014), p.10; Requoted from Lee (2014).

Group I includes 13 swing states voting against the ITRs: Albania, Armenia, Belarus, Colombia, Costa Rica, Georgia, India, Kenya, Moldova, Mongolia, Peru, Philippines and Serbia. These 13 swing states are noteworthy because they are not part of any of the group of states, but their positions at the WCIT set a precedent for

similar behavior in the future. These states also have the resources to persuade other countries to change their behavior and to significantly influence the outcome of Internet governance discussions. Group II includes 3 OECD countries, Mexico, Turkey and South Korea; and Group III includes Ghana and Tunisia—2 members of the Freedom Online Coalition (FOC).<sup>6</sup> All these 5 states supported previous commitments by both the OECD and FOC, and thus their membership and commitments are at odds with their ITRs voting record. Moreover, they are likely to experience significant pressure from their peers in the future to change their behavior to be appropriate with their membership and commitments. Group IV includes 12 countries voting for the ITRs: Argentina, Botswana, Brazil, Dominica, Indonesia, Jamaica, Malaysia, Namibia, Panama, Singapore, South Africa and Uruguay. They are potential swing states because several indicators, adopted by the research, show the importance of the Internet for those countries and various characteristics of these states suggest that there are opportunities to engage with them to potentially change their behavior in the future (Maurer and Morgus, 2014: p.11).

Maurer and Morgus' groupings of the 30 swing states provides South Korea's middle power diplomacy with some implications for collecting and attracting like-minded countries and formulating coalitions in the cyber security sector. First, it is conceivable that South Korea pursues coalition with countries voting for the ITRs, which belong to Group II. Interestingly, three countries in Group II—Mexico, Turkey, and South Korea—are participants of MIKTA (a coalition of Mexico, Indonesia, Korea, Turkey, and Australia), which has gained increasing attention in recent years. Second, it is also probable that South Korea extends the MIKTA coalition to FOC countries, Ghana and Tunisia, which belong to Group III. Third, it would be more interesting for South Korea to associate with the positional swing states in Group IV. Among them, Indonesia is the first candidate since it is a member of MIKTA. Also, two IBSA (India, Brazil and South Africa) countries, Brazil and South Africa are possible partners that keep pace with South Korea in the fields of global Internet governance. Impressively, these countries, especially Brazil, have played a leading role in renovating the ICANN system. Finally, it is imaginable that South Korea may form solidarity with another ISBA country India for example, which belongs to Group I as it is voting against the ITRs. And, Australia, which is not included as a part of 30 states, is likely to have a similar mind with South Korea since it is a member of MIKTA.

In implementing collective diplomacy, South Korea should be flexible in choosing partners and in coalescing issues. For example, South Korea has to figure out which agenda is appropriate for the selected coalition partners. Various issues on global Internet governance in general could be linked to the specific issues of cyber security. Beyond the boundaries of Internet governance, other security and economic issues could be linked to cyber security issues in order to increase the effectiveness of collective diplomacy. For example, official development aid (ODA) must be a good item of issue linkage politics for South Korea's middle power diplomacy in cyber security. Also, South Korea could grasp opportunities through combining non-traditional security issues together, such as cyber security, atomic energy, and

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<sup>6</sup> The membership of the Freedom Online Coalition (FOC) currently includes 22 countries. This coalition defines itself as “an inter-governmental coalition committed to advancing Internet freedom—free expression, association, assembly, and privacy online—worldwide (Maurer and Morgus, 2014: pp.7-8).

ecological security, as world powers are still competing for the priority of, and even the goal of, governance mechanisms.

### *Complementary Diplomacy in Cyber Security?*

While South Korea needs to engage in programming the “rule of the game” in the cyber security sector, middle powers’ programming diplomacy, if any, should be complementary to the existing system; it is likely and even desirable for them to patch up some sub-programs upon the platform designed by world powers. Those complementary programs might target some niches or holes that world powers neglect due to their ontological and epistemological limitations. In particular, its unique position in the existing system requires middle powers to play a complementary role to the existing world order, not to play an exploitive role through challenging world powers’ initiatives (Kim, 2014a; 2014b).

South Korea’s complementary diplomacy in the sector has to begin with a more thorough understanding of the structural conditions of the cyber security sector. Both offense and defense take place in cyberspace as an environment of complex networks, in which it is sometimes not possible to identify the subject of offense or the object of retaliation. A wide array of threats to state and business actors are perpetuated by non-state actors. Moreover, cyber threats are continuously evolving, and increasingly blurring distinctions between human and non-human actors, such as computer viruses and malicious codes. In this sense, the world power’s simplistic approach, based on the traditional conception of “power politics”, does not fit into the nature of cyberspace, which is strongly predicated upon complexity. Indeed, cyber security issues do not belong to the realm of “international politics” between nation-states competing over traditional security issues. In this context, the possibilities of middle power’s complementary roles would be emerging.

For example, middle powers are likely to privilege for problematizing normative legitimacy that the existing world order may lack. I would call it the strategy of “normative programming” in the sense that diplomatic concerns are with normative, not with positive, aspects of the sector. For middle powers that have less military capabilities and economic resources, norm- or value-oriented diplomacy are crucial and effective means to attain the goals. Indeed, diplomatic strategies which are inclusive and close to international norms are more likely to be attractive to other countries (Slagter, 2004). Moreover, if the middle powers pursue collective diplomacy, and mobilize supporters around the world, the authority of normative diplomacy will be reinforced. Considering the normative aspect of middle power diplomacy, is it possible for South Korea to “exploit” the kinds of “structural holes”? In this context, this paper presents three ideas on the complementary and normative approaches, which South Korea needs to develop.

First, South Korea as a middle power could criticize and complement the security discourse of world powers, based on the Cold War metaphor and the analogy of the arms race. Recently, concerns have grown to view the cyber threat from the perspective of militarization in cyberspace (Lawson, 2012). Cyber-conflict is after all the newest mode of warfare and cyber-weapons have been described as weapons of mass disruption. In reality, the United States and China are strengthening their capacity to engage in both defensive and offensive cyber actions against each other,

presenting the prospect of a cyber-arms race while potentially intensifying the already high level of distrust between the two countries. Attentions on the military dimensions of cyberspace are justifiable. However, there will be no solution for a security dilemma as long as the world powers keep relying on the analogy of an arms race as the zero-sum game. In this context, it is meaningful for South Korea to stress the other aspect of cyber-conflict, by developing the demilitarized peace discourse in cyberspace.

Second, South Korea has to complement the current security discourses of international laws—a national or international approach to cyber security with legal minds. Recently, scholars point out the lack of an international legal framework that defines the use of force in cyberspace; they examine the legal dilemmas regarding the use of force in cyberspace and question how the Law of War can be applied to cyber-threats (Liaropoulos, 2011). The Tallinn manual is a noteworthy example that applies international norms to transnational threats in cyberspace (Schmitt, 2012). However, considering operational difficulties in deterring and identifying cyber-attacks and the asymmetric dimension of cyber-conflicts, inadequate are international laws and norms, predicated upon the dichotomy of actors—i.e., offense and defense—in the modern international politics. What we need is more complex discourses and norms that are able to handle the post-international or inter-network dynamics of cyber security issues. In this context, South Korea as a middle power could contribute by developing a new network discourse complementing the existing international discourses.

Finally, South Korea could complement the world power's security discourse with cyber ethics. Cyber ethics encompasses Internet user's behavior and what computers are programmed to do, and how this affects individuals and society. Previous examples of cyber ethics include various issues concerning personal information or privacy: Who owns digital data? What should users be allowed to do with it? And, how much access should there be to obscene contents online? Now those ethical questions should be extended to international or transnational issues of cyber security. As an ever increasing amount of people connect to the Internet, there is a susceptibility to identity theft, cybercrimes and computer hacking. Historically, security has long been a topic of ethical debate. Likewise, it is expected for such ethical debates to arise in the cyber security sector. In this context, South Korea as a middle power is likely to develop new discourses in cyber ethics as an underdeveloped field, which complement the realist or the liberal discourses of the world powers.

## **V. Conclusion**

This paper presents a theoretical framework to understand the diplomatic strategies of South Korea as an emerging middle power. While many IR scholars point to an actor's attributes to explain middle power, network theorists rely on a positional account. The attribute-approach is useful in delineating the potential candidates as middle powers who have a certain amount of material resources, but it fails to explain what kinds of specific roles are necessary to be qualified as a middle power. Therefore, to explain a middle power's agency, it is necessary to understand how middle power is defined in terms of structural position in a system and to explore how an actor's structural position affects its capacity to play meaningful roles. Network theories

provide the studies of middle power with theoretical resources concerning the structural attributes of networks, such as structural holes.

Indeed, structural holes give brokers special advantages over other actors in a network: they have more flexibility in connecting broken ties than other actors; they have the capacity to introduce new ideas and to translate meanings; and they can provide interoperability or compatibility throughout fragmented network structures. In this context, this paper also adopts theoretical notions from social network theories—brokerage and positional power—to examine how to bridge structural holes. In fragmented networks, a middle power's position bridging structural holes gives it the ability to act as a broker. Here, it is most important for South Korea as a middle power to have the ability of contextual and positional intelligence, which reads constantly evolving contexts and identifies its moving positions in the global network of powers. If it is equipped with this ability, it would be more likely to define a middle power's roles corresponding to the structural conditions of the network.

The discussion about network structure and brokerage power offers the directions of networking strategies that a middle power has to pursue. However, the structural and positional factors do not determine all actors to play the same roles of brokerage, because actors would have a certain amount of autonomy in taking strategic options under any circumstances. This is why a discussion about how actors specifically implement networking strategies is needed. To explain middle powers' strategies for exercising positional power under a network structure, this paper relies on actor-network theory (ANT) and particularly adopts Michel Callon's framework of "translation"—i.e., networking strategies. However, this paper adopts his framework, but modified its terms with easier words: i) framing and positioning, ii) connecting and disconnecting, iii) collecting and attracting, and iv) standard setting.

Applying these theoretical resources, this paper identifies the four elements of middle power's networking strategies which South Korea should consider. A premise of successful strategies for middle power must be to understand the surrounding network structure and to frame its position within that context. With the simulated map of networks, South Korea should be able to manage asymmetric relationships among great powers in Northeast Asia. South Korea would act as a broker, more than a mere connector, providing the mode of transition, switching, transforming, and translation between different actors of networks. To fulfill the brokerage roles, South Korea has to learn how to bring together states and non-state actors, utilizing various non-human actors (e.g., SNS) to attract supportive forces in world politics. Through questing for networking strategies, South Korea as a middle power could be an architect, not a whole system designer but a complementary programmer, that can provide useful patch programs for the whole system operated by great powers.

This paper applies the theoretical discussion of network theories to an empirical case of cyber security diplomacy, in which South Korea is recently likely to play significant diplomatic roles as a middle power. The structural conditions in the cyber security sector are continuously evolving toward an unprecedented modality of world politics. It is critical for South Korea as a middle power to understand the structure and dynamics of the cyber security sector, to find out any cleavages of who is in which camp in the process of global Internet governance, and to recognize

whether the United States and China will have a basically cooperative or antagonistic relationship over the coming several decades. Even more, South Korea has to realize that the potentially poisoning effect of cyber security is occurring at a time when there is genuine uncertainty about the future of cyberspace. The next decade is going to be filled with various clashes as those complex actors in world politics are competing for their own political needs and desires.

Under this circumstance, South Korea should figure out what kinds of specific roles are expected of its middle power diplomacy. Here, it is most important for South Korea as a middle power to have the ability of contextual and positional intelligence, which reads constantly evolving contexts and identifies its moving positions in cyber security. The discussion about network structure and position offers the directions of networking strategies that a middle power has to pursue. Applying these theoretical resources, this paper identifies three elements of middle power diplomacy in the cyber security sector, which South Korea should consider. This paper suggests to three strategic pillars of middle power diplomacy—brokerage diplomacy, collective diplomacy, and complementary diplomacy.

To summarize, South Korea should be able to manage asymmetric relationships among world powers and global governance. South Korea would act as a broker, more than a mere connector, providing the mode of transition, switching, transforming and translation between different actors of networks. To fulfill the brokerage roles, South Korea has to learn how to bring together like-minded countries in the sector, and to attract supportive forces in world politics. By questing for networking strategies, South Korea as a middle power could be an architect, not a whole system designer but a complementary programmer, who can provide useful patch programs for the whole system operated by world powers. In short, being equipped with the ability, it would be more likely to define middle power's roles corresponding to the structural conditions of the cyber security sector.

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