BEHAVIOR CHANGE HEALTH PROJECT DESIGN

- BEHAVIOURAL ECONOMICS AND SOCIAL MARKETING APPLICATION ON KOICA'S HEALTH PROJECT -

By

KIM, Kihyon

THESIS

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

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Approval as of December, 2017

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Overview

This thesis consists of three parts. First, it looks into a paradigm shift in economics, which tries to explain actual human behavior. This change related with adopting marketing techniques to public policy, which is called as social marketing. Second, it analyzes successful cases of behavior change in public policy, in health sector. Based on this case study, it found common factors and made it to project planning model, which is called 'INH,C ' model. Thirdly, based on this INH,C model, it analyzed KOICA's health projects. It found out meaningful results. Based on this analysis, there are several suggestions in planning behavior change projects. Research documents and case study were done to analyze.[1]

Traditional economics cannot explain well enough about human behavior. Based on this economic model, public policy has been designed. Recently, new economics paradigm, which is called behavioral economics has changed how public policy designed. This use demand-centered approach rather than supplier centered approach. Marketing techniques which were proven to be successful in market is rapidly adopted to public policy. This is called 'Social Marketing'.

In development projects, which is international public policy area, health sector is the most needy area for adopting strategies for behavior change. Analyzing successful cases, it needs three factors are commonly found. First, it needs proper form of information and delivery to make people to change attitude (Information category). Second, it needs environmental design to induce the first behavior change (Nudge category). Third, it needs activities to make desirable behaviors become habits(Habituation category). Additionally, in each activities, it needs collaboration with experts in each categories(Collaboration category). This is called as INH,C[2] model.

Analyzing KOICA's health projects, it is found out that Nudge and Habituation category activities are relatively lacking. To make health project successful, behavior change should be set as a goal. In planning, social marketing techniques should be adopted. Diverse activities for nudge and habituation can be applied from private marketing sector. KOICA should share knowledge and best cases regarding health behavior change to partners. It should lead collaboration between different disciplines and expertise.

l. Paradigm shift **to** demand-centered approach

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[1] The effectiveness of behavior change factors are not being dealt in this paper.
[2] Information, Nudge, Habituation and Collaboration

1. Comparison between public and private sector

What if we try to persuade beneficiaries of developing country as if we try to sell the product? What if we try to change their lifestyles as if our public service dies when we fail to change their behaviors? What is we are desperate about the continuation of the public service as same level as a private company? In business, consumers have power and suppliers distinguishes if they fail to persuade consumers. However, in the public sector, supplier decides what to deliver and recipients are considered to always satisfy with the providence. There has been a lack of analysis and strategies on beneficiaries.

In business, there has been a lot of discussion on the consumer's choice. From the bottom start, economics and business concerns both supply and demand. From this supply and demand frame, lots of strategy and techniques to draw consumer's choice have been made. However, there has been a lack of discussion on beneficiary's perception and behavior.

In fact, supply and demand framework works same in the public sector as well. Public market goods and services are failing to provide enough quantity. Public goods have only slightly different characteristics which are non-excludability and non-rivalry. So, public goods and service can be analyzed with the same framework.

In market, the company provides goods to get profit and consumers wants to buy goods to fulfill their needs. These two meet in the market and the price is decided. Consumers buy products and use it, and repeated use leads to continuous consumption and make loyal customers. In the public sector, government provides public goods to achieve socially desirable goal, and the consumers wants and adopt public goods if they agree on the needs. When these two meet, beneficiaries behave as the government wants. If this continues, desirable consumption of beneficiaries becomes common in the society and public goods are becoming a part of life.

[Table 1] Comparison between private and public sector

	Supply	Demand	Impact
private sector	company "profit creation"	consumer "fulfilling needs"	short-term : selling long-term : loyal customer

| Public sector | government "policy goal achievement" | beneficiary "socially desirable" | short-term : individual behavior change
long-term : social change |

Source : Author

There are moving power from suppliers to consumers in a market system. In early stages, a supplier dominates the market and demand is bigger than supply. Thus, companies provide the products are sold all produced products and get profit out of it. Consumers have few alternatives for their needs. Providers only focus on providing the product, not on consumers. However, the situation changes, as providence is becoming more than enough. Existence of the company and products hinges on consumers' choice. Now, companies are researching on consumer's needs and try to come up with strategies to attract consumers.

These strategies have been developed for a long time in business and these are considered as one of major business assets. This is called marketing communication. Marketing communication is a field that tries change consumers' perception and ultimately behaviors. If successful, consumers' lifestyles cling with the products and continuous consumption naturally follows. In this period, the company's profit surges as the sale of the product continues. This is why companies concerns about 'lifestyle'. After a while, not just providence, but detailed needs of consumers are important. This means the rise of consumer sovereignty.

However, in the public sector, there is still provider-centered approach. There are many reasons behind this, for example, government are free from beneficiaries personal choice. This means that government's income is not reliant on choice of beneficiaries. Government is run by tax, so don't need to worry about whether their services are purchased or not. It only concerns about effectiveness on the supply side. Even after beneficiaries don't use the provided service, government does not perish as companies do. This is why many public services are just provided and never used. In the private sector, companies developed marketing communication techniques, however, the government still do not realize the beneficiaries' reaction as important factors. Government do not analyze and studies on the demand side.

However, governments are becoming aware of the importance of demands from recipients. As many public policies and public goods are proved to be not only ineffective, but not being used, there are many questions being raised about the spending of tax income and also

whether the government is the appropriate entity to supply the solution. For example, there are several solutions provided by governments to make people stop smoking or to reduce obesity rates. Majority of solutions dealing with these issues has been proven failures. There are several successful cases, for the government, which realized the importance of the needs and tried to work with marketing specialists. Governments with clever strategy, are learning from the previous policy's outcome. They are not simply replicating or implementing public policy, because they need to spend all budgets. Rather, they are emphasizing on monitoring and evaluation of the policy and accumulate good results based on previous ones. It seems that governments are working similar to companies which are desperate on fulfilling consumers' needs.

Power is moving to recipients, or consumers in public policy as well. Without the recipients' proper use of public goods, governments' endeavor and spending on public policy is in vain. Just like the development of the market system, providers are being more conscious about the demand side. They are analyzing needs first, and try to provide the service. In public policy, more importance is given to demand side as well.

[Figure 1] Change from supply approach to demand approach
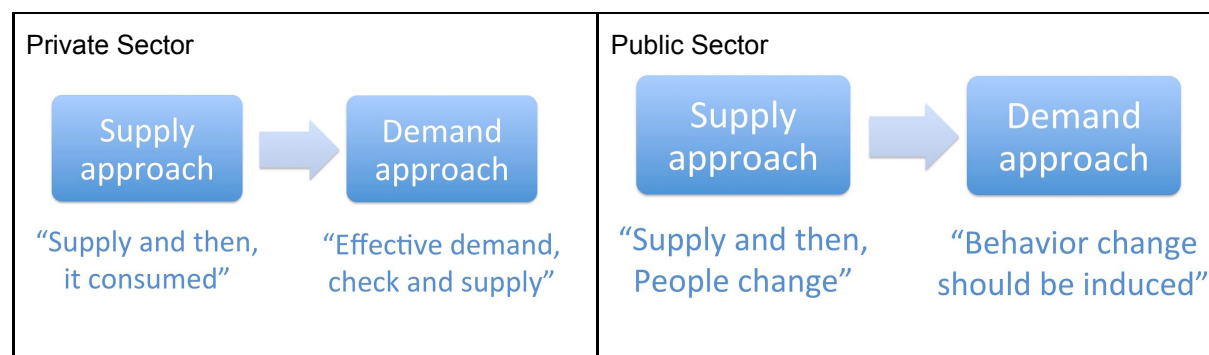
2. Demand-centered approach in development project

Among public policy, development projects had tendered to neglect on demand side more than any other. Usually, solutions were given by macro economists on the assumption that the supplier knows better and recipients need to receive and use whatever is given. Suppliers, not end-users, have decided what to supply. For example, "Big Push", by Jeffrey Sachs, represents a solution package provided by the supplier, not being questioned about recipient's reaction, because of suppliers know better than end-users, what they need.

On the opposite side, there are critics who emphasize the importance of context and analysis of end-users. William Easterly is one of those, who try to adopt local solutions, usually accessible and adaptable to local end-users. They also use marketing approaches. (William Easterly, 2011).

Also, there are experts who try to monitor and evaluate recipients' reaction and decide what to continue providing and what to stop providing. This works as the marketing and survey company works in private sector. Esther Duflo tries to test the effectiveness of development projects and only continue and scale up successful ones. (Esther Duflo, 2012). J-PAL, which is a research body inside MIT, also adapted RCT(Randomized Controlled Trial) to prove adoption of changed behavior of recipients for the effectiveness of overall project. RCT is a monitoring and evaluation method, parallel to markets' sales and market proportion. It is widely used in pharmaceutical industry. This is to confirm the effective projects, and scale up those proven methods, just as private entities check the sales volume of a certain market, and later exports to wider range of market, after proven to be sold well.

Not just in several cases, but in overall sphere of development, 'behavior change' is becoming well known idea among in mainstream. For example, a Nobel laureate, Amartya Kumar Sen emphasized individual's behavior change in leading to bigger social change(Amartya Sen, 1999). In UN's official documented SDGs, on of the goals is directly mentioning about social behavior change.[3] In addition to this, The World Bank launched the Global Insights Initiative (GINI) and released special report on behavior change[4] This Initiative researches on adapting behavior change into project design, monitoring and evaluation.[5]

3. Project design model for behavior change

According to the change of development project, moving its focus from macro level to more micro and individual model, there is a rising need for new project design model for the project. In this paper, a relevant model is suggested based on approaches used in market. To induce this model, there were research review and case studies on social marketing.

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[3] SDGs 6.2 "By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations"
[4] World Development Report 2015: Mind, Society, and Behavior
[5] http://www.worldbank.org/en/publication/wdr2015

Also, in theoretical realm, there was a deep paradigm shift review on behavior economics. There were numerous cases in development projects, which are designed and implemented in advanced donor countries and donor agencies. Among many sectors, health sector was the most suitable one with abound cases which directly dealing with individual's behavior level as a core element in the project. After reviewing cases, grouping and categorization of similar concepts were done. Finally, new project design model for health project was suggested.

II. Paradigm shift of economics and social marketing

1. Traditional economics

According to the traditional economics, human is perfect rational being and decide what to choose based on perfect calculation with perfect information. So, the viable policy needs only to provide perfect information, and naturally lead to desirable behavior of individual.

1) Rational Choice Model

In traditional Rational Choice Model, human is assumed as perfect rationla being, aHomo Economicus. Homo Economicus makes decision rationally, without bias and emotional urges. Human choose options based on correct calculation with exact benefit and cost analysis. This is for maximizing his/her utility. To maximize utility, human multiply expected utility and expected possibilities. Comparing these utilities, human decides what to choose. This is called
'Expected utility theory'. Based on this theory, policy makers try to influence those calculations to affect people's behavior. People will change their behavior, with different information about expected utility of a certain behavior or expected possibilities. For example, policy maker can change calculation with raised tax of cigarette or giving fine on environmentally harmful acts, or giving financial incentives for desirable behaviors. To reduce cigarette consumption, policy maker provide information on harmful effect on cigarette or giving tax on cigarette.

2) Persuasion Knowledge Model

According to the Rational Choice Model, human behaves in a desirable way, after getting information about expected utility. So, in this case, policy maker can change people's behavior in a rational way of explanation or education. This knowledge based persuasion will lead change in people's attitude, belief, decision and behavior. This does not look into details of every step of these processes. Once the government succeeds in 'persuasion attempt', project is successful in leading people's behavior change. (Shintaro Okazaki, 2015)

[Figure 2] Behavior Change model based on different economic theories

Traditional economics	Behavior economics
Persuasion Knowledge model	Elaboration likelihood model
Expected Utility theory	Heuristic-systematic theory
'Human is rational' Assumption	'Human is irrational' assumption
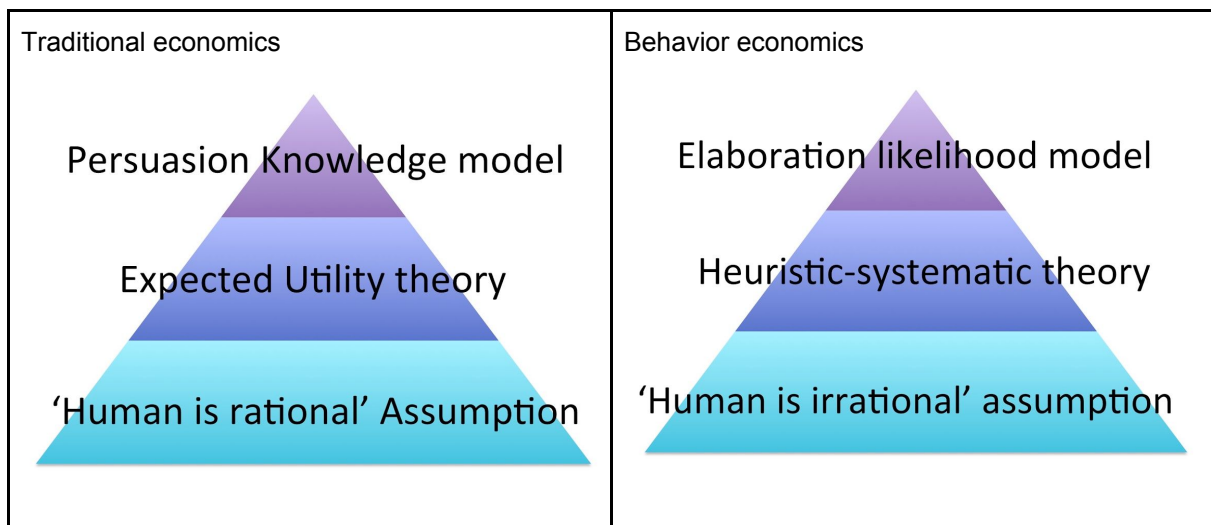
Source : Author

2. New paradigm : behavioral economics

1) Irrational decision

However, traditional economics lacks plausible explanation of actual human behavior[6]. In response to this, newly rized behavior economists came up with the idea of 'behavior economics'. Behavior economics does not agree with the assumption of 'Human beings are rational with perfect information'. It tries to explain human's irrational decision and behavior in a real life situation. Daniel Kahneman[7], a Nobel laureate, who was awarded for his research on economics, while he has been a professor in Psychology, asserted that "Human tends to decide irrationally and with bias, when he/she confronts uncertainty of the future, not with full rationality and clear thoughts". His theory is called 'Prospect Theory'. This explains human's tendency of being more sensitive on loss than gains, trying to replace traditional economics' 'Utility' concept with 'Prospect', which counts on people's anticipation on their future. In other words, human does not calculate gain and loss and multiply those with expectancy and come up with expected utility, he/she makes a choice based on its psychological tendency on loss aversion. Behavior economics brought psychology into economics. Behavior economists have been awarded as nobel economic winners in recent years and make phenomenal change in economics. [8]

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[6] http://www.apsc.gov.au/publications-and-media/archive/publications-archive/changing-behavior
[7] Nobel Economics Laureate, 2002
[8] 2001, George Akerlof / 2012, Lloyd Shapley / 2013, Robert Shiller

In reality, human behaves in a irrational and unpredicted way, in two steps. First, human cannot have perfect balanced and well calculated perception. He/she cannot have perfect information, and even so, cannot calculate without any emotion entangled, and cannot objectively compare future and present rewards and threats. Secondly, even after the perception process, he/she behaves not solely following its internal decision. He/she interacts with surrounding environments and sometimes simply replicate his/her habits. Human's behavior is different from his/her decision in minds. According to the research done by The World Bank, people tend to simply replicate their previous behaviors in accustomed and familiar circumstance without any serious attempts to change its behavior. Of course, in a unaccustomed and unfamiliar circumstances, human try to stop to think and try to change behaviors. Not only in this individual level, human prones to influenced by social group. People tend to follow belonged group's norm and culture. Sometimes, he/she even behaves in a way that is unfavorable and undesirable for them. All in all, human behaves irrationally, with individual level's variables, such as imperfect information, bounded rational capacity, emotion. Also, in a social level, human is affected by social pressure and culture. This means that people will do not follow steps and change their behaviors, with simple attempt for persuasion with rational education. (Jolls, Sunstein, & Thaler, 1998)

[Figure 3] Frequent behaviors are from past behavior
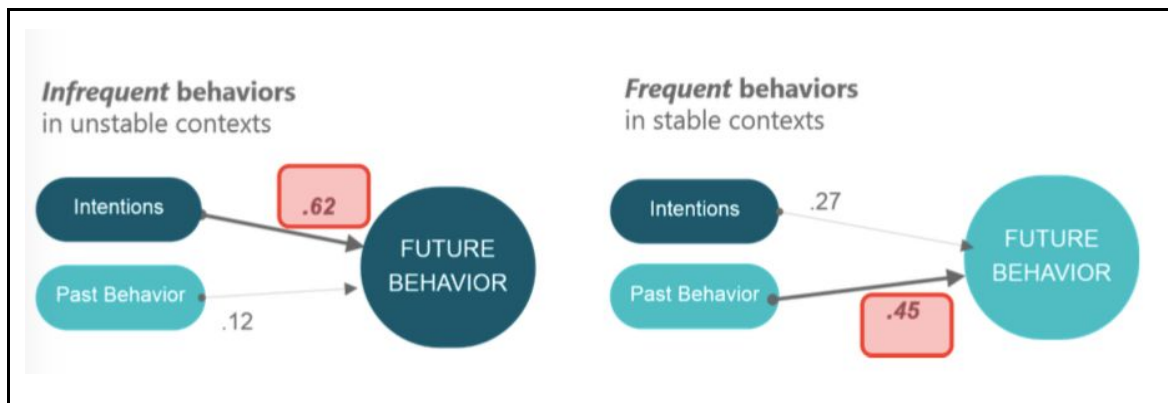
Source : World Bank Report

2) Heuristic-systematic model and elaboration likelihood model

In behavioral economics, human processing of information is divided into two different categories. These are 'System 1' and 'System 2'. System 1 is automatic system of information processing without any effort to make the best choice, System 2, whereas, works according to the level of human endeavor of making the best choice. Most of human decision are made in System 1. System 1 is a default mechanism, while human being faces

a situation in which they need to make choice and decide. Most of the time, human simply decide what to do, simply based on their previous decisions, This short cut, without any effort, makes people to decide quickly and efficiently with minimum level of rational calculation. This is so called intuition and habits. Human have a strong tendency of reduce his/her efforts. So they develop his/her own way of make a decision based on their previous experience. This is called 'heuristic'. This heuristics is somehow irrational,but effective(Shintaro Okazaki, 2015). This 'Heuristic-systematic model' is a opposite side theory of rational choice model.

However, in an unfamiliar situation or important occasions, human tend to consider with a certain period of time, not deciding quickly. He/she does not simply repeat previous behaviors and calculate expected benefits and costs.Fang Wan and Namita Bhatnagar, 2011). In situation, in which needs high level of attention and complex thought process, human operates 'System 2' which is a delicate mechanism with lots of time and concentration needed. This process is called 'central route processing'. However, previous examples with 'System 1' needs 'Peripheral route processing', which means human tend to choose peripheral situations rather than main compositions of the situations. (Chaiken 1980,1987) These tendency, human being choose different route of decision making process based on his/her perception of importance about the issue and situation, is called 'Elaboration likelihood model'. This literally means that situational perception leads different reaction on elaboration of human thinking process.

Based on this model, policy maker should approach different type of problem with different approaches. For example, when an individual consider some situation is serious and or certain issue is important, then, it is better to provide detailed information, because the one will think and calculate relevant information cautiously. On the contrary, if the one cannot find the problem or consider that issue as unimportant, public policy should more focus on getting people's attention, not with detailed information, but rather with some emotional appealing. For example, to make heavy smoker stop smoking, it is better to provide awakening message and images with horrifying background music. Similar to this, when people are not fully aware of the problem, the first step should be drawing attention, not giving too much information.

[Figure 4] Humans's system of decision

System 1
- Automatic system
- Brain: limbic system, peripheral route
- Fast, easy
- Unconsciousness
- Emotion, intuition

System 2
- Controlled system
- Brain: cerebrum, central route
- Slow, complex
- Calculation
- Logic, Analysis
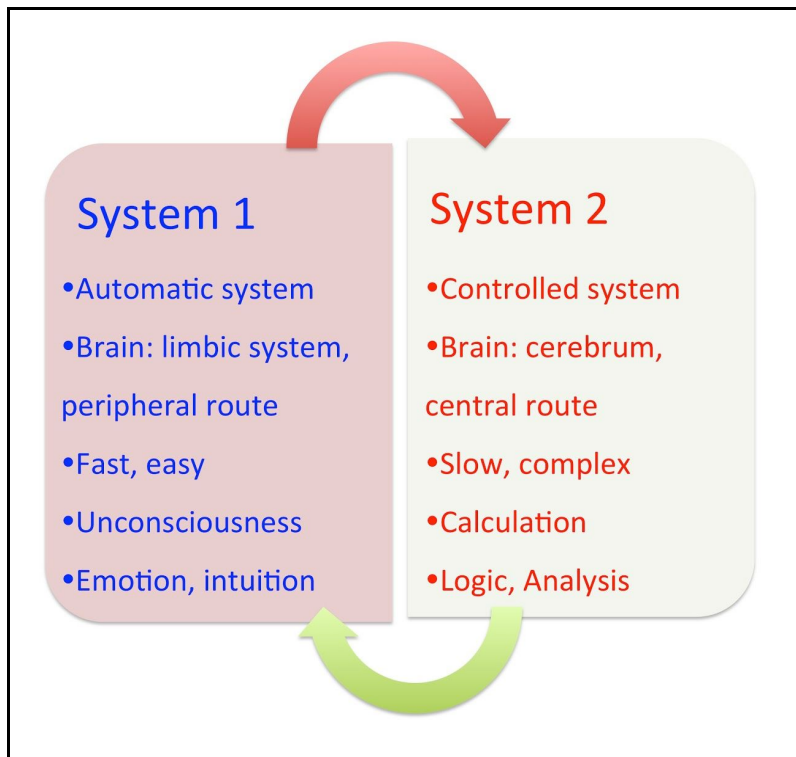
Source : Author

3) Social factors

Even after, individual level's perception and decision, outer factors are influencing the individual's behavior. Human's behavior is not solely decided internally by one, but continuous dialogue between the individual and its surroundings. 'Human is a social being', thus surrounding social groups, social norms and culture bear enormous importance. This is why we should not just look into the 'black box' of individual's decision making process, but rather understand social factor's influence on individual. Even after, one decided to do something, this cannot be assured, if his/her surrounding social groups are not allowing such acts. Human is easily influenced by belonging group, organizations, local communities, family back grounds, nationality, culture and identity.[9]

4) Environmental factors

Even after social factors, there are simply environmental hindrances which make the one to behave in a certain way. It means that decision made by the one cannot be directly assure one's behavior. There are many environmental factors while the one actually make the behavior done. For example, the one is not washing its hands, even though individual level

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[9] Social Ecological Model

and social level problem solved, because it simply forgot washing hands or the way of using toilet is too difficult and hard for him/her. Also, one cannot stop smoking, even though the one decided with full social support, because he/she cannot sustain healthy behavior for a long time, failing to make it desirable behavior.

[Table 2] Comparison between Traditional economics and Behavior economics

	Traditional economics	Behavior economics
Assumption	Human is rational	In most cases, human is irrational and emotional
Choice	Rational Choice Model	Heuristic-systematic model
Leading desirable choice	Persuasion Knowledge Model	Elaboration likelihood model
Social factors		Social Ecological Model
Other factors		Awareness does not necessarily lead to behavior

Source : Author

3. Social marketing based on behavioral economics

Behavioral economics try to explain human being's actual behavior. This approach radically change understanding of human behavior. Marketing is a skill or technique for changing behavior. Marketing, as a discipline in business academics, has developed numerous theories and practical manners to actually changing consumer's behavior, usually consumption. It has been working on private market areas, for increasing revenue and sales proportion of certain companies or products. This discipline is representative example of focusing on demand side, rather than supply side. Marketing is researching on drawing consumption behavior. One of the common tool of marketing is STP[10] and 4P strategy[11].

Marketing tools can be used in not just for private companies, but in public sector as well(Alan R. Andreasen, 1994.). Research on demand, Analysis on market situation, Branding, Communication and designs can be useful in increasing social value.[12] Many

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[10] STP : Segmentation, Targeting, Positioning
[11] 4P : Product, Price, Place, Promotion
[12] Because it adapts "marketing technologies to programs designed to influence the voluntary behavior of target audiences to improve their personal welfare and that of the society of which they are a part"

proven marketing techniques, which were widely known for famous brands or products, can be used in public policy as well. For example, STP can be used in policy design, for designating a direct recipient group of the policy and make delicate policy for them. 4P tool also can be used for ultimate deliverance of public policy for target group. Each element in 4P can be analyzed to figure out which one hinders deliverance of public service.

[Table 3] Application of Marketing 4P to public sector

	Private	Public
Product	Product, Service	Product, Service provided by public policy
Price	Financial	Financial and psychological cos
Place	Distribution Channel	Accessibility for public service
Promotion	Communication, Media	Communication, Media

Source : Author

These application of marketing tools in public sector is called 'Social Marketing'. According to Phillip Kotler, "marketing technologies to programs designed to influence the voluntary behavior of target audiences to improve their personal welfare and that of the society of which they are a part" (Phllip Kotler, 2007) Individual's behavior change and community's change is leading to change in lifestyle of developing countries, thus closely related with SDGs (Nancy R. Lee, Philip Kotler, 2015). Social marketing is being a helpful tool for policy makers in governments. Introducing useful tools which were proven to be working in people's life style changes make public policy more effective.

These days, private sector players are also being concerned about social issue and creating social values, so they are expanding their business more to public sector. This also contributes wider application of social marketing. Social marketing, all in all, is a marketing tool application in public sector by public or private sector in achieving socially valuable goals, such as SDGs.

[Figure 5] Social Marketing

Source : Author

1) Private company's social marketing

Private companies are participating in solving social problems more than ever. Companies
are implementing advertisements, campaigns or more sustainable way of CSR/CSV strategy
to deal with social issues. In advertisements, private companies are trying to not just deliver
social messages, but change people's behavior in an effective way. Those campaign based
advertisements have recently drawn attention in international awards, such as Cannes
International Festival of Creativity. [13] Following thes trend, advertising agencies around the
globe rapidly adopted concept of social marketing. For example, Cheil, the biggest
advertising agency in Korea, started donation campaign in Poland, which is called "Very
Good Manner". Also, collaborating with UNICEF, Cheil initiated campaign for refugees.[14] In
Korea, Cheil collaborated with UNHCR for refugee exhibition. For planning and
implementing those social marketing campaigns, Cheil formed specialized task force for
social marketing, which is called " 'Good Company Solution Center'. They suggested many
social campaigns to government and companies.

2) NGO's social marketing

Non-government organizations have eagerly hired marketing specialists from private sector.
Previously, their roles have been confined to public awareness, advertising or fundraising.
Marketing specialty have been applied to organization's external affairs, not projects in

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[13] In Festival of Creativity, Cannes Lions, lots of campaigns dealing with social issues have been
awarded.

[14] 1) 'Very Good Manner' campaign collaborated with Red Cross, Poland
2) Children freedom campaign collaborated with UNICEF, Germany
3) Small people campaign collaborated with UNHCR, Korea

fields. Knowledge and experience of marketing techniques have not been considered as a tool for projects. Marketing and communication skills were not considered as an valuable asset for application in various projects.

However, currently, from advanced organizations, those marketing techniques are being applied to project planning and designs. Marketing and communication insights are being used to change attitudes and behaviors of beneficiaries of projects. Because more NGOs are becoming aware of the importance of actual change of habits and lifestyles of local community, knowledge and experience of totally different sector are becoming the center of quality that NGOs are trying to hiring. A lot of innovative approaches, which are combined with marketing techniques, are getting attention in non-profit sector, as they are seemed as different and new way. For example, 'Safety Lab', a US-based NGO, designed a soap for handwashing. The soap contained a toy inside the transparent soap, so that when a child noticed that the toy is inside the soap, it can be taken out after washing hands many times, as a reward. NGOs are now think marketing based approach as an alternative to traditional project planning.

[Photo 1] Safety Lab's "hope soap"
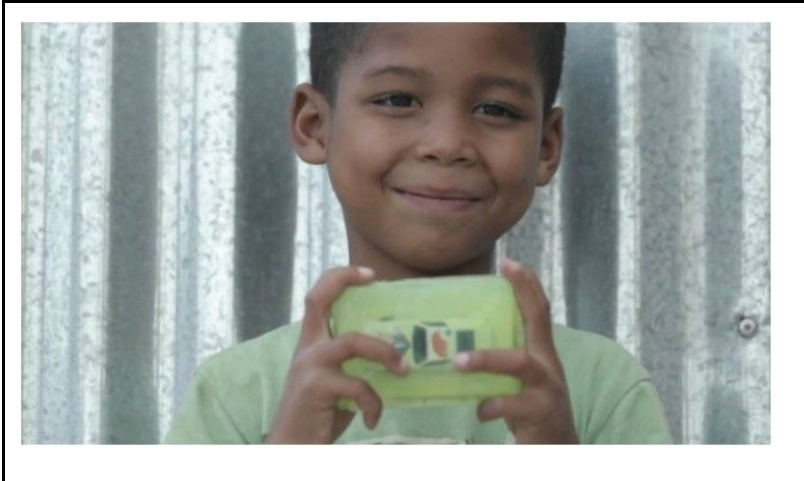
Source : Safety Lab

3) Public sector's social marketing

In the most advanced societies, social marketing is adopted and applied in public sector as an efficient tools for policy effectiveness. In the US, social marketing are merging with public policy. In marketing academics, marketing theories and techniques are being introduced in

broader public policy realms. The journal called "Marketing & Public Policy" is specifically dealing with this area.

In Britain, more actively, this marketing techniques are being used in public sector, in more official way than any other countries. In government body, there is a specialized group called " "behavior insights team"[15]. This team was set under David Cameron administration, which emphasized on 'Small government, Big society', introducing many creative approaches based on marketing, not from policy advisory scholar groups. For example, this team introduced new approach for reducing smoking rate. This team researches on policies with behavioral change insights, implement those new tools and evaluate the result. Also, the team develops a toolkit for policy makers for better performance in terms of actual behavioral change design in each public policy. These studies and outcomes are discussed in forum. In this forum, UN's SDGs are being discussed. [16] Steve Hilton, an influential figure in public design and political campaign had made and led this team.

In the US government, the Obama administration actively involved in adopting marketing tools. In the administration, there was special task force dealing with behavioral change insights. It has released its study and implication on policies. In health sector, there are relatively more involvement from marketing perspective. For example, CDC(Centers for Disease Control and Prevention) and NIH(National Institute of Health) has seperate workforce for social marketing.

In Australia, there has been several cased government is adopting social marketing in smoking rate reduction policy. It approached from different levels; individual, interpersonal, and community level. Previous policies, mainly about fines and tax issue, have been replaced by changing attitude and behaviors with social norm and peer pressures.[17]

In Canada, government has directed research on 'Tools of Change'[18], which is for public sector planners in health and environment, mainly. Following this guideline, policy makers are piloting social marketing approach and after evaluation, pilot projects are being applied nation-wide, if the effectiveness is proved.[19]

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[15] 'The nudge unit' is originally inside the cabinet organizations, but now it is run as a social company.
[16] www.sustainable-development.gov.uk/government/task-forces/behavior-change.htm
[17] Image of cigarette is linked with being fat, lack of self confidence, and lack of healthy body
[18] www.toolsofchange.com
[19] http://www.toolsofchange.com/en/programs/community-based-social-marketing/

[Table 4] Country's concentration on topics

Country	US	Britain	Australia	Canada
Concentration	Health sector	Under prime minister office	anti-smoking policy	Developed guided lines

Source : Author

4) Social marketing in development project

This trend of adopting social marketing in public sector is extended to international development project as well. In USA, USAID launched initiative counter affecting zika virus, including social marketing project. Johns Hopkins University's Bloomberg school of Public Health BCCC(Behavior Change Communication Center) proposed to US of social and individual behavior change project. The first project is called Health Communication Capacity Collaborative (HC3), five-year, $144 million, 31-country project. Following project is called Breakthrough-ACTION, a five-year award with a $300 million). These projects use state of the art marketing techniques, to adopt healthy behaviors. For example, mass media campaigns and mass media dramas. These are using behavioral science approaches to change behaviors. This is based on the assumption that such health problems are caused somehow by health behavior. Those kinds of projects were initiated also when Ebola outbreak. Also, USAID has long been engaged with behavioral change programs in hygiene behaviors, called WASH Plus. From this program, behavior change toolkits were developed as well.

5) Social marketing in Korea public policy

In Korea, there are rising number of mention of social marketing in academics. Especially, scholars are saying about the need for collaboration between marketing experts and public policy experts(이진용, 2010). In Korea government, there have been several cases which applies social marketing in public policy. Metropolitan Police Office of Busan used environment design, to prevent crimes in dark alleys. This kind of environment design approach is adopted from abroad, which is known for CPTED(Crime Prevention Through Environmental Design)[20]. This is because in clean environment, relatively low level of crimes and in dark and dirty area, there are more crimes. So, to reduce the crime rate, there have to be design renovation with more lights and brighter image of drawing on the wall.

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[20] Cheil, author : Kihyon Kim

Ⅲ. Behavior Change Health Project Design : INH,C

1. Application of Social marketing on health projects

In international development field, social marketing is being adopted in various projects, mainly in health sector. There are reasons that health is the most vibrant sector behavioral science and marketing is used for effective achievement of goal of the project. Health, in most cases, is the sector where behavior change of local residents are directly linked with the goal. Unlike other sector, behavior change of individual and community is having direct and fast impact on the results. Even in numeral projects, behavior change and lifestyle adjustment is the goal of the projects itself. The definition of healthy state bears the importance of behavior and lifestyle of recipients. "Health isn't something that can be handed to people; It is a state that they must produce themselves by interacting with a health care system…provides and recipients co-create health" [21](Nava Ashraf, 2013, 120-23) The goal of health project cannot be achieved from supplier's perspective. Health project is ongoing interaction between supply and demand side. The characteristic of health project which distinguish itself from others is the imminence of direct influence of behavior change of people on the project. Behavior change in hygiene is even mentioned in one of the goals of SDGs.[22]

The importance of behavior change in health is also reflected in analytical tools of project planning as well. According to the '3 Delays Framework', health problem is caused by 3 types of delays, which are 'Delay in receiving adequate health care', 'Delay in reaching care' and 'Delay in decision to seek care'[23] Among these, 'Delay in decision to seek care' is related to change of attitude and behavior. For achievement of goals, health project should successfully deal with those 3 delays and get rid of hind. Even after solving two of delays, if 'delays in decision to seek care' is not changed, recipients of health service will never use health services, then the goal of the health project cannot be achieved. For example, even though the toilette facilities are built, and road to the toilette is set, if the recipients of local society never use those, health project is obsolete.

[Figure 6] 3 Delay Model

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[21] "Health isn't something that can be handed to people; It is a state that they must produce themselves by interacting with a health care system…provides and recipients co-create health"
[22] SDGs 6.2
[23] https://www.maternityworldwide.org/what-we-do/three-delays-model/
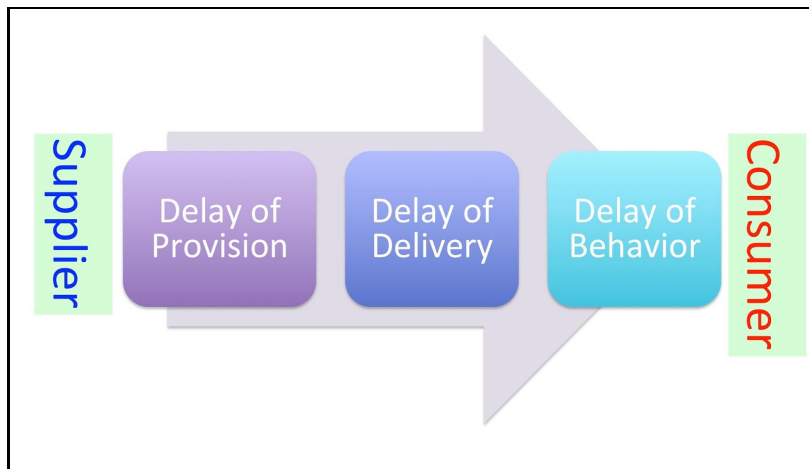
Source : Author

3 Delays in health projects is linked with '4P model'[24] in marketing. In other words, those 2 models are approaching the same issue using different term. '3 Delays Model' deals with obstacles from supplier to users in health sector. '4P model' in marketing deals with product and Delay of Delivery from supplier to users. For example, 'Delay in receiving adequate healthcare' is dealing with product and service development, which is 'Product' part of 4P. 'Delay in reaching care' is dealing with availability of product and service, which is the concept of 'Price' and 'Place' part of 4P. 'Delay in decision to seek care' is dealing with attitude and behavior change of users, which is 'Promotion' of 4P.

What this similarity and direct linkage between those 2 models means is that marketing techniques developed based on 4P categories can be applied in health projects, as described above about application of marketing in broader public policies in many countries. Marketing has long been discussed and developed techniques and skills to make certain product and service to be used widely, which leads to lifestyle and culture shifting. Marketing strategize and propose concrete action plans for desirable outcome. Those proven tools can be applied in health sector. For example, do solve the 'Delay in receiving adequate health care', adequate health product and service should be developed based on market research, as 'Product' part of 4P does. Research on local community would lead to relevant and applicable product and service development. To solve the 'Delay in reaching care', better environment for recipients should be provided. For example, financial hindrances and psychological hindrances should be overcome to make health solution a viable option for recipients. This is similar to 'Place' and 'Price' part of 4P, so pricing strategy and logistic solutions can be applied from marketing. To solve the 'Delay in decision to seek care', better

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[24] 4P deals with 4 parts of major marketing decision; Product, Price, Place and Promotion

strategy for changing attitude and behavior of recipients should be developed. In this, learning from cases of successful 'Promotion' in marketing, media, communication, design, and other diverse strategies can be applied in health projects.

[Table 5] Marketing 4P and 3 Delay Model

4P	Meaning	3 Delays	Meaning
Product	Product, Service	Delay of provision	Health service should be ready
Price	Financial	Delay of Delivery	Financial and psychological cost for health service
Place	Distribution Channel	Delay of Delivery	Remote from health service area
Promotion	Communication, Media	Delay of Behavior change	People feel needs and change

Source : Author

However, in health project, only the first two parts, which are Delay of provision and delivery are usually being the focus. It is Hardware-centered approach. It neglects the changing attitudes and behavior of recipients part, then it leads to less effective results. Even after setting up all facilities and providing health services, unless these are used by local community, it becomes obsolete and useless. For successful health projects, all those 3 delays should be dealt with at the same time, especially 'delay in decision to seek care' should be solved. More endeavors are needed to plan on attitude and behavior change.

In health projects, there are several cases which all those 3 delays have been dealt with properly, thus lead to successful results. Collaborative project of USAID and Unilever, a US private company, has dealt with attitude and behavior change. This partnership of two started from Global Health Council Conference, 2011, and selected as one of the project of USAID's Global Development Alliance. This project is called 'Help Child Reach 5'. This project is to reduce rate of diarrhea among children so that they can healthily live up to 5. For this, hand washing behavior is the key behavior. In this collaboration, USAID had aim for children's health and Unilever had aim for selling more of its soap product, Lifebuoy, in developing countries' market. In this development project, private company, Unilever's marketing techniques were widely adopted. To make children washing their hands, for preventing diarrhea, all 3 delays should adequately solved. Product and environment for hand washing should be provided, and product should be delivered and allocated in rural

areas as well with low cost, thus making hand washing behavior with soap available for local people. Lastly, it should lead children to change their habits to wash their hands.

Behavior change project to change attitude and behavior of children was named as 'Lifebuoy Handwashing behavior change project'. Using marketing tools and techniques, it made children to form a habit of handwashing. Lifebuoy's Social Mission Director, Myriam Sidibe, in an interview, said "To make children wash their hands in developing countries, it is tough task with consideration of life habits, culture, and resident environments and so on." [25] To effectively deal with this, Unilever worked with marketing agency, Ogilvy & Mather. They branded the soap as an important factor for hygiene and launched 'School of 5" campaign. In this campaign, Unilever and Ogilvy & Mather launched visiting events to local community schools, making characters with funny narrative for delivering educational contents, holding events for hand washing day, holding hand washing workshop for locals, and setting up health club in local community.

This behavior change campaign was successful. In 2013, it showed drastic success in India's most severe diarrhea congested region. Later, it applied in other region as well. Not only in India, but also on other Southeast asian countries, Africa, and South American countries, USAID and Unilever launched the same product and campaign. Along with this, USAID initiated hygienic behavior change project, 'WASH PLUS', and studied and applied meaningful research results on the ground.

2. Effects of behavior change

If behavior change project is successful, there are two positive effects out of it. The first effect is reduction in cost for the same result. To achieve the same level of health, behavior change project for stop smoking costs almost one tenth of drug project. The second effect is sustainability of results. Individual's behavior change leads to community's lifestyle change, thus making a healthy behavior a social norm. This effect sustains for long period time compared to supportive project from outside. Individual behavior change, community change, and cultural shift ultimately sustains health project's effects[26].

3. Obstacles of behavior change

[25] http://www.lifebuoy.com/

[26] http://www.apsc.gov.au/publications-and-media/archive/publications-archive/changing-behavior

Based on behavioral economics, behavior change is analyzed into two stages. The first attitude change, the second behavior change. In other words, what hinder people to act in a healthy way are undesirable attitude and undesirable behavior based on that attitude.

For attitude change, health related behaviors are usually habitual and unconscious. Those behaviors are related with System 1, which human rely on most of its decision, emotionally and unconsciously, without much cognitive efforts. In this system 1, people uphold a certain attitude based not on their rational thinking, but on emotion and culture. So, unhealthy behavior can be sustained, if people in developing countries consider a suggested healthy project as unpleasant and unfamiliar. In this situation, education and explanation, which are mainly rely on rationality and cognition fails.

The second stage is behavior change itself. Even after attitude change, it does not automatically lead to behavior change. Positive attitude toward healthy behavior can be met with high cost of behavior, unfamiliarity of behavior and difficulty of behavior. There are many factors hinders behavior change after an individual's decision.

[Table 6] Reasons of 'Delay in decision to seek care'[27]

• Abandoning pleasure (smoking, long showers)
• Different from usual (take public transport, hang clothes on the line instead of using a clothes drier)
• Embarrassed emotionally (have a colonoscopy, use a condom)
• Not conforming to group culture (advise a drunk friend not to drive)
• Confronting with uncomfortable truth (HIV test)
• Need to study new things (composting waste, adopting different farming methods)
• Lack of incentives to act for public interest

Source : Australian government

This obstacle can be analyzed with marketing approach. In marketing, there are strategies to change attitude and behavior of consumers. First, consumer's attitude change needs to convey positive attitude toward a product. Then, there needs to be belief on a certain behavior. And there needs to be decision from consumer. This sequential change(attitude-belief-decision) is the first stage of behavior change.

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[27] ibid.

Then, there needs to be behavior change. First, there should be initial try of unfamiliar behavior, and second the behavior needs to be repeated. In health project, these stages based on consumer behavior in marketing can be applied. Recipients' change in decision go through three stages, which are attitude, belief, and decision. For change in behavior, there needs to be two stages, which are trial and repeated behavior.

[Figure 7] Process of behavior change
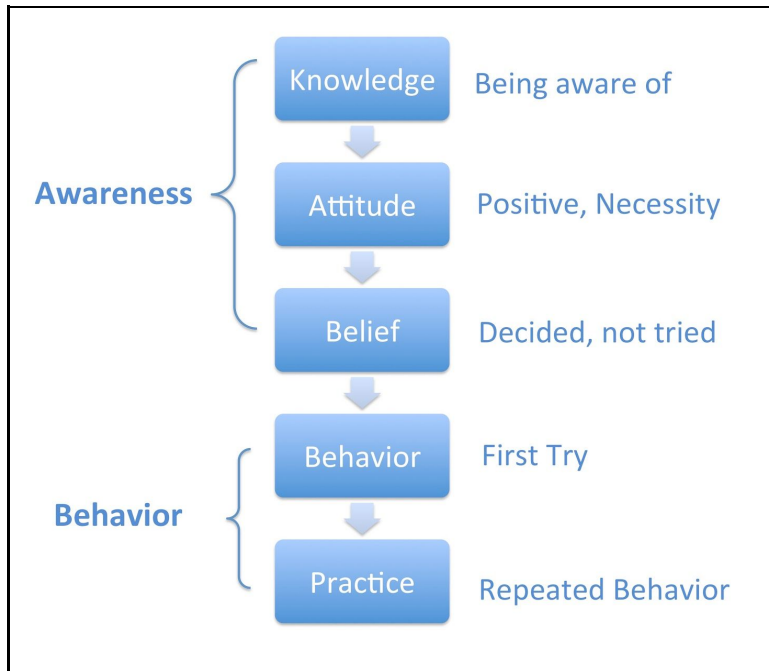
Source : Author

4. behavior Change Health Project Design : INH,C

For theses stages of changes in consumers or recipients, there needs to be four major categories needed from providers' side. First, information should be effectively and efficiently delivered for change in attitude. Second, for changes in behavior, there should be reduced costs for behavioral trial and environment formation for easiness of the trial of behavior. Third, there should be mechanisms for making trial into a desirable habits. Forth, in overall activities, there should be collaboration with experts in behavior change. To summarize, information category leads change in decision and environment design triggers first trial. Mechanisms for formation of habit will make recipients do the desirable behavior repeatedly and this will change lifestyle. In this process, collaboration with experts is essential. All those

four categories, which are 'Information', 'Nudge(environment design)', 'Habituation', and 'Collaboration' can be summed up as a project design model, 'INH,C model'[28].

First category, 'Information' means information provision about desirable behavior, education, and communication process.[29] In this process, recipients receives information and forms positive attitudes towards it. Then, after repeated information, recipients become to hold belief towards it. Finally, recipients decide to do a certain behavior. Second category, 'Nudge' is for making recipients to try a desirable behavior. For this, marketing techniques are needed. The third,'Habituation' means strengthening trial once into a healthy habit. For this, social influence is essential, so the target should be community and social norm. The last one, 'Collaboration' means utilizing expertise from marketing.

[Figure 8] INH,C model

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[28] Information, Nudge, Habituation, and Collaboration
[29] IEC : Information, Education and Communication
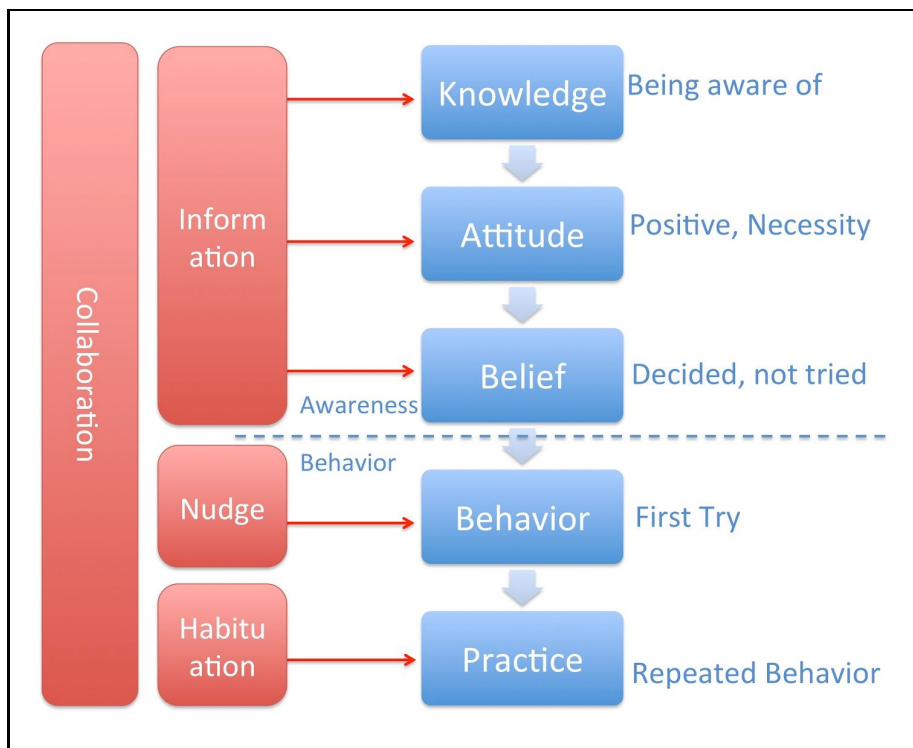
Source : Author

1) Information category

'Information' category means IEC, which are 'Information, Education, and Communication. In this category, there are three steps. First, getting attention of the target group is a prerequisite for change in attitude, since there are floods of information and most of them are easily neglected. Second, to reduce psychological and emotional reluctance, it is important to offer physical experience. This is also important for retention of the information, since people tend to forget information after a while without proper reinforcement. Third, the information should be repeated after provision and experience to make this put into long term memory.

[Figure 9] INH,C model : information category
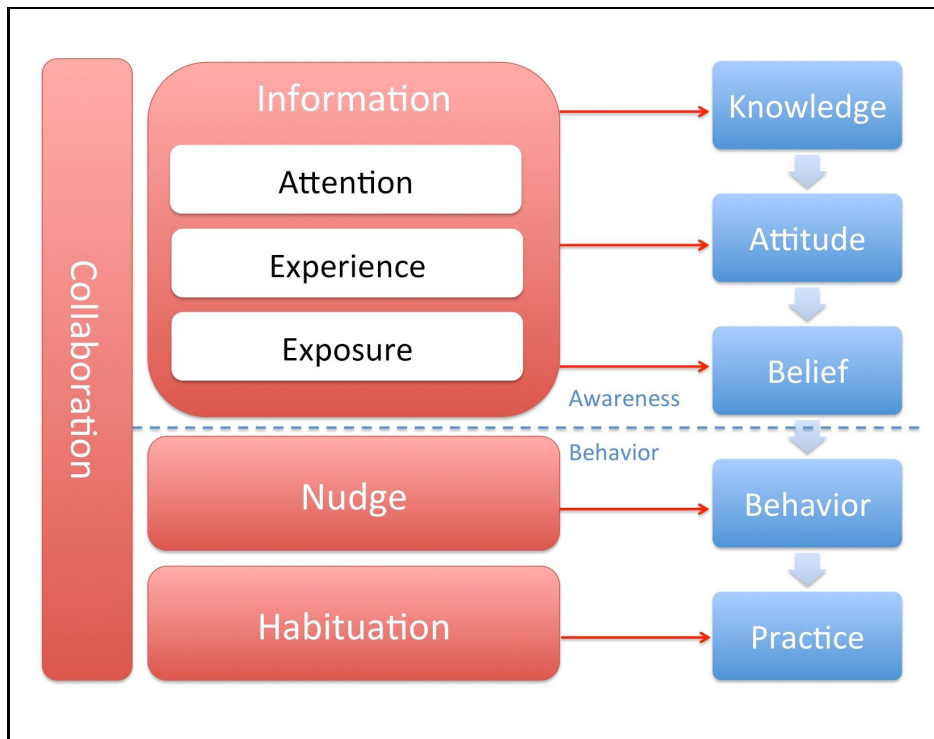
Source : Author

(1) Getting the attention

There are numbers of ways to provide information, such as mass media, lecture, advertisement and so on. However, effective information provision differs in different situations. People tend to show high level of attention of a certain form of information in a certain circumstances. For example, if the celebrities or well-known figure delivers a message, people tend to give attention to it. In Brazil, after then-president Rula getting a larynx cancer, Brazilians showed high rate of attention toward larynx cancer. Another example is that people show more attention on pictures and graphs rather than texts. The more effective ways of delivering message is music, videos and unique presentation of the information. Especially for people with low level of education, simplicity of the message is important. This means that not just experts in health, but experts in communication and marketing are needed. .

(2) Direct Experience

If the one gas direct experience of participation, the information stays in memory longer. For example, just giving an information to make people washing their hands is not enough. Germs in hands are not visible and unfamiliar, so information about the germ is easily

forgotten. There are no reinforcement after information, and then information about germs does not remains. However, if there are experience engaged, then people tend to remember the information with experience. If people discovers and see germs in hands by themselves, they remembers germs in hands.

In Bangladesh, showing germs in hands to people showed positive results. Germs in hands gives unforgettable experience to people and it information about handwashing becomes more memorable to them. Using a simple technique of applying fluorescent substance to people's hands, they could discover how their hands are covered with germs. This is effective deliverance of information. [30] Also, people experienced through simple activities such as just a touching or shaking hands can make one's hands dirty. This kind of experiments gives que to people to react, and through how they reacted emotionally, people remembers the information easily. This is a 'Que-response learning'. This becomes basis for change in behavior.

[Photo 2] Example of 'Direct Experience', Glo Germ

1. Apply Glo Germ Oil or Gel to hands per instructions.

2. Hold hands under UV lamp to show "glowing germs".

3. Wash hands with soap and water as usual.

4. Check hands under UV lamp to show areas not washed properly. Pay close attention to knuckles and cuticles.
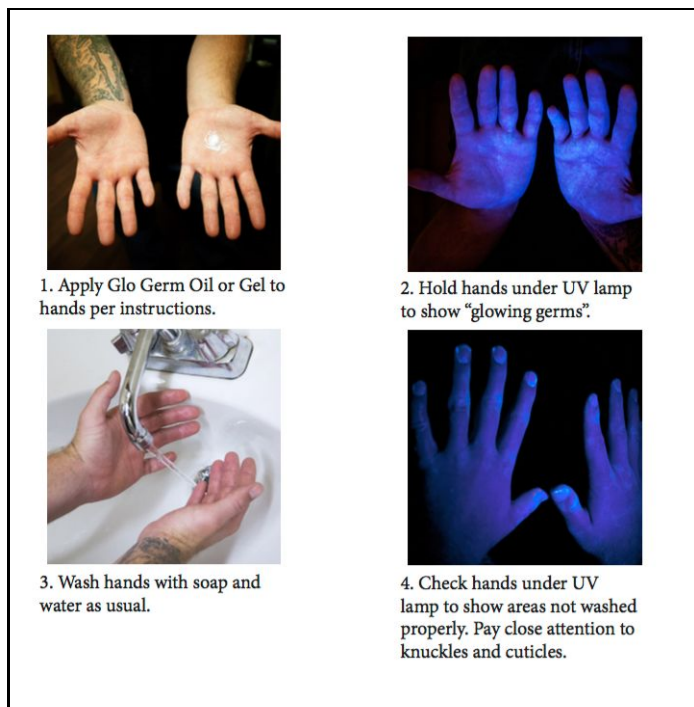
Source : glo germ

(3) Repeated exposure

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[30] Glo Germ (www.glogerm.com)

To change the decision, there should be repeated exposure after providing information once. In this step, using appropriate media is important. Traditional mass media including radio, television and newspapers is useful for repeated exposure. Not just traditional media, new types of media can be developed as well. For example, in developing countries, the most frequently used vehicle, rickshaws can carry messages and spread it effectively. To effectively implement media strategy, it is important to starting with media contexts analysis of the country. Also, new media based on newly emerged technology such as mobile phone message can be useful media as well. Many people in developing country have mobile phone. Individualized message about health can be useful service for delivering information. There are numeral researches about mobile message about health information. According to a certain research, frequency of delivering message should be delicately managed, since too frequent message can hinder attention to information. According to the World Bank, weekly mobile message is more effective that daily mobile message. People tend to consider too frequent mobile messaging as irrelevant and irritating.

2) Nudge : behavior Change category

Even after change in attitude and decision, it does not necessarily lead to change in behavior. There are other hindrances for first try of certain behavior. There are lots of people who decide to stop smoking, but in many cases, there are many failure until reaching to stop smoking. In marketing, there are many tactics for inducing the first viable behavior of consumers. For example, companies are giving out free samples to future customers. In other cases, companies include new products to previous packages so that customers have a try. These techniques are endeavors to induce the first behavior and to lower walls which hinders customers to adopt the behavior.

Public policy makers are adopting these techniques which focus on making one's trial easier. In social marketing, this is called 'Nudge'. 'Nudge' means making people to behave in a certain way unconsciously, rather than persuading or forcing. This is different from previous attempts in public policy in terms of making people to make a desirable choice, through environment formation, rather than forcing.

Best selling book 'Nudge' (Richard H. Thaler and Cass R. Sunstein, in 2009) made a boom in the world recently.[31] 'Nudge' means a trivial change in default design leading desirable

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[31] Cass R. Sustein served as administrator of the White House Office of Information and Regulatory Affairs

outcome. This is called designing 'Choice Architecture'. 'Choice Architecture' always emphasizes on consumers' austerity to make their own choices. Consumers still have freedom to make a good choice or bad choices. It does not harm consumers' freewill.[32] In 'Nudge' category, there are three possible steps included, which are 'default design', 'experience design', and 'gamification'. 'default design' means planning the first environment consumers meet to induce the first trial easier. 'Experience design' means planning based on consumer's experience following footsteps of consumers. 'Gamification' means making the first trial a pleasant experience, so that more people can be engaged.

[Figure 10] INH,C model : Nudge category
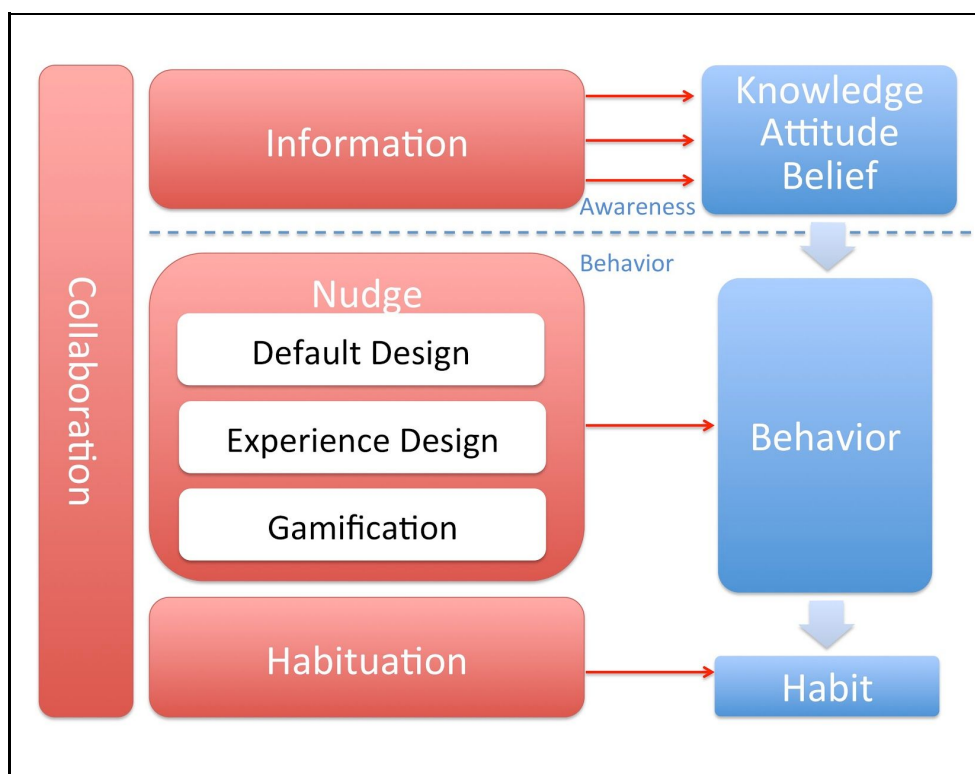
Source : Author

(1) Default design

Default design means designing default choice given to customers to induce them to behave in a certain way. In purchasing situation, consumers usually accept the default option without taking much time and cognitive effort to compare with other options. In this sense, through default design people can be induced to behave in a desirable way. It needs time and effort to behave in a 'opt-out option'. This kind of designing default option is called 'smart default'.

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[32] This is called Paternalism

For example, just setting patients' organ donation a default option raises actual donation rate. Desirable health behaviors also can be induced. For example, in Disney World, located in the US, default option for children dish offers healthy ingredients. It needs other order or adjustment to choose unhealthy food. This leads children to choose healthy ingredients by giving them default option as a desirable behavior. This is linked with human's System 1, which is mentioned above in behavioral economics part.

(2) Experience design

It needs to consider and design whole process of consumer's experience, not from provider's perspective. Through reviewing recipients' whole experience of purchasing and using th e product or service, many obstacles or negative emotional factors can be found. This kind of approach is usually used in design firms. These days, designer's perspective and approaches are emphasized. This views customers as not just 'buyer', who buy their products once in a short term, but as a 'user', who in a long run make relations and make the product as a part of their life style. In this sense, user's experience (User experience) is the most important thing.

In private sector's companies are also putting more emphasis on 'user experience' more and more, rather than 'selling'. Leading company in 'User experience' is California based design consulting firm, IDEO. IDEO shows high rate of success with design based on user's perspective, not just from consumer perspective. This leads to innovative design, which are different from traditional design of a certain product or service. This is innovation starting from zero to reconsider a product design from an experience centered approach.

For example, IDEO consulted GE(General Electrics) medical device. GE's MRI machine is the market's number one selling product. However, this does not offer best experience to children patients. IDEO discovered unpleasant experience of children patients and turn that to pleasant experience. Through approaching from children's perspective, IDEO discovered that entering into dark and huge hole of MRI machine gives frightening impression on children. IDEO redesigned that experience of entering into unfamiliar vast machine into a storytelling experience of entering into a pirate's ship. IDEO designed children's experience as a journey of the sea and according to that story, MRI machine was renovated. This became huge success for GE, because children enjoyed the experience of entering into MRI machine.

This is because IDEO approach from scratch with experts from different areas, such as psychologist, designers, marketers, programmers and doctors. This way of consulting gave a huge success to IDEO, and this became one of teaching in Stanford business school. Finally, IDEO's way of human experience centered design became a seperate school in Stanford university. It is called 'D.school', attending by lots of students from different disciplines.

IDEO even found the seperate branch for development project, called 'IDEO.org'. From 2011, IDEO.org cooperates with USAID, and DFID(UK governmental agency for development). to solve problems in developing countries. IDEO's human centered design approaches became useful tool for development projects to solve the problem based on recipients' experience.

[Photo 3] Example of 'Experience design', IDEO's MRI for children

Source : IDEO

In health project, experience design deals with whole procedure recipients experience. It removes obstacles on the way to desirable behavior. It also can add up several gimmicks for making easier to behave in a certain way.

For example, a NGO, Save the Children in Bangladesh, analyzed children's behavior while they use the toilet which were set by the NGO in health project. The overall goal was to make children wash their hands after using the toilet. Initial approach was to give information and lecture on the importance of washing hands to prevent diseases. However, this does not lead to children's actual usage of washing facilities. Even after the completion of the hardware for hand washing, it was not enough to make the facilities useful. This was not due

to the lack of education or information. It was simply because children feels unfamiliar to use the washing facilities and even in most cases, they simply forget.

To solve this simple problem from children's perspective, Save the Children designed from recipients' perspective. For children, it will make much easier for them with simple signs after they using the toilet they can easily find and follow. Right after they come out of the toilet, a sign of footsteps can give simple sign for them to follow. After they reach handwashing facility, simple sign of hands on the water tank can give sign of touching it. For children, it will be much easier to follow the footstep signs and use the water tank with hands sign on it. It drops possibility of forgetting for children. Through this simple experience design, the project could get much meaningful results. Even with minimum amount of money invested compared to education, this design achieved the same level of result with half of its financial resources. [33]

[Photo 4] Example of 'Experience design', Hand washing project in Bangladesh

Source: Save the Children, Hand washing project Bangladesh

(3) Gamification

Another factor is to add factors of game. To add rewards to a certain behavior or add competitive character among players are called 'Gamification'. This makes people, even adults get excited and being more engaged. Gamification make a must-do behavior a fun try. This is also from marketing practices.

Recently, there are numerous steps in public places which seem like a piano. The steps actually work and sound like piano. To make people use steps for their health instead of using elevators, it is hard to make them walk on the steps. However, with gimmicks of making steps as big piano, this little idea can give fun factor for pedestrians. While they

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[33] It achieved the same result with less than half investment($ 164), while education costs $ 384

walking on the steps they can hear the melody they are making. This is a kind of amusement park thing, which even pleases adults to play. This kind of giving fun to desirable behavior became serial campaigns of private companies. A car company, Volkswagen started campaign called 'Fun theory'. It collaborated with marketing agency dealing with many social issues. Approaching social issues with fun factor and making the procedure a game, this campaign made a huge success in many advertisement awards, including 'Cannes International festival of creativity'.[34]

In development project case, gamification factors added to make children washing their hands after children using the toilet. This game is called 'poo-tag game'. This signifies a procedure children going through after they use the toilet. A volunteer with 'filth' tags touches children, and the children have a 'filth' tag as well. Then children need 'soap' tags to detach 'filth' tags, which signifies the hand washing procedure. Through this game, children learns hand washing with fun.[35] Gamification use fun factor, competitive factor, badge, ranking, and rewards to enhance desirable behavior. Pocket-Mon, a worldwide-known game can be used as a tool for making adults exercise, and it is actually experimented and implemented in several advanced countries.

3) Habituation : Sustainability category

It is important to make a once tried behavior more sustainable. This means a desirable behavior turns into a habit. In marketing, it is a process which turns one time trial of the product into a consequential purchase and usage, ultimately combining it into a life style. This is also about making fan of a certain brand, which a consumer attaches emotionally. If continuous consumption and use of the product happens, it ultimately becomes habit. There are people gathered using the product, and they form a brand community. This becomes phenomenon when it becomes big enough. Among successful brands, it is no wonder that they have strong brand fan group, who use the product as a part of their life style.

To make a certain behavior a habit, it should be repeated first. First tried behavior supported by environment or game should be retained several times. After then, the behavior should be supported socially. As discussed in behavioral economics, individuals are influenced by social group. Community centered approach, supported by community health workers from locals is the same approach which focus on local context and community culture.

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[34] Funtheory.com
[35] SuperAmma Project

Community health workers from locals repeatedly visit and monitor recipients. After a long haul of time, community level changes happen and cultural shift happens. Ultimately, there is social norm change. This change in social norm affects behavior of individuals reversely. Individuals are influenced by the social norm.

[Figure 11] INH,C model : Habituation category
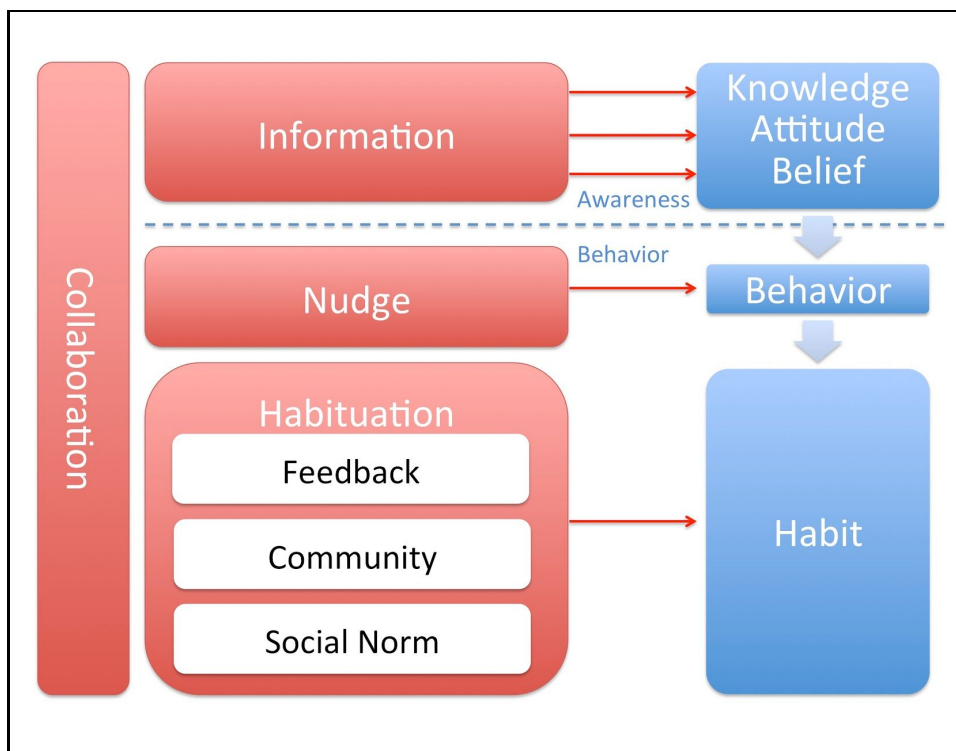
Source : Author

(1) Repeated behavior

To make a behavior a habit, desirable behavior should be repeated. For repetition, monitoring and giving positive feedback for reinforcement is important. If the desirable behavior is kept, positive feedback including rewards should be given. Negative behaviors should be detected and then should be responded with negative feedbacks. For example, GIZ, a German development agency implemented a health project called "The Fit for School program" in Philipines. In this project, development agency keeps monitoring whether the children who taught and led to brush their teeth daily keeping that habit or not. For a certain period of time, a teacher monitors children's behavior change and reinforce children's changed behavior. This monitoring and feedback make changed-behavior more sustainable. Childrens under teacher's continuous monitoring and feedback showed better BMI(Body Mass Index) results.

For effective and sustainable results, monitoring and feedback should be kept, but not necessarily for endless resources input and efforts. Not just because of the limit of cost and effort, but also from the research result that after a certain period of time, the behavior sustains without intrigue from outside. In previous example of Save the Children's hand washing project in Bangladesh, only after 2 weeks after reinforcement, the change behavior sustained as a habit.

[Figure 12] Effectiveness of Nudge
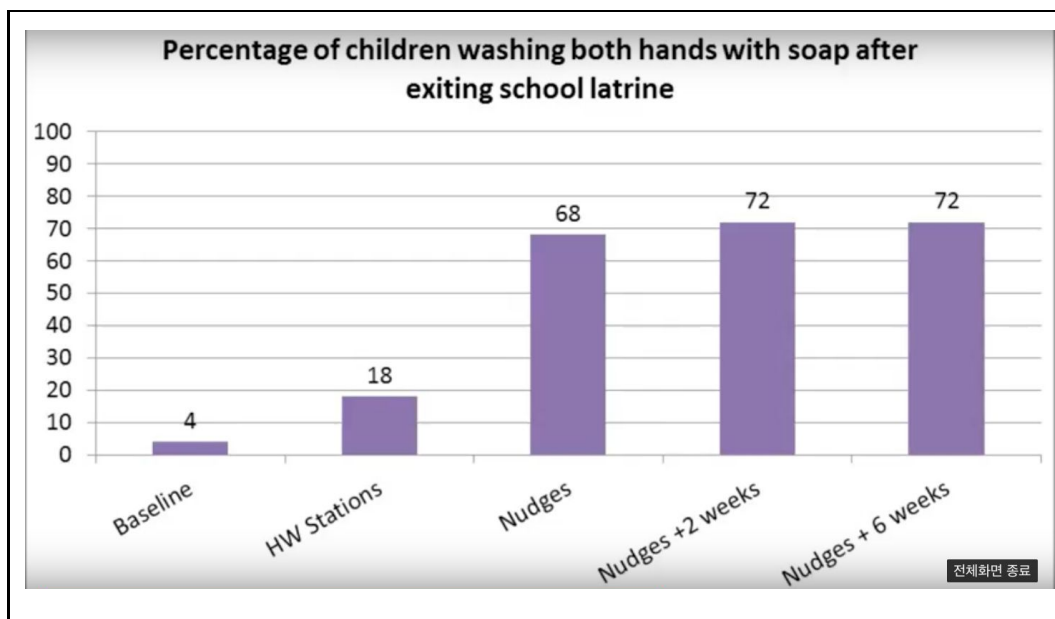
Source: Save the children, Hand washing project, Bangladesh

(2) Community driven

Individual's behavior change cannot be sustained without support from community. If the changed behavior is isolated inside the community, or the behavior is not spread across the families and friends, one will stop doing the desirable behavior. For example, USAID's health project collaborated with Health Alliance International, mobile phone messaging was used to make pregnant women visit community facility built by the project. This used techniques to send individualized message to pregnant women, expecting high rate of visiting from them. This seemed successful since pregnant women's visiting increased after the mobile individualized messaging. However, this success did not sustain, because of the rejection from their family, mainly from their husbands and mother-in-law. This means that the project should be focusing on community, not just individuals for sustaining effects.

To make a desirable behavior a habit, community level change is important. In this sense, community level approach is needed in project design step as well.[36] If the community participate in project implementation and monitoring, the result is getting better. 'The SuperAmma Campaign' in India designated 'super mom' from target community. These people from community played key role in the project. They were respected as women leader in the community, so the impact of the project broadened. They did key role in making people participated.

(3) Social norm

Ultimately, desirable behavior should be settled in society as a social norm. Social norm changes slowly, having huge impact on individuals.[37] If a certain behavior is becoming a social norm in society, it strengthens people's behavior. Because, human tend to conform their behavior suitable to social norm, expecting to be accepted in society, social norm leads people to behave in a certain way repeatedly. Even people who did not participated in desirable behavior follow social norm. Because human is social being, they tend to show high rate of adjusting to a cultural norm. For example, once the donation becomes a social norm among a certain group, by celebrities' frequent donation supported by many people, then the fans of the celebrities tend to show high rate of donation. Donation becomes a

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[36] https://www.c-changeprogram.org/sites/default/files/C-Change-DRC-Final-Report_0.pdf
[37] ibid.

social norm in fans and people who did not participate in donation feel peer pressure and succumb to a group culture. In health project, this social norm works in the same way. If hand washing becomes a social norm, then children who does not wash hands become isolated. Children who have been shown hand washing children being chanted and children who are not washing their hands rejected started washing hands. After 12 months, these children showed 30% increase of hand washing.

4) Collaboration : expertise category

To design every category and including activities above effectively, working with experts is necessary. Successful cases above are based on collaboration with experts as well. In planning information category, public policy maker can collaborate with campaign, advertising and communication experts. Secondly, when planning nudge category, which means environmental design, public policy makers can cooperate with behavior economist, designers, and gamification experts. When one plan habituation category activities, it should cooperate with local residents and community. In the US, these experts are closely linked sharing information and lessons on each projects. They are called C4D(Communication for Development) experts. In Korea, experts from diverse background can be joined by invitation from public policy planner.

5) Overall INH,C model

From these each category with three main activities, development project planning model, 'INH,C' can be suggested. This 'INH,C' model can be used in planning and analysis of health project which aims to change life style of recipients, ultimately. For example, in planning steps, public policy maker can analyze based on this model that which category and which activities are not adequately dealt with. If there are lack in specific category, one can design and add up activities which are necessary. Information, Nudge, and Habituation category can give insights to policy planner when they newly adopts new projects in developing countries. To summarize this, 'INH,C model' is pictured from above with information, nudge, and habituation and then collaboration categories are crossing all categories. With this model, health projects in KOICA are analyzed to check whether behavior change is supported with adequate design of each activities.

[Table 7] INH,C model and examples

Category	Activity	Examples	Collaboration
Information	Getting the attention		Through all category
	Direct Experience	Glo Germ, USAID WASH plus	
	Repeated exposure	individualized mobile message	
Nudge	Default design	Disney World restaurant	
	Experience design	Handwashing Nudges	
	Gamification	a "poo-tag" game	
Habituation	Monitoring and Feedback	The Fit for School program	
	Community driven	The SuperAmma Campaign	
	Social norm	The SuperAmma Campaign	

Source : Author

Ⅳ. KOICA health project analysis : INH,C model

1. Overall KOICA health projects

KOICA's health projects can be divided into two different types. The first type is KOICA-initiated projects requested by recipient country. This health projects is planned by KOICA staff and implemented by project management company(PMC). The second type of projects is partner entity initiated project, which means NGOs or private companies suggested projects. This is not from request by developing country, but planned and implemented by suggested entity. In other words, the first type of project is planned and designed by KOICA staff, and the second type of project is planned and designed by private partners. In both cases, KOICA staff does a certain role in planning the projects, however whether they take the leading role or not is different.

The first type project, KOICA staff does a major role in planning, but in the second, it only does collaborative role. In the first type of project, KOICA staff decides what kind of category should be included and what activities must be done. KOICA staff contact experts and consult with them about the solution. In the second type project, KOICA staff consult with already designed project proposal, however still have a room to negotiate. If there are lack of certain category, KOICA staff can discuss that issue and supplement that.

There are several health projects that can be analyzed based on INH,C model, aiming behavior change of local people. For this, basic research was done to select the appropriate projects. 8 projects were selected including 3 projects from KOICA initiated projects and 5 projects from partner initiated projects. Among KOICA planned projects were Nepal, East Timor, and Ethiopia. Among partner planned projects were Tanzania, Rwanda, Bangladesh, Kenya and Malawi projects.

[Table 8] KOICA Health project related with behavior change

KOICA-planned projects
1) Improving Maternal and Child Health Care Project In Mugu (2013-2018) 2) Improving Maternal Health in Ainaro District, East Timor (2015-2018) 3) The National Campaign for Promoting Knowledge, Attitude and Behavioral Change in Population and Reproductive Health in Ethiopia (2013-2016)
Partner-planned projects

Source : Author

2. KOICA-planned projects

1) Improving Maternal and Child Health Care Project In Mugu

This project's goal is to improve environment for mother-children health management. For this, all three Delays from '3 delay model' were adequately dealt with. To solve the 'Delay in receiving adequate health care', infrastructure and facilities should be built. Medical devices and medical personnel should be provided to supply resources. There are constructions, provision of resources and capacity buildings for local medical personnels to solve this delay.

Second, to solve 'Delay in reaching care', on-site Delay of provision, visitation by staffs and house visit by medicals in local areas. To solve the last 'Delay in decision to seek care', project implements campaigns, education and activities with local residents to change their attitude and practices.

[Table 9] Marketing 4P and 3 Delay Model ; Improving Maternal and Child Health Care Project In Mugu

4P	3 Delays	Activity
Product	Delay of provision	Infrastructure, Capacity Building, Equipments, Resources (75% of budget)
Price	Delay of Delivery	
Place	Delay of Delivery	Outreach Clinic
Promotion	Delay of Behavior change	Education, Campaign, Community group support (3% of budget)

Source : Author

Among these, to solve the 'Delay in decision to seek care', there are following activities planned.

(1) Information category

In information category, there are activities for 'Getting the attention'. 'Direct experience', and 'Repeated exposure'. For 'Getting the attention', innovative forms of contents were created. Calendars, posters, and booklets were created with mother-children health information. The way of deliver contents was not random distribution, since there is high rate of loss after random distribution, which make high cost. Rather the project chose to allocate those contents on highly visible areas, so that people can easily notice those contents on daily basis. More advanced forms of contents were created as well, such as songs, radio programs and video contents. With these contents, project staffs visit local community and deliver the message with these contents. In information category, not theoretical, but practical informations are given to recipients so that people can apply those behaviors directly. There are also campaigns to raise awareness and make people to be interested in engaging behavior change.

For 'Direct experience' activities, there are many events held for residents to participate and make memorable memories about health message. For reaching out to as many people as possible, it is better to use already existing forms of events, rather than making a new one. In events, health related activities such as play, songs, dances, drawing posters and writing competitions on health are held. Through this kind of events, people have opportunity to experience being part of health related activities by themselves.

For 'Repeated exposure' activities, media analysis should be done before.[38] Since the target region's media background is radio-effective areas, making series of radio programs is effective to deliver health information repeatedly. Collaborating with local radio station, the project produced 40 series of radio programs, which are approximately 20 minutes long. In this broadcast, health informations are delivered in forms of interesting stories for local people.

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[38] 'Media Analysis' means Analyzing on local resident's tendency and usage of media for getting information

(2) Nudge : behavior Change category

Nudge is related with designing environment surrounding recipients. Redesigning health facilities for making residents to participate in health project easily. In re-design process, local residents participated. This kind of participation not only improves the design, but also make residents to feel ownership about the facilities. It is also better that residents bear a part of cost of construction for ownership as well.

(3) Habituation : Sustainability category

To make the behavior change sustainable, local staffs are recruited and they are doing the crucial role. First, local staffs visit families in remote areas to monitor whether they are doing what they have learned and provided. They visit pregnant women, housewives with babies, and poor families. They give continuous education and incentives for local people to behave in a desirable way. Not only this, they discover 'Positive Deviant', who is a prototype of healthy local people, using local culture and adjusting healthy behavior with their own lifestyle. This 'Positive Deviant' plays crucial role in making local people participate in healthy behavior, because their localized way of behavior is a good example for them to follow. [39] 'Positive Deviant' does not look over difference from local context.

For community driven program for lasting impact, the project is actively engaging with local housewives community and existing community groups. The project formed housewives health support group for leading the project. Community relations staffs closely worked with those local people and regularly participated in housewives health support group. Community relations staffs educated those housewives with health issues. Also, they participated in local community meetings and got monitoring reports from housewives. Staffs hold health events with community. In facility reconstructuring process, such as paving roads to community health center, local community members were invited to participate in.

For making healthy behavior a social norm, the project used community leaders' voice. Community leaders, housewives group, religious leaders and teachers were invited to actively participate in project activities. The most important part they were taking role was to reduce gender inequality. Reducing excessive level of labor upon housewives is critical for

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[39] 'Positive Deviance' means healthy person in local community's traits of lifestyle including food consumption and exercise among unhealthy people.

improvement of mother and baby. All activities were aiming awareness raising and changing social norm regarding women's rights.

(4) Collaboration : expertise category

Collaboration with experts from planning steps were adequately fulfilled in this project. In this project, 7 staffs were recruited and hired as a promotion staff. Relatively large number of this promotion staffs shows that experts who designed this projects were well aware of the importance of participation of local community. These 7 members includes 1 Community Promotion Manager, 1 Senior Promotion Staff, and 5 Promotion staffs.

[Table 10] INH,C model ; Improving Maternal and Child Health Care Project In Mugu

Category	Activity	Examples	Collaboration
Information	Getting the attention	Education, Campaign, Contents, Songs	community facilitator
	Direct Experience	Event	
	Repeated exposure	Radio program	
Nudge	Default design		
	Experience design	Health facility design	
	Gamification		
Habituation	Monitoring and Feedback	Local promotion staff	
	Community driven	Community group	
	Social norm	Community authority	

Source : Author

2) Improving Maternal Health in Ainaro District, East Timor

The goal of this project was to make baby mothers to come to delivery room, instead of staying at their house and give birth. Giving birth at home in developing country is one of the major reason of high death rate of baby and mother. '3 Delay model' deals this problem with social marketing. First, to solve 'Delay in receiving adequate health care', delivery rooms were built. Also utilities and medical devices were provided. With those hardware supplements, capacity buildings for local medical human resources were implemented. To solve 'Delay in reaching care', physical route to health facility should be easier. The project

used local vehicles to for health service deliver. Also psychological cost of using the facility should be lowered. To solve 'Delay in decision to seek care', communication program should be planned to change attitudes and behavior. Communication program includes education and promotion activities using useful media, which are radio and cellular phone. Among these, communication activities for changing attitudes and behaviors are following.

[Table 11] Marketing 4P and 3 Delay Model ; Improving Maternal Health in Ainaro District, East Timor

4P	3 Delays	Activity
Product	Delay of provision	Provide place for family to spend time together while visiting Infrastructure, Capacity building, Equipments, Utilities
Price	Delay of Delivery	Financial price: Free of charge Psychological price : Good impression on Delivery room, Bad impression on home delivery
Place	Delay of Delivery	Make better accessibility Emergency vehicles are possible
Promotion	Delay of Behavior change	Education, Radio program, Mobile based promotion, Community mobilization program

Source : Author

(1) Information Category

To deliver information effectively, the project used pictures instead of texts, because the local community showed low level of literacy, only 54%. This pictoral message emphasized on friendliness and comfortable atmosphere of delivery room, to ease the tension with local culture.[40] Design ot the message was aligned with local culture as well. Those health education contents were printed on useful things for locals, such as calendars and mats rather than brochures.

For repeated exposure, the project developed brand and repeatedly used the brand. For media, 90% of local residents used the mobile phone, so the project used individualized message using mobile phone. Radio showed only 10% of penetration rate, so it was not adequate media to deliver the message. TV has low rate of distribution as well, especially in

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[40] 1st message : Related with traditions "Delivery room feels like tradition" "Delivery room used by midwife"
2nd message : Related with changing social norm "Your neighbors are using delivery room"

remote areas. It does not provide proper place, electricity and environment for accepting the frequency. So, mass media was not used in this project. Instead, unique local media were developed and used. Existing local papers, using local vehicles and loudspeakers, religious meetings, and outdoor advertising sign boards were used.

(2) Nudge : behavior Change category

To change the behavior, spaces were designed with user centered approach. To make mothers more comfortable about newly introduced facility, local culture and customs were adopted for space design. In local context, mothers are spending time with whole family members before giving birth. So the space of delivery rooms were developed for family members. In this facility, different from normal delivery room, family members can join to care mothers.

(3) Habituation : Sustainability category

To make the change behavior a habitual custom, local society was closely engaged in project activities. Project staffs were at the center of the project, taking important role of contacting and educating local residents. To make mothers giving birth at facility not a t home, a social norm, male members of families were invited in education program. Because the male members were important factor hindering safe delivery, they are the target of education program. Also, leaders of local society and religious institutions were invited to cooperate for social support.

(4) Collaboration : expertise category

From planning to implementation, the project is closely working with experts. At planning stage, domestic health behavior change experts and health communication company joined. In Korea, there are few experts and companies specialized in health communication.[41] In implementation stage, local society health workers were invited as well.

[Table 12] INH,C model ; Improving Maternal Health in Ainaro District, East Timor

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[41] Experts in health communication ; Korean health communication association, Sang wook Kim(Carmel worldwide), PR expert Bong kyun Cho, Health social marketing expert Kwangki Kim, Prpf. Hyejin Baek, Community health expert Mok Heo

Category	Activity	Examples	Collaboration
Information	Getting the attention	Contents creation	Through all category
	Direct Experience		
	Repeated exposure	Project brand, mobile message, mass media promotion	
Nudge	Default design		
	Experience design	Space design using local culture	
	Gamification		
Habituation	Monitoring and Feedback		
	Community driven	Community health worker	
	Social norm	inter personal communication	

Source : Author

3) The National Campaign for Promoting Knowledge, Attitude and Behavioral Change in Population and Reproductive Health in Ethiopia

The goal of this project is to change family planning of ethiopian people. For this, 'Delay in receiving adequate health care', 'Delay in reaching care' and 'Delay in decision to seek care' were being dealt with. This project is unique, because focusing only on awareness and behavior change is the first time in KOICA. This is radical change, considering most of the health projects are about building facilities and supporting capacity of health staffs. To solve the 'Delay in receiving adequate health care', only small amount of budget were invested in capacity program for government officers. To solve the 'Delay in reaching care', health staffs were sent to local societies for health service. To solve the 'Delay in decision to seek care', health related media contents are produced. Health campaigns are designed and implemented for local people to change behavior.

[Table 13] Marketing 4P and 3 Delay Model ; The National Campaign for Promoting Knowledge, Attitude and Behavioral Change in Population and Reproductive Health in Ethiopia

4P	3 Delays	Activity
Product	Delay of provision	Capacity building (3% of Budget)
Price	Delay of Delivery	
Place	Delay of Delivery	Community health worker (30% of Budget)

Promotion	Delay of Behavior change	Campaign (40% of Budget)

Source : Author

Activities for changing attitude and behaviors are following.

(1) Information category

First of all, to effectively deliver the information, the message should be delicately designed. In local society, directly mentioning the limit number of children in family raise negative feelings. Because children are considered to be 'God's presents', limiting the number of giving birth and family planning bears a negative connotation. Message such as "Only two children is enough. Make them be educated" should not be used. Religious background should fully be considered.

For repeated exposure, project brand name is developed. Making this brand name known is important factor to make project effective and efficient. In this project, 'SHaPE'(Small Happy and Prosperous in Ethiopia) is developed and used in every situation of project repeatedly.

To make effective communication, adequate media channel was selected. In local community, residents barely read newspaper and most of them(more than 80%) has TV or Radio at their home. So, TV and Radio were used as main channel to deliver the message.

(2) Nudge : behavior Change category

There were no specific factors to induce the first behavior change.

(3) Habituation : Sustainability category

To make the change more sustainable, local society should lead the project. While implementing activities, interpersonal communications between local residents were highly prioritized. Local community engagement the project goals being achieved after the project period. With huge amount of investment money, participation from local community is important to make this investment working in community.

(4) Collaboration : expertise category

In planning stage, Public Relations experts participated[42]. In implementation stage, the project collaborated with Ethiopia local institutions. One of health school in university is collaborating with Korean partners. In terms of radio program production, ethiopian radio channel is collaborating. While production, Korean radio production experts are dispatched. Korean experts overseer local radio production process and take a role in quality control. Korean experts forms network between korean experts and local partners, so that both countries' experts collaborate and make synergy effect.

[Table 14] INH,C model ; The National Campaign for Promoting Knowledge, Attitude and Behavioral Change in Population and Reproductive Health in Ethiopia

Category	Activity	Examples	Collaboration
Information	Getting the attention	Relevant message	Health communication
Information	Direct Experience		Health communication
Information	Repeated exposure	Radio drama, Project brand	Health communication
Nudge	Default design		Health communication
Nudge	Experience design		Health communication
Nudge	Gamification		Health communication
Habituation	Monitoring and Feedback		Health communication
Habituation	Community driven	Inter personal communication	Health communication
Habituation	Social norm		Health communication

Source : Author

3. Partners-planned projects

In public-private partnership program, NGO or private company plans the project from the base. After submitting the project, KOICA staffs join to co-plan and adjust activities. In this PPP project, the role of KOICA staffs is confined to just a adjustment after discussion with suggesting partners, so main role of planning the project lies in non-governmental partners.

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[42] PR expert and Health communication expert

1) Maternal Health Improvement Project through Facilitating Community Health Worker in Kishapu

This project is planned and implemented by the Good Neighbors, one of major Korean NGO. This project aims to enhance health of local society and reduce death rate of mothers. For this, activities are to solve 'Delay in receiving adequate health care', 'Delay in reaching care' and 'Delay in decision to seek care'. To solve the 'Delay in receiving adequate health care', basic health facilities are built and medical devices are provided. Capacity building for local health staffs and basic health services are provided. This enhance health service to local society in both quantity and quality realms. To solve the 'Delay in reaching care', local health staffs are hired to be sent to remote areas for health Delay of Delivery. To solve the 'Delay in decision to seek care', campaigns and communications using proper media activities are designed for behavior change.

[Table 15] Marketing 4P and 3 Delay Model ; Maternal Health Improvement Project through Facilitating Community Health Worker in Kishapu

4P	3 Delays	Activity
Product	Delay of provision	health service provision, Equipments, Medicines, Capacity building
Price	Delay of Delivery	
Place	Delay of Delivery	Community health worker
Promotion	Delay of Behavior change	Awareness change campaign

Source : Author

According to the field study, level of awareness and knowledge is too low to enhance health conditions of mothers. This is due to cultural factors. Women's rights are overlooked so often in daily life. In family, women barely have change to speak out or have a right to make their ewn choice. Moreover, the society has long been a polygamy, so women's lives are hinges on male's decisions.

Husbands does not show interest on wives' health condition, or even about mother and baby condition. Women does not show proper care of their own health. So the change in

awareness and behavior is essential to solve the problem. To change behavior, following activities are designed.

(1) Information category

To give information effectively, activities of engaging local residents are designed. 'Photo Voice'[43] is proven to be effective for making people realize their own problem. Local residents, while taking photos of their own life and later discussing about their own photos, can discover the exact behavior which causes health problem. They realize very frequent activities they are making during their daily life, which they thought as natural thing, is the very point that hinders their wife to be healthy. In discussion, they can compare their own experience and help each other realize problematic activities, this enhance the awareness level and this realization lasts longer.

During one of the session, one said during the interview that "Before I take part in this 'Photo Voice' activity, I and my family thought that the process and burdens of giving birth and raising children only belong to housewife. However, after the 'Photo Voice', we all realized and were so shocked that our common sense were totally wrong. From now on, I will take care of my wife's health, and also promote to other people and community that our notions are totally wrong. We should change our thoughts"

(2) Nudge : behavior Change category

There is no specific activities to induce the first desirable behavior.

(3) Habituation : Sustainability category

To make the viable behavior a custom of local society, local health staffs are hired to closely work with local residents. Local health staffs have close relationship with local figure and

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[43] 'Photo Voice' is an activity that local residents participate taking photos of their daily lives. They are given certain themes that they need to think about and try to discover problematic things. Then they take photos of that certain scene. All photos are gathered and exhibited when local community have discussion. This is engaging for people. During discussion, local people speak out about their own experiences. After the discussion these photos can be used in exhibition as well.

groups. This enhance the ownership of the local community about health project, thus making the impact more sustainable.

[Table 16] INH,C model ; Maternal Health Improvement Project through Facilitating Community Health Worker in Kishapu

Category	Activity	Examples	Collaboration
Information	Getting the attention		Through all category
	Direct Experience	Photo Voice	
	Repeated exposure		
Nudge	Default design		
	Experience design		
	Gamification		
Habituation	Monitoring and Feedback		
	Community driven	Community health worker	
	Social norm		

Source : Author

2) Eye Care Service for People in Gazipur, Bangladesh

This project is planned and implemented by eyesight specialized NGO, Heart to Heart International. This project aims to reduce the rate of blindness, which is easily found in developing countries, Bangladesh. This project settles community based eye health system, making local people regularly checked and treated. This project has been successfully implemented during 10 years, with KOICA's support. This project deals with 3 delays, 'Delay in receiving adequate health care', 'Delay in reaching care', and 'Delay in decision to seek care'.

First, to solve the 'Delay in receiving adequate health care', eye surgery is given to local patients without charge. For longer term, infrastructure for eye health care system is built. Eye health specialists including eye doctors are being educated. Because eye health is specific field which requires regular check, not just specialized staffs but also regular health workers can take important role in improving eye health. So capacity building for community health workers is a further step which deliver eye health care closer to remote areas.

To solve the 'Delay in reaching care', mobile eye health clinic is implemented.
Mobile eye health care delivers health service to the most remote areas. With mobile surgery facility on vehicle, an event is being held for inviting local people to come and check. This event continues for several days during when patients can come and check their eye health. The most important activity on this vehicle is surgery for patients. This enables eye surgery system approach the most needed patients.

To solve the 'Delay in decision to seek care', education about eye health is done for local students. There are no innovative approaches in behavior change activities.

[Table 17] Marketing 4P and 3 Delay Model ; Eye Care Service for People in Gazipur, Bangladesh

4P	3 Delays	Activity
Product	Delay of provision	Infrastructure, Surgery, Capacity building
Price	Delay of Delivery	
Place	Delay of Delivery	Community Outreach service
Promotion	Delay of Behavior change	Education

Source : Author

In behavior change design, among information, nudge and habituation categories, only information category is included. Activities for delivering messages and information exist, but activities for nudge and habituation were not considered. This has limitation of approaching health from supply side. Without behavior change, eye protection can only be possible through visit of medical doctors and this kind of huge health events.

In information category, education about protecting eyesight are done to students. This education is not only consist of lectures, but also hand washing for eyesight and eye strain exercise. To give direct experience to local people, it used event. It linked with the worldwide event of 'World Sight Day' and hold local event. Through this event, local residents can realize the importance of eyesight and be educated to local people. For repeated exposure, many effective media are used. Printed media such as posters and leaflets are used. Also radio advertisements were produced to deliver the message.

After these activities for behavior change, the NGO, Heart to Heart International concluded that these activities are ineffective and decided to reduce budgets for behavior change.[44] It analyzed input and output of each activities and infrastructure is more efficient and effective than behavior change.

Considering this conclusion, behavior change activities can be seen as less urgent and even less effective. Especially in the most cases of development project with limited budget and resource, the urgent issue often in immediate action for serious situations. behavior change seems remote issue and long term goal which is hard to achieve in this kind of situation. However, still behavior change make more sustainable change, not immediate solution which lasts only a short period of time.

[Table 18] INH,C model ; Eye Care Service for People in Gazipur, Bangladesh

Category	Activity	Examples	Collaboration
Information	Getting the attention	Education	No
	Direct Experience	Participatory Education, Event	
	Repeated exposure	Radio program, Poster	
Nudge	Default design		
	Experience design		
	Gamification		
Habituation	Monitoring and Feedback		
	Community driven		
	Social norm		

Source : Author

3) Nutrition Program for Malnourished Children under 5 in Kagina, Rwanda

This project is planned and implemented by Korean NGO, Good Neighbors. This project aims to reduce malnutrition rate of under 5 children. To solve the 'Delay in receiving adequate health care', nutrition meals are provided for local children. To solve the 'Delay in decision to seek care', the target group of the project are mothers, not children. Because

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[44] The report says "Campaigns to prevent eye disease has limited effect, so we decided to exlude that activity in later project"

under 5 children's nutritions in mainly dependent variable of mother's awareness and lifestyle, changing mother's attitude and behavior directly lead to change in children's nutrition status. So activities for behavior change were targeted to mothers.

[Table 19] Marketing 4P and 3 Delay Model ; Nutrition Program for Malnourished Children under 5 in Kagina, Rwanda

4P	3 Delays	Activity
Product	Delay of provision	Provide nutrition (63% of budget)
Price	Delay of Delivery	
Place	Delay of Delivery	
Promotion	Delay of Behavior change	Education for mothers, Campaigns (3% of budget)

Source : Author

4) Community empowerment of water resource in Kenya

This project is planned and implemented by both private company and NGO. This project deals with water purification, in which private company has technology and machines to use. NGO links technology and local people's needs. This project aims to solve the lack of drinking water in local community. To solve the 'Delay in receiving adequate health care', public toilets were settled. Adequate public management of drinking water is also essential, so education program for water management staffs is provided as well. To solve the 'Delay in decision to seek care', Handwashing utilities(Bucket Tap and soaps) were developed and provided. Also, manners to using those were educated.

[Table 20] Marketing 4P and 3 Delay Model ; Community empowerment of water resource in Kenya

4P	3 Delays	Activity
Product	Delay of provision	Infrastructure, Capacity Building
Price	Delay of Delivery	
Place	Delay of Delivery	
Promotion	Delay of Behavior change	Education

Source : Author

To solve the 'Delay in decision to seek care', those activities for behavior change were planned.

(1) Information category

To raise awareness about water sanitation, first, proper message need to be developed. After developing the message, proper media should be used. Only message with cultural relevance and media with salience will attract people's attention. Specifically, for locals who are mainly illiterate, health message with pictures, not texts were familiar. Pictoral messages for water were provided. Not only on traditional printed media, but daily items which will increase the number of exposing the message are used. For example, caps, t-shirts and calendars with the message is developed. To give direct experience, special events were held. This event lead students and local community to participate, so that after the event, whole community can share the same experience. In this event, hand washing utilities are freely given to children which will lead to promotion of them to their own family. Also, to make mothers more engaged, special competition is introduced. This competition ranks mothers who wash the water bucket the first.

(2) Nudge : behavior Change category

There is no specific activities found in this category.

(3) Habituation : Sustainability category

For sustainable impact of the project, it invited local residents to participate in each activities. Especially, in improving toilet activity, local residents are directly engaged. This makes their ideas to be considered while construction, so improve usability as well. Also in building well system, residents participate during the process. This enhances performance of water system and makes it durable since residents take care of their own project.

[Table 21] INH,C model ; Community empowerment of water resource in Kenya

Category	Activity	Examples	Collaboration
Information	Getting the attention		No
	Direct Experience	Participatory Event	
	Repeated exposure	Project Brand	

Nudge	Default design		
	Experience design		
	Gamification		
Habituation	Monitoring and Feedback		
	Community driven		
	Social norm		

Source : Author.

5) Blindness Prevention Project in Malawi

This project aims to reduce losing eyesight rate and giving eye surgery. To solve the 'Delay in receiving adequate health care', eye health facilities were provided. Eye health staffs are recruited and hired as well. To solve the 'Delay in reaching care', mobile eye clinic on vehicle is reaching out to far region. To solve the 'Delay in decision to seek care', eye health campaigns are designed to change behavior and lifestyle.

[Table 22] Marketing 4P and 3 Delay Model ; Blindness Prevention Project in Malawi

4P	3 Delays	Activity
Product	Delay of provision	Eye health infrastructure
Price	Delay of Delivery	
Place	Delay of Delivery	
Promotion	Delay of Behavior change	Community Outreach program, Campaigns

Source : Author

(1) Information category

For getting the attention, eye health contents are created. The importance of hand washing, face washing, regular eye check, protecting from eye disease, and remedy for eye disease is delivered to local people through effective media.

For giving direct experience, 'Photo Voice'' method is used. In every time, participants are given disposable photo camera to take picture of life style regarding eye health. After taking

all pictures, participants have a chance to share their experience and thoughts each other. This makes the memory of participation lasts longer than just receiving information in just one way communication. Not only this, 'Photo Voice' photos are useful resources to draw community's attention. These photos are used in exhibition in eyesight event which are held once a year.

To give direct experience, eye health event is being held. Local community is actively engaging in this event. On 'The World Sight Day(Each year 8th Oct.)', local residents give presentation about education program they got. Photo Voice exhibition is begin held. Video of eye care is shown to people.

(2) Habituation : Sustainability category

Because of the social norm which says eye care is unnecessary and eye surgery is very dangerous, people are reluctant to receive adequate eye care. To make people participate and change their lifestyle, eye care should have positive image. The most effective way of making positive impression is through sharing direct experience from friends. To expand the message widespread, tablet PC and mobiles were used to screen contents about eye health. After frequently exposed to media contents about eye health, more patients show intend to receive eye care and surgery.[45] For community driven change, local health staffs were invited in each activity.

[Table 23] INH,C model ; Blindness Prevention Project in Malawi

Category	Activity	Examples	Collaboration
Information	Getting the attention	Education	Through all category
	Direct Experience	Photo voice, Event	
	Repeated exposure	Mobile messaging	
Nudge	Default design		
	Experience design		
	Gamification		
Habituation	Monitoring and Feedback		

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[45] "Peer for Fear"

	Community driven	Community health workers	
	Social norm	Story telling, Testimony	

Source : Author.

V. Analysis and Suggestions

1. Analysis : KOICA health projects

1) Analysis based on INH,C Model

Based on INH,C model, which this paper proposed, KOICA's 8 health projects related with behavior change are analyzed. Each project contains different categories of information, nudge, habituation, and collaboration. Several projects contains all of those categories which means that the project is well aware of the importance of behavior change and apply useful social marketing techniques in project design. Even some applies innovative approach from social marketing. However, other projects only contains one category, which means that the project design does not consider behavior change serious enough. Even that one category is more of a traditional contents of health project. This means that still numbers of project planner does not aware or does have limitation to apply behavior change techniques.

The numbers are following. Among 8 projects, information category activities were found in all 8 projects. Nudge category activities were found in only 2 projects. Habituation category activities were found in 6 projects.

The contrast is stark comparing KOICA-planned projects and Partners-planned projects. In KOICA-planned projects, 2 out of 3 projects contains activities of Nudge category. All KOICA-Planned projects contains Habituation category activities as well. However, Partners-planned projects, no project out of 5 applies Nudge category. Habituation activities were also low in numbers; 2 out of 5. This means that Partners-planned projects relatively focus on Information category, which is more a traditional components of health projects. Innovative approaches were adopted in Partners-planned projects enough.

[Table 24] KOICA behavior change related health projects

	Number of projects				
	Total	Information	Nudge	Habituation	Collaboration
Total	**8**	8	2	6	5
KOICA planned	**3**	3	2	3	3
Partner planned	**5**	5	0	2	2

2) Reasons of difference by planning entity

There is a difference between KOICA-planned projects and Partner-planned projects in nudge and habituation categories. Both of those projects all contains information category, but in terms of nudge and habituation category, KOICA-planned projects shows high rate of application while Partner-planned project show low rate of application. Information category is traditional factor in health project. In almost every health project education to recipients including patients is included. However, Nudge and Habituation category is relatively newly adopted and emphasized. Nudge category is innovative way of changing people's behavior stemming from marketing sector. Habituation category is emerging as the importance of local community's participation becomes important factor for sustainability of project impact.

The reason why KOICA-planned project is fast in adopting new social marketing techniques are these. KOICA is more exposed to international society of development agency, so it can get new information fast. Also KOICA has a responsibility to try and adopt new and innovative activities of health projects. In another sense, KOICA staffs have autonomy of planning the project, which enable KOICA staff to seek and collaborate with experts in behavior change. KOICA staffs have relatively low level of constraints, such as budget.

However, Partner-planned project show low level of adopting innovative categories of health project. It means that partners, including NGO, Private companies and academia replicates previous successful project design and simply expand the project coverages. There are few reasons behind this.

First, non-governmental partners are not familiar with recently emerged concept of social marketing. This is relatively new concept and there are only few examples in international development projects. Also, partners does not have enough networks with other sectors, other than health.

Second, partners prefer to supplement previous project design, rather than try new activities with risks. Partners have priority on expanding the numbers of projects and regional coverages. It does not have responsibility on introducing new approaches. Also the process of project selection from committee formed by KOICA makes hard to try innovative

approach. While proving the existing project models effectiveness is relatively easy, persuading new approach is needed is harder task both in and outside of the partner. It is better for project planner to simply replicate existing model to other regions or expand the periods of projects.

Third, limitation on budget is also an important factor behind this. Because the project partner receives majority of its budget from KOICA, it limit on project budget is important external factor. This means that if the partner want to collaborate with external experts, it will add extra burden on budget. While mek the project only planned and implemented inside their own human resource is much cheaper and easier, collaboration with outside the group makes things much difficult. This makes simple replication existing model.

2. Suggestions : INH,C model planning

Applying lessons from analysis above, there are several suggestions to make health project more effective for behavior change. These suggestions are based on INH,C model.

1) Goal setting and measuring : behavior change

In health project, behavior change make impacts with less expense and more sustainability. Acknowledging behavior change as one of important goal is the first step. Learning from successful cases from advanced donor countries, Korea health project should consider behavior change as an important goal.

To make behavior change a goal, in project design stage, behavior change or recipients should be described. There should be index and target numbers. To measure the behavior change, proper way of data collection and analysis should be developed as well. For example, if the result of the project is more focusing on input of the project, it does not follow up with recipients' behavior change or even life style change. To measure the behavior change, more advanced way of data collection and analysis is needed. Just to have interview, focus group discussion or survey is not enough. behavior change needs to track actual behaviors before and after the project. There are lessons and techniques from marketing sector for measurement. Development agency can adopt theses from marketing sector.

2) Social marketing in project planning

Fundamental approach of health project should be shifted. Not supply side view, but demand centered approach is needed. In social marketing user-experience is the most important factor. Shifting from previous health project model of providing medical service, making customers feel their needs should be emphasized. After making customer feel their needs, it naturally follows that customer try to fill their needs with proper service and behavior change. Shifting from supply approach to demand approach is fundamental change which induce different project design. Based on this new paradigm, KOICA-planned and Partner-planned project can invest more budget and resources on behavior change activities. Activities can be adopted from social marketing as well.

3) Planning Nudge

behavior Change category, nudge, is not applied in many KOICA's health project. It is new concept and not introduced fully as well. The least factor in INH,C model in KOICA health projects was nudge category. While project planners are familiar with information category, such as education and using media properly, default design, experience design, and gamification is unfamiliar to them.

So in planning health project, planners should include nudge category. First, they need to learn about the concept and project cases. Important lessons and cases are from private marketing sector, not from development projects. This needs planners' efforts to contact with different and even unfamiliar sectors, not with familiar public sector. For effectiveness, convergence between different sector and accepting discomfort is necessary.

4) Planning Habituation

After making behavior change, sustaining is the key issue. There are many cases of development projects that lost its impact right after the completion of project period. To make the impact of the project sustained after the project, it is important to embody behavior change and life style change to society. Thus working with community member is important condition. Monitoring and feedbacks will make individual's change durable, and community participation make community's culture change sustainable. For example, 'Photo Voice' activities can ultimately shift social norm in community. After the change in social norm,

community members will adjust their behavior according to the norm, so it has lasting impact with bigger scale,

5) Knowledge sharing

Because there are not many cases of adopting social marketing in health project in Korea, planners should learn from cases abroad. First, it can be started with learning from advanced countries' development projects. Fortunately those cases are usually connected with academia and relevant contents are published for public, so it can be easily approached. Well organized report from academia helps to learn about social marketing application. Representative case of this is Johns Hopkins Bloomberg school of public health. It researched on 'Social and behavior Change Communication(SBCC)'project cases and develops toolkits for project planning. This is closely working and funded by USAID. All relevant cases are uploaded in website[46]. KOICA has a role as a platform to share knowledge to Korean partners, so those lessons can be shared through research papers, seminars and discussions through KOICA. [47]

Lessons are not necessarily from development community, or even public sector. Relevant experience can be applied from private sector, marketing as well. As explained before, social marketing is a discipline which tries to apply useful marketing techniques to social issues. There are plenty of research and proven tools from marketing sector. For example, there is a Korea Health Communication Association[48] and Korean Marketing Association[49]. Through studying marketing sector in private companies, health project can induce useful techniques.

6) Collaboration with other sector

Development itself is not totally distinctive and seperated from other sectors. Rather it is a converging field between different disciplines. So, collaboration with experts outside the development field is possible and more an essential issue. Collaboration with health and education experts is familiar phenomenon in development, but new types of collaboration with other sector which does not have interaction with development partners are needed. Such as experience designer, marketing experts, media experts, programmers and

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[46] http://healthcommcapacity.org/
[47] For example, there are several innovative cases in Gamification. 'Safe school project' in Indonesia and Phillipines, Game application for smart phone was developed.
[48] http://www.healthcom.or.kr/k/
[49] http://www.kma.re.kr/

technicians are the ones who have not been contacted before.[50] One of KOICA's important role is to expand interaction with other sector. By trying new type of collaboration, KOICA can set a good example of behavior change project model to other relevant bodies in Korea. For example, in health project, KOICA can start collaboration with social marketing experts.[51] These experts have worked only in domestic issues, but it can be expanded to outside Korea. This is simple replication or application of successful social marketing techniques to developing countries. This can be done simply by connecting Korea experts and problems in developing countries by KOICA. For example, there are many social marketing and communication pilot projects which are proven to be successful cases in domestic. Making people to line in public can be applied in food or medicine distribution in developing countries. Also, reducing crime rate campaign is also possible.[52]

3. Expansion : INH,C model application

1) Application during implementing the project

Even after the project is planned, still there is a lot of opportunities to apply INH,C model in project. There are lots of situational change, and activities in each category of information, nudgem and habituation can be supplemented. For example, while implementing the project, it may needs to use proper media to deliver message. If the message of a certain project is delivered by local media, it can improve the project's performance. For example, in South Sudan, KOICA staff tried to use radio for health project, even though it was not planned in advance, this made more local residents to participate in health project.[53]

2) Application in other sectors

INH,C model can be applied not only in health sector, but also in other sector as well. Projects related with behavioral change of people are all possible range of applicable sectors.[54] In other sector project, behavior change is important issue which is often being

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[50] Health Communication experts and organizations are following : Korea Health Communication Association, The Center for Health Communication Studies of Hallym University, Enzaim Health
[51] Social marketing special group in marketing agencies (Good Company Solution Center, Cheil), Academic groups ('Loud Project' in Inha university, Prof. Jong wook Lee)
[52] This project is done by the author, Cheil worldwide and Busan Metropolitan Police.
[53] 남수단 주혈흡충충 2차 퇴치사업 (2011-2013)
[54] 주민들의 행동변화를 이끌어내기 위하여 커뮤니케이션 툴을 활용하는 것을 C4D(Communication for Development)라고 한다. C4D는 소셜마케팅보다는 작은 개념이라고 볼 수 있다. 소셜마케팅은

forgotten as well. INH,C model can be used in human right advocacy or education projects. In KOICA, there are several projects which emphasizes on awareness and behavior change. In Vietnam, one of project aims to protect women from violence[55]. There are activities to solve 'Delay in receiving adequate care' and 'Delay in decision to seek change'. Women Violence Prevention Center is built. Capacity building and education for center's staff is also provided. To change attitude and behavior, education program, campaigns, and public advocacy are in place. To effectively deliver the message, the message is delicately developed and effective media is selected to promote. As this case, behavior change is also needed in other sector and while planning the project, INH,C model can be applied.

[Table 25] Marketing 4P and 3 Delay Model ; protect women from violence

4P	3 Delays	Activity
Product	Delay of provision	Infrastructure, Capacity Building (72% of budget)
Price	Delay of Delivery	
Place	Delay of Delivery	
Promotion	Delay of Behavior change	Education, Advertisement, Campaign (20% of budget)

Source : Author

행동변화를 목적으로 하는 마케팅 방법론의 활용을 말하는 것이며, 이는 커뮤니케이션을 포함한 4P 전략 등을 일컫기 때문이다.
[55] "베트남 폭력피해 여성/여아 방 및 지원모델 구축 사업"

IV. Conclusion

In health project, behavior change of recipients is important for sustainable impact. Previously, development projects were based on traditional concept of economics. This is based on assumption that human is perfectly rational, thus it cannot predict or explain actual human behavior. However, new economic paradigm, behavioral economics focus on the fact that human make choice automatically or emotionally, this makes solutions different from previous ones. behavioral economics also considers interpersonal and community level influence on individuals.

behavioral economics is related with marketing, because marketing is about technique how to make customer behave in a way that is favorable to company's benefit. Marketing can be used to make people behave in a way that is favorable to society. In public sector, marketing is adopted as a useful tool to change people's behavior. This is called social marketing. Social marketing made successful cases in public sector. This cases are expanded to international development projects as well. Especially in health projects, social marketing is directly used to change people's behavior. Because health sector is the one that people's behavior directly linked with project's outcome, social marketing adoption is salient.

Analyzing best practices of health behavior change projects, there are several common factors. This factors can be used in planning health projects. First, there is effective way of giving information to people. This change people's attitude. Information should be designed to get people's attention. It is always better to make people to have participation and get direct experience so that the memory sustains longer. Repeated exposure is needed to make people familiar with the information. This is called information category.

Second, there needs to environmental design for individual to find behavior change is comfortable and natural. This needs default option between choices be desirable. Participants' experience should be delicately analyzed and experience should be re-designed. It would be much more effective, if desirable behavior can be induced by game and fun. These are called Nudge category.

Third, it is important to sustain changed behavior so that it can ultimately be a hobby. Continuous monitoring and feedback is important to strengthen repeated behavior. Community and social groups should participate for sustaining the impact even after the

project is finished. Ultimately, it needs to change social norm and shift culture. These are called Habituation category. All these 3 categories and collaboration with experts from INH,C model.

Based on INH,C model, KOICA's health projects which include behavior change outcomes are analyzed. Among those 4 categories, 'Nudge category' is the most neglected category. This becomes even severe when the project is planned by partners, not KOICA staffs.

To make health behavior more successful, behavior change should be considered as one of the goal. To measure the behavior change is also a one important thing. Social marketing should be adopted in project planning. Especially nudge and habituation activities should be included. It is KOICA's role to share knowledge and cases of behavior change to partners. Collaboration with experts outside development project is important.

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