

# Exploring Nudge Approach in Local Public Space Management:

## A Preliminary Inquiry in Korean Setting

공적 도시공간 관리의 넛지 방식 탐색:

한국 지역사례의 예비적 고찰

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Aiming to review the issue of nudge and to incorporate it into a specific discussion of local public spaces, this paper attempts to partially contribute to the discussion of regulatory compliance and policy nudge in Korean context. First we review relevant studies, along with some background information, on nudge, public

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spaces, etc. On top of several European cases, four different space-related cases in Korea are illustrated. We mainly examine practices managed by local governments, including waste dumping and 'shared space', a less-known practice in South Korea. Upon overviewing distinct cases in Korea's localities, an analytic discussion leads to a set of arguments that nudge works and that 'choice architect' is a significant factor of the approach. A nudge-oriented discussion and analysis based on European and Korean cases suggests that changes in managing patterns and physical environment affect people's behavior and, as a result, increase public concern, enhance the level of safety and overall space management. It is also to be noted that soft nudge is necessary together with other conventional regulatory measures. Hopefully, this nature of study will invite meaningful discussions under the current trend of regulation reform in Korea and around the world.

□ Key words: Nudge, Public Space, Libertarian Paternalism, Regulatory Compliance

이 논문은 공적 공간의 관리 이슈에 초점을 두어, 특히 한국의 지역 사례를 대상으로 규제 순응 및 넛지형 접근방식을 함께 고찰한다. 관련 문헌과 배경정보 검토에 이어, 몇몇 유럽의 사례를 논의하고 한국의 4가지 눈에 띄는 사례 즉 쓰레기 관리 및 비교적 덜 알려진 '공유 공간' 관리 문제를 요약 관찰한다. 인센티브, 매핑, 디폴트 등 넛지 논의의 주요 요소를 각각의 사례에 통합하여 몇몇 의미있는 쪼개의 논의가 이어지는데, 예컨대 넛지형 접근방식이 어떻게 작동하는지, 이른바 '선택 설계'의 의미있는 역할이 무엇인지 등이 포함된다. 유형별 사례 분석의 결과에 의하면, 넛지형 접근방식으로 인해 대중의 관심이 높아지며, 안전 및 전반적 지역 공간관리 수준이 향상될 수 있는 등의 긍정적 효과가 기대된다. 아울러 유연한 넛지 접근방식은 전통적인 규제수단과 함께 사용될 필요가 있음을 지적하였다. 한국과 세계의 규제 개혁 흐름에 발맞추어, 이 연구의 연장선에서 향후 구체적이고 의미있는 연구가 이어지기를 기대한다.

□ 주제어: 넛지, 공적 공간, 자유주의적 가부장주의, 규제 순응

## I. Introduction

The idea of achieving policy purpose, for example, engineering health or upgrading public space, through nudges has become popular for the past years. Although many of the nudge approach have been focused on at the individual level, it appears reasonable enough that firms or governments make real efforts to do that at the community level. That would especially be the case in Korea. In case it is not likely for people to work on their own behalf if they have to actively “opt-in” for benefits, employers or governments can make the basic benefit the default for average utility gain.

In short, nudge is largely considered a way of changing human behavior for the better by well-designed circumstance, not by coercive government intervention (Thaler & Sunstein, 2008). For past decades, it has been argued that individuals or groups do not always act in a rational, or consistent, way; there are likely to be multiple motives or factors based on which people comply with certain regulations. Contrary to long-standing reasoning of the Neo-classic Economics, collaboration of Behavioral Economics and Psychology provide numerous ways to examine and change human decisions and behaviors so as to improve our lives happier, healthier. This line of reasoning has been gaining traction in Korea as well, especially since a prominent behavioral economist Richard Thaler won a Nobel Prize in 2017.

Traditionally in Korea, a highly centralized country, strong enforcement and straightforward regulatory measures have been employed to achieve policy goals, whether in provision of health services or in maintaining street clean. While such means have been effective at least in part, some scholars and practitioners have recently explored the ‘nudge approach’, a rather unfamiliar theme in public policy in Korean cities. This approach, basically pursuing libertarian paternalism and replacing traditional regulatory enforcement, is well noticed in Korea in regard to a couple of garbage collection practices, as shown later on. As examples of nudge and public space, we examine waste dumping practice and ‘shared space,’ a rather fresh practice in Korea. At the outset of the manuscript,

we review relevant studies, along with some background information, on regulatory compliance, nudge, and public spaces. Following illustrations in the real world, an analytic discussion will lead to a set of arguments how nudge approach work and what it yields.

## II. Studies: Regulatory compliance & nudge

What makes people support, comply with public policies or social regulations? Conventional wisdom tells us, regulatory compliance has long been suggested to be closely related with government enforcement, its key components being strong regulation, proportional sanction and detection efforts, all in tandem with 'calculated' motivation of individuals or groups. How new is the nudge approach? We examine a limited number of existing studies on regulation and the nudge way of thinking – along with behavioural economics – and on urban public spaces.

### 1. Revisiting regulatory compliance

What leads people to support or follow policy has been a recurring question in policy science and urban planning as well. Moreover, why do individuals or firms choose to comply with, and not violate, a specific regulation? These are recurring questions both in practice and literature in public policy or urban planning. This nature of discussion owes a great academic debt to existing studies.

Common sense tells us that good policy would attract people's support or compliance on its own strength. Of course, critical elements like political legitimacy in emerging and developing countries should come first, and this would certainly help. That said, our collective reasoning and experience suggests

that some other factors would come into play as well. In fact, Lee (2005) assumes that the quality of each policy is often embodied, and represented, by different motivations. The following several categories for compliance, although not all inclusive, would be useful.

The most traditional approach, which can be called either rational or calculated motivation, comes first. For instance, individuals or corporations are more likely to compare, consciously or unconsciously, the overall costs and benefits of compliance before they choose to comply with industry regulations (Edwards, 1992; Scholz, 1984; Winter & May, 2001). It is expected, however, for the costs or sanctions to be severe enough to draw compliance. Other strategies, such as additional efforts for the detection and centralization of enforcement responsibilities, are emphasized in this approach (Burby & Paterson, 1993).

Second, the term 'normative motivation' in existing studies refers to a 'combined sense of support for' public policy (Burby & Paterson, 1993; Lee, 2001). In other words, people sometimes comply with a regulation simply because they agree with the policy or its goals. Put differently, some taxpayers consider themselves good citizens, putting their country or community first, in addition to providing financial resources for their community. This nature of sense is frequently found in Korea as well, as shown in cases such as the Green Belt regulations and Saemaul Undong (new community movement) campaign. Do people in many developing countries, voluntarily or not, not tend to follow policies or regulations simply based on moral commitment or as civic duty?

The third reasoning, social motivation, appears to be closely related to the topic discussed in this paper. It emphasizes that people, groups, and even firms interact with their peers and recognize their friends' decision, not entirely based on their own. Current literature (Hawkins, 1984; Hutter, 1997) suggests that 'social' motivations matter and can be promoted further by friends, neighbours, and other peer groups. However, like the motivations mentioned above, social motivations are not easy to empirically measure.

It should come as no surprise that recent studies have attempted to use an alternative set of approaches to address regulatory compliance. The new trend can be called a 'holistic and outcome-oriented approach' (Parker, 1999). In

studies mainly targeting the U.S. and OECD countries, a mixture of non-traditional approaches was reviewed, in which 'regulatory pluralism' is notable. The logic behind this is that the state or government is a crucial entity for regulation, but it is not the only one. Other social stakeholders such as firms, unions, universities, etc., can and should be encouraged to shoulder the burden of regulation (Park, 2001; Winter & May, 2001). In that sense, diverse non-regulatory alternatives have been invented and experimented with, for example, information measures, self-regulation, voluntary agreements, various economic incentives, etc. It appears that many of these policy means are mirrored in the nudge approach.

## 2. Nudge, a new policy tool?

Neo-classical economics suggests that people behave and make decisions on a reasonable basis, usually meaning they do that in a consistent way, not necessarily resulting in good or better outcomes. They 'calculate' and compare the costs and benefits of their choices in everyday life, as partly suggested above. Do they?

It has been well publicized that Behavioral Economics challenge the conventional wisdom. A typical concept or reasoning would be 'bounded rationality,' as coined by Herbert Simon. For instance, when making decisions whether to comply with a policy regulation or to decide to go for walk, we understand that individuals' rationality is expectedly limited by certain decision issues, a mixture of cognitive restrictions, time limitation, and other factors. These challenges and the outcome resulted from bounded rationality are also implanted in nudge.

As well presented in Thaler & Sunstein (2008), 'nudge' has recently come into focus as a relatively new way of viewing and changing human behaviour, not by coercive government action, but by well-designed circumstance.<sup>1)</sup> The idea that

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<sup>1)</sup> Nudge can be defined 'to push mildly or poke gently in the ribs.' The book cover design of Nudge demonstrates two elephants; Dad elephant has its trunk behind Baby elephant's

individuals act rationally and behave to maximize their utility or profit is supposedly an axiom of neoclassical economics. That said, the question of whether human beings are inherently rational remains valid. Behavioural economics comes into play raising this question and attempts to integrate the insights of psychology and economics (Kim & Shin, 2011). This line goes against traditional Economics that maintains a human being's rationality. It is argued that psychological cognitive factors, such as sensitivity, instinct, and intuition, as well as logical and rational reasoning decide individuals' attitudes and behaviours (Kim, 2009; Lee & Hong, 2009).

In fact, these ideas have become so popular, particularly by Richard Thaler of the University of Chicago, a 2017 Nobel Prize laureate in Economic Science, across the ideological spectrum and on both sides of the Atlantic, reaching former U.S. President Obama, former British Prime Minister Cameron, and the British Conservative Party. Nudge is no longer new in Korea, either; the idea has become popular in the policy arena, particularly over the past few years.

The nudge approach based on libertarian paternalism is neither new nor has been fully explored in public policy literature. It basically attempts to change human behaviour for the better by well-designed circumstances, and not by coercive enforcement, thereby providing ample room for policy application in a diverse fashion. The issue of cities' 'shared spaces' provides sufficient opportunities for not only academic discussion, but also practical application in many geographical settings, including South Korean cities.

Nudge, however, is not free from criticism. The main philosophy of nudge is often referred to as a form of soft paternalism. In fact, the term 'libertarian paternalism' might sound like an oxymoron, but it has been considered feasible as well as desirable for government to employ nudge to influence behaviour while preserving individual freedom of choice (Sunstein & Thaler, 2003). Libertarian paternalism lets people go their own way. As can be witnessed in everyday life or in many policy arenas, it may, at best, be a relatively weak, soft,

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back. Instead of using physical force, Dad is encouraging the little one to go forward by gently pushing Baby from behind.

and nonintrusive type of paternalism because the choices are not blocked or extremely burdened. In any case, the so-called choice architects – policy planners or urban designers, for instance – play a vital role in this discussion. In that regard, what matters most in urban settings would be who plans and designs the built environment, such as public space in cities, and how it is done.

### 3. Government intervention in public space management

There is no shortage in studies in why and how local government intervene in public space including those in urban areas. Undoubtedly, government intervention, apparently based on the rationales resulted from ‘market failure,’ such as externalities, is not always successful, and policy regulation might not work or be necessary in the first place. Yet it is widely believed that planning matters; in many cases, built environment also relates to behavioural change and life pattern of individual citizens and even public health (Northridge et al., 2003; Malizia, 2006). Waste management in urban areas is obviously one of the most important elements in both space management and public health.

So, does no government intervention work better in urban spaces? Not always; there are exceptional cases found worldwide. Addis Ababa, the capital city of Ethiopia, with more than 3.3 million residents, has a 14-lane street with no traffic lights or lined crosswalks. One might be shocked to see the chaotic situation: buses and trailer trucks pouring out of four directions without any traffic signals and people bravely crossing the street by passing between cars. Surprisingly, however, there are few accidents between cars and people. This stunning situation has been introduced worldwide, even in a Korean news program (MBC News Desk, 2014-09-07). A diplomat at the Korean Embassy in Ethiopia reportedly explained that everyone who uses the road knows that if they do not yield to each other, it would only make the traffic jam even worse, only harming themselves; this appears to be why people make way for each other.

Similar cases are found elsewhere as well. For example, in Ho Chi Minh City in

Vietnam, streets are full of scooters, motorcycles, and bikes, in addition to automobiles. Pedestrians simply 'weave around', not following any regulations, but on their own. As the author of the column Roger Cohen describes, the Vietnamese condition demonstrates certain limitation of regulation (The New York Times, 2015-04-02). Monderman (2006) argues 'Treat the driver like an idiot and they will behave accordingly'. In a similar vein, wouldn't various traffic controls often be the outcome of falsely treating drivers and pedestrians as unreasonable?

Conventional wisdom suggests that a mixture of institutional and legal means – for instance, direct government regulation – still works when attempting to secure people's indispensable compliance with social rules and promises. In case of urban challenges like traffic congestion and accidents, for example, carrying out road maintenance, improving the signal system, expanding regulation activities, and finding those who violate traffic laws may still be useful ways to address such issues. This study purports, in part, to share the ideas of urban 'shared space' with Korean audience, which is still a less-known concept in the nation, and to incorporate it into a context of policy nudge, contrasted with traditional administrative regulations.

The notion of 'shared space' shows that not only direct control or intervention by the government, but also voluntary decisions regarding changing physical environment, can seem sometimes to achieve better results than what was initially intended. There are few, if any, related studies in the Korean context covering the subject of nudge from the regulatory point of view in public space management; this study will be significant in that regard. A review of practices in the real world as well as an analytical discussion will follow.

### III. Practices: Local experiences in Europe and Korea

We examine cases for public space management in Europe and Korea, providing ample room for discussion about traditional approach of regulation and the possibility of applying them to nudge discussion. When mentioning 'shared space,' scholars usually refer to a specific form of urban space design. Garbage collection or dumping takes place on city streets and residential areas; residents are strongly expected to be aware of, and comply with, relevant policies or regulations pertaining to time, place and methods of garbage collection.

#### 1. European 'shared space' experiments on public space

One can imagine what if there were no traffic lights, traffic signs, kerb stones or bollards, and other street facilities that are seemingly essential on the road. It is easily expected that such an environment, with no legal or physical constraints, would cause confusion and even chaos on the road. However, that is not quite the case. That said, urban 'shared space' sometimes are referred to as specifically designed form of built environment. For a different example, many Korean and American cities synchronize green lights in traffic management, but a number of European cities do the contrary. In order to make car owners uncomfortable, they tend to create traffic environment openly hostile: more frequent red lights, reduced lanes, decreased parking spaces (International Herald Tribune, 2011-06-26). Aside from individual preference on this kind of 'new' traffic control, it represents the European cities' strong nudge against private car using. Default has changed; one may choose no-car option, i.e. public transportation, if discontented, which is exactly the point. Moreover, most neighbours and colleagues appear to readily accept the change; nudge works.

In 1978, Hans Monderman, a Dutch traffic engineer, while investigating the growth of car accidents found that the traditional traffic system, such as putting

a demarcation between cars and pedestrians, induces traffic accidents. In contrast to traditional engineering methods, he initiated the quite opposite: no roads, no traffic signals, a total redesigning of street. The result of this experiment received wide attention in the Netherlands, the U.K., Germany, and other European countries (Sutcliffe, 2009; Hankook Ilbo, 2011). He also began an experiment in 'making a village more like a village' in Oudehaske, Friesland. With additional experiments, Oudehaske has become the first successful city in the developed world that has no traffic signs, traffic lights, or lanes (Hamilton-Baillie, 2008; Moody & Melia, 2014).

Practices of such nature are gaining traction. A German city of Bohmte attempted to remove traffic signs and traffic lights and drew division lines to distinguish between paths for motors, bikes, and pedestrians, as well as paved the roads with cobblestones to slow down the speed of vehicles. The city invested 15 million euros, and the EU paid a corresponding amount to construct a 'shared space' in this city (Ahn, 2011; Hankyoreh, 2007-9-13). Upon completion of the shared space in Bohmte, both the average vehicle speed and the traffic volume reportedly decreased by 15-30%.

Ashford, in the U.K. – another successful case of 'shared space' – adopted the concept of 'shared space' to achieve the vision of 'A Walkable Healthy Town'. Motorways and pavements have been designed in the same colour; fences, median strips, and curb stones have been removed; and the number of traffic signs have been reduced. The project's effect was like that of the other cases: a reduction in the average speed of vehicles by 50% and a significant decline in the traffic accident rate.

On balance, 'shared space' schemes have been attempted for several purposes: i) improving the urban environment; ii) granting people freedom of movement rather than control; iii) improving the ambience of places; and iv) enhancing the economic vitality of places, etc. (Moody & Melia, 2014). According to Monderman (2006), the design of a 'shared space' can be clearly compared with that of traditional road design. While the latter depends mostly on state control and official regulations, 'shared space' follows cultural and social rules that can be referred to as the 'nudge approach'. In general, there is a separation between

drivers and pedestrians on traditional roads, which does not happen in a 'shared space'. They purport basically to integrate all users, taking every traffic control away from the street, allowing free movement of pedestrians and vehicles, and significantly influencing people's behaviour when compared to the use of artificial traffic control. For instance, drivers are more likely to slow down when faced with children playing in the street than when they simply see a 'Danger! Children at play!' sign.

The aforementioned European experiments merit further consideration from the viewpoint of nudge approach in public space management. By and large, upon simplifying the streets and walking environment, they create a new default in the overall urban landscape, for instance, to create a place to be shared by all. In this new environment peer pressure or conformity appear to work better. What appears to work with 'shared space' in cities is to avoid separation and to pursue a harmonized integration of urban transportation modes. With mechanical, physical, and artificial traffic systems eliminated, drivers are expected to respect other vehicles, cyclists, and above all, pedestrians. 'Shared space' becomes, literally, a place to be shared, and this changes the way people act, as the choice architects initially intended. In other words, it is to attract voluntary change from people who use the place through physical change and not by directly restricting users' behaviour through laws and regulations.

Some research regarding 'shared space' has been conducted in the Korean context, although it does not exactly meet the point of this paper. Ahn (2011) introduces the concept of 'shared space' and reviews its applicability in Korea. Other studies discuss the cases of shared space by nation, for example, the U.K. developing a traffic accident prediction model using shared space (Ahn et al., 2010; Choi, 2013). On balance, it would be fair to state that academic attempts or achievements are not found in abundance in Korea

## 2. Korea's cases in waste dumping and public space

### 1) Redesigning waste dumping: Ansan multinationals

The city of Ansan in Gyeonggi Province is located about an hour south of Seoul. It is well known for a large number of resident aliens who, at 70,000, account for 9.2% of the city's population. Particularly in Wongok area, there are reportedly more than 20,000 multinational residents, which is about 63% of the total residents of the area, most them factory workers.

One of the most troublesome issues in this district of foreigners is unregulated dumping of waste, not only social order issue but also a serious health issue in the community. Not quite familiar with recycling, volume-rate garbage disposal, and other waste management practices prevalent in Korea, the multi-cultural residents often dump trash unchecked anywhere they deem convenient, causing a messy street environment and public anger (DongA Ilbo, 2013-11-20).

To address this issue, the District (gu) Office of Danwon came up with a unique idea in 2011. In addition to regular awareness campaigns for garbage disposal, the officials displayed pictures symbolizing the resident aliens' home countries – for example, the national flags, flowers, and other symbols – at some habitual littering areas. The short-term effect has been rather clear ever since: much cleaner streets and a significant decrease in illegal garbage disposal. The nudge approach that attempted to touch the residents' emotions and patriotism, instead of legal sanctions and detection measures, appeared to work (Kyunggi Ilbo, 2011-09-27). In the long term, however, the effectiveness remains to be seen, with familiar street mess occasionally reappearing.

### 2) Waste management: Busan cleaning strike

Another recent case of managing illegal garbage dumping on streets is of Busan, Korea's second largest city with a population of 3.5 million. Seomyeon area, perhaps the busiest area in the city, is well known for its hustle and bustle; it is filled with shops, entertainment businesses, and pedestrians. The amount of

illegal waste on the streets (cigarette butts, food waste, vomit, and flyers), almost five tons a day, became 'unmanageable' for the local government of Busanjin District to deal with. Officials took an unusual measure to reduce illegal waste dumping by pedestrians and business people: a three-day cleaning strike in March 2015. This 'shock treatment,' which might be considered the reverse version of nudge, was intended to demonstrate to the public with the result of people's 'business as usual' attitude. In many cases in public arena, 'do no harm' would dominantly be the policy makers' virtue, but there is an exception. Sometimes 'do nothing' could be the answer, as the Busan local government apparently believed in the aforementioned case.

As expected, a number of residents, especially at the beginning of the incident, criticized City Hall's 'arrogance' and irresponsible attitude, which inconvenienced the public with malodour and other health-related problems, reportedly giving a 'bad impression' of the city (Seoul Newspaper, 2015-03-17; TV Chosun, 2015-03-16). In the long term, however, the general response and results were largely positive. The streets are much cleaner now, in large part thanks to the greatly reduced amount of illegal waste. Voluntary cleaning is witnessed more often, and public awareness has greatly enhanced (Yonhap News, 2015-04-02). The effect of the one-time 'treatment' is still controversial; it has not been repeated elsewhere.

On balance, the local governments of Ansan and Busan attempted to establish a new public norm in garbage disposal. While it is not clear if the outcomes of the two cases were in fact what 'choice architects' initially intended, there was a visible positive short-term effect in both places. As expected, however, a sustainable solution to the problem of waste dumping on the streets in the two areas and beyond is yet to be found.

### 3) Street sharing: Suwon 'car-free month' experiment

In September 2013, a radical urban experiment was conducted in Haenggung-dong, Suwon, near Seoul. An entire neighbourhood (dong), with 13,000 residents, was perhaps not the perfect place to attempt being a car-free community because it

is a rather crowded mixed-use district, with traditional markets and modern commercial facilities. A campaign, a part of the citywide 'Eco Mobility 2013' campaign, was initiated by City Hall and was fully supported by local civic groups and the International Council for Local Environmental Initiatives (ICLEI).

The event attempted to eliminate the use of automobiles within the area for a month. Local NGO staff conducted a series of educational workshops and campaigns; city officials paid visits to the homes of all residents who were opposed to the plan or simply showed no enthusiasm. Residents were cordially asked to park their cars in the designated area outside of the neighbourhood, and to walk or use public transportation.

The primary goal of the project was to establish walkable spaces and a liveable community. Regulating the ownership or movement of cars is inherently limited, and citizens' voluntary support and participation were critical. Relevant information was actively shared, including the benefits of sufficient pedestrian spaces, potential health outcomes for individuals and as a community, and so forth. A variety of alternative modes of transport were introduced and tried – bike buses, trams, small electric cars, etc. For a month, approximately one million people visited the area, shop and restaurant sales greatly increased, and, above all, the number of personal cars being driven dropped by 33% during the period. This experiment is considered a rare success in local planning. While this one-time experiment is often modelled in other cities, with variation, such as one-day car-free program, it's not quite clear how feasible or sustainable it would be in Suwon or other cities in the future.

From the nudge point of view, the Suwon case shows several different features of nudge approach: default, simplification, understanding mapping, peer conformity. For example, the simplified motto of car-free community was emphasized from the very beginning; the residents' everyday lives were, voluntarily, led into car-free ones. Particularly with collaboration with local NGOs, friends and neighbours were consistently involved in the whole process for peer pressure in this 'relatively small change' of life.

#### 4) Shared space expansion: Daegu 'Tearing-down-walls' campaign

Daegu, Korea's fourth largest city with 2.5 million residents, is well known for, among others, its traditional culture and conservative social environment. During late 1990s and 2000s, a City Hall campaign, Tearing-down-walls, coupled with grassroots movement sprang to restore community sense and expand urban shared space in this declining city. The city government actively promoted the campaign, making it both an iconic urban regeneration project. Korea's traditional and modern houses, including large-scale apartment complexes, are usually surrounded by brick or other walls or fences, taking up public or pedestrian spaces. They wanted to get rid of as many walls as possible without too heavy cost inflicted.

The citywide campaign, launched in 1994, became a major theme of then "I Love Daegu" movement, despite considerable opposition. As of December 2018, with 935 entities/houses participating thus far, walls of about 32km in more than 200 neighborhoods have been torn down making it possible to create new street parks of 367,119m<sup>2</sup>, or 90 acres.

Individual residents or firms got partially financed, three million won (about 3,000 dollars), by City Hall for tearing down process. This financial support could not have been a sole, decisive factor to fuel the whole process; other 'nudge' approaches were also adopted: spotlight effect, simplification of the process, mapping, etc. As successful nudge features show, the primary goal and target of the campaign were so simple; the spotlight effect was notable. Additionally, there was no denying peer effect in the process; local NGOs' convincing activities encouraging friends and neighbors were also noteworthy (Daegu Gyeongbuk Development Institute, 2003). As the result, considerable private spaces were effectively turned for public uses; small neighborhood parks and flexible spaces were created. The local project has now become a national benchmarking case.

## IV. Analysis and discussion

### 1. Identifying the common ground: regulation and nudge

No doubt, in Korea's conventional environment, rewards and punishments appear to be a simple, one-dimensional approach to yield a direct change in behavior. There is reason to believe that the nudge approach, if well matched with conventional regulations, has the potential to alter the behaviour of people in selective public spaces in the nation. There appears to be some overlap between the nudge approach and policy regulation regarding public spaces.

Existing research to directly correlate nudge with urban public space is not easy to locate, particularly in Korean setting. However, some studies on nudge – Hansen & Jespersen (2013) and Hausman & Welch (2010), for instance – address this issue, with varying opinions. It would be fair to say that the nudge manipulates choice and that there should be a responsible use for the approach to bring about a behavioral change regarding public policy.

There are few, if any, Korean studies that can be a research model for the present study. For instance, Chung & Lee (2011) conducted research on high school policies on foreign language by the Ministry of Education and Science Technology in Korea, examining the policies from a nudge point of view. Another seemingly irrelevant example is Kim's (2011) attempts to use nudge in the communication between marine traffic controllers and operators of vessels. Hwang (2010) suggests a nudge strategy as an alternative to denuclearization in the Korean peninsula. In a different context, Kang (2016) attempts to classify the methodological types of nudge, such as cognitive efficiency, interest, positivity, comparability, consistency, and inertia, while searching for ways to use the nudge approach for public persuasion.

It is noteworthy that a trend of 'regulatory pluralism' has been emerging over the past two decades in fostering policy compliance. In short, it is argued that, instead of a single instrument of enforcement, other flexible measures should be employed to achieve the intended goals of policy or regulations. There can, and

should, be a mixture of means, such as volunteerism, self-regulation, information strategies, compulsory reporting and monitoring, etc. to secure compliance with regulations. While yielding some positive outcomes, those measures have yet to be proven to be effective and reliable (Gunningham & Sinclair, 1999; Lee, 2005). In extension, the nudge approach can be considered as a useful set of alternatives to address the issues we face in urban setting.

## 2. Breaking down by key elements

It should come as no surprise that a number of different ways can be attempted to break down nudge elements. A simple way, for example, to categorize the aforementioned Korean practices would be to juxtapose continuity and severity of enforcement and nudge. Three of the four practices appear to lack continuity, that is, they were either one-time incident or short-term measures. Busan Cleaning Strike was apparently a quite strong shock-treatment dealing with the city's long illegal waste dump. Daegu Tearing-down-wall case is worth noting in that the city-wide campaign is on-going process, becoming a national model.

We now attempt, as a preliminary analysis, to see what nudge features are embedded in the above cases. An emphasis shall be put on individuals on social setting, not individuals in isolation. It would be fair to use key nudge elements drawn from Thaler & Sunstein (2008), such as incentives, understand mapping, defaults, give feedback, expect errors, etc. Additionally, we take into consideration other approaches, including those of Lunn (2014) and Huettel (2013), which also emphasize how behavioral economics, in collaboration with psychology, can affect human behavior or decision as an individual or group.

- Incentives: Something that motivates an individual to perform an action, not exactly a requirement for nudge (Thaler & Sunstein, 2008, hereinafter)
- Understand mapping: One can predict, somewhat accurately, how his/her choice is affected by his/her ultimate consumption experience
- Defaults: An option that will prevail if the chooser does nothing

- Spotlight effect: People tend to, sometimes mistakenly, believe they are noticed by others more than they really are
- Peer conformity: People make decisions as influenced largely by whom they regularly interact with
- Simplification of information and choice: Clearer presentation of what people need to know about their choices and possible outcomes (Lunn, 2014: 41-45)
- Focal points: Certain choices are distinguished from others, thereby facilitating coordination even when people cannot communicate directly (Huettel, 2013: 309-311)

To find out the extent to which a nudge element is examined for each of the cases, we conducted a pilot test survey in May 2015 for about 20 individuals, including faculty members and undergraduate students at national university in Korea. After being briefed on the key features of nudge and every case, which took place around the nation for the past years, the recipients were asked to assess how strong or weak each nudge element is embedded in each of the practices. <Table 1> is an outcome based on the questions/responses presented on a 5-point Likert scale.

<Table 1> Key nudge elements embedded in Korean cases

	waste dump		shared space	
	Ansan	Busan	Suwon	Daegu
incentives	weak	weak	weak	mild
understanding mapping	weak	weak	strong	mild
defaults	mild	strong	strong	weak
spotlight effect	strong	mild	strong	strong
peer conformity	strong	weak	strong	mild
simplification	mild	strong	strong	strong
focal points	mild	mild	mild	mild

For all practices, incentives were little or negligible, at least in the short term, which in fact fits in the nudge principles (Thaler & Sunstein, 2008). An exception

would be Daegu Tearing-down-walls project, in which small amount of cash grants were provided to participating residents. Understanding mapping was strongest in Suwon Car-free Month campaign; all stakeholders and participants were clearly aware what is to happen, when to begin/end, and what to expect. The issue of defaults is quite notable in Busan Cleaning Strike case; residents were strongly warned what happens by their illegal acts of dumping in tandem with government's no action.

Some other nudge elements also deserve further consideration in light of social setting. Humans are easily nudged by other humans by certain mechanisms, for example, the spotlight effect and peer conformity. The spotlight effect is a phenomenon in which people tend to believe that they are noticed more, or more clearly, than they really are. Spotlight effects were strong in both Suwon (Car-free Month) and Daegu (No Walls), large because national media coverage at the time. Peer conformity is an act of matching attitudes, beliefs, and behaviours to one's group norms; it seemed to appear strongest in Ansan (Waste Dumping) and Suwon.

The policy measures for 'shared space' deserve further attention. The way people use roads or other public spaces is everyone's decision. What matters with public space is to provide users different designs and choices that he or she can voluntarily choose or make, respectively. In a 'shared space' – in contrast to ordinary traffic design and regulations – direct enforcement to regulate the way people move does not exist. Instead, indirect suggestions to decrease vehicle speed and increase eye contact between drivers and pedestrians prevails, based on the changes in the built-environment. Incentives are identified; mapping is understood and shared among stakeholders; defaults are reset; and, friends and neighbours do matter along the process. As widely agreed, simplification does matter, while the value of focal points has yet to be more closely investigated in the practices described in this paper. On balance, 'choice architecture' is a factor of great significance in nudge. For the nudge approach to be used more practically in the policy arena, a well-designed choice architecture based on a wide, accurate understanding of human characteristics is necessary.

It would be fair to state that each key element is embedded differently in

respective case, demonstrating that a specific nudge element is distinctive in one practice while others are not. The elements presented here do not necessarily embrace all nudge elements in the existing literature and not all elements appear as 'strong', but there is room for improvement and for policy implications as well. When preliminarily assessing, it appears that successful practices tend to better embrace more nudge features. Regulations and policies would be more effective and sustainable if nudge elements are to be enhanced and appropriately provided.

## V. Closing

Never meant to be a full research paper with clear-cut results, this manuscript examined the nudge approach reviewed in the context of regulatory compliance, based on reviewing relevant literature and practices. Unlike the average policies or regulations, nudge does not attempt to control the what, how, when, etc., of a situation. Although limited, this study provides some meaningful insights with respect to what principles or features are embedded in, and can possibly be incorporated into, regulations or other policies. Nudge would not be enough for many problems and policy issues; admittedly, society could be nudged in the wrong way. This appears also the case with the issues of garbage collection and 'shared space.' Rather than supplying conclusions or drawing direct policy messages from this short piece, we intended to summarize the discussion, to introduce Korean practices, and to preliminarily analyse the relevant practices, mainly for the benefit of future study.

Examples of diverse nudge approaches, small and large, for urban public spaces in Korean cities include, but are not limited to: i) redesigning waste sites to avoid illegal dumping by resident aliens (Ansan) and citizens (Busan); ii) establishing a car-free neighborhood by means of a community campaign in addition to a local government initiative (Suwon) and changing the built-environment

for more public spaces (Daegu). We believe that not only gentle regulation, based on 'regulatory pluralism,' but also strong nudge is necessary in shared urban spaces.

For future studies, one can analyse further each element of the nudge approach. More cases utilizing the nudge approach in a variety of policy fields would be useful. Additionally, it is to be noted that nudge should be employed as a supplement, and not as the primary measure, simply because it will not be sufficient by itself. Nudge serves as a foundation for more direct enforcement and regulations; both approaches, when used together, complete each other. It is suggested that position changes in the built-environment in cities is more likely to modify citizens' attitudes and behaviours, thereby yielding an increased level of public concern on the roads and at traffic signals for public safety.

This paper has obvious limitations. First, nudge is a relatively new concept in the public policy arena. There exist few academic and practical studies, if any, on this subject, particularly in the Korean context. Without basing it on rich academic soil, we were unable to address a full range of methodology and scholarly discussion. Second, we reviewed only four cases in Korea, glossing over many other possible situations and leaving generalizability still in question. Our introductory examination, without sizeable quantifiable data, simply reveals the feasibility and usefulness of using nudge as a supplement to policy regulations; for example, the cases of 'shared space' instead of direct traffic controls or other legal or physical planning, or a design upgrade instead of direct detection and sanctions on illegal waste dumping. Additionally, this paper did not explicitly address how exactly each of nudge approaches would work in different setting and what detailed measures should be taken to improve the outcomes of them.

We hope that this nature of nudge-oriented discussion would contribute to discussion and application of policy nudge, believing that changes in physical built-environment affect and change people's behavior and, as a result, increase public concern, enhance the level of overall safety, or yield other positive outcomes. We invite candid feedback and further dialogue, looking forward to continuing more analytic and empirical discussions in future research.

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