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The lift industry in Hong Kong: regulatory action and capacity building

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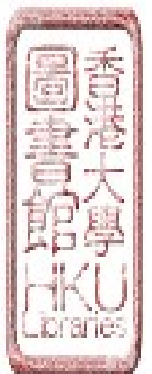
Angela YEUNG On Ki

Capstone project report submitted in partial fulfillment of the requirements
of the Master of Public Administration

Department of Politics and Public Administration

The University of Hong Kong

July 2016



DECLARATION

We declare that this Capstone Project Report, entitled The lift industry in Hong Kong: regulatory action and capacity building, represents our own work, except where due acknowledgement is made, and that it has not been previously included in a thesis, dissertation or report submitted to this University or any other institution for a degree, diploma or other qualification.

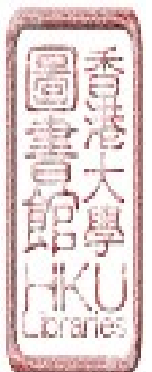
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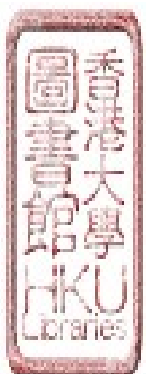
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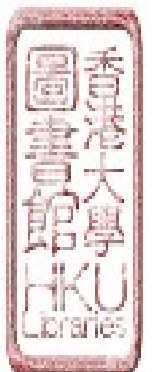
We also appreciate the unfailing support offered by the administrative staff of the Department of Politics and Public Administration over the past two years.



ABSTRACT

As a highly developed yet small city, there are numerous multi-story buildings in Hong Kong. The safety on using lifts is of significant concerns to the general public. Yet, a series of lift incidents have happened since 2000, causing injury and even loss of life. Though the government has reviewed the regulatory measures in the lift industry with an amended Ordinance and related regulations enacted since December 2012, it was again criticized on its limitations in monitoring the industry by the Audit Commission, with the latest issue in April 2016. In this project, an overall review and recommendations on the lift industry in Hong Kong is conducted and provided.

The governance model and policy tools adopted by the government in the past and current lift industry is evaluated by the analytical framework using the Knill & Tosun's three modes and four types of governances (2012), McDonnell & Elmore's four policy instruments (1987), supplemented by Braithwaite's pyramid of supports and sanctions (2011), and Peters & Pierre's four types of policy instruments (2015). Other relevant models including four dimensions affecting the policy decisions by Peters & Pierre (2015) and the two features and context



regarding governance by Driessen & colleagues (2012) are also referred for evaluating the overall regulatory action and capacity building within the industry.

While there is no specific formulation leading to a perfect regulation, the choice of the governance and policy tools depends on the combined effects between the political, social and economic situations. Recommendations on the use of policy tools and governance under the abovementioned framework and references to overseas experience will be made to cater for the well mix of regulatory action and capacity building for the Hong Kong lift industry.

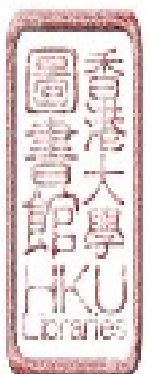
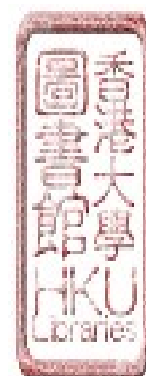
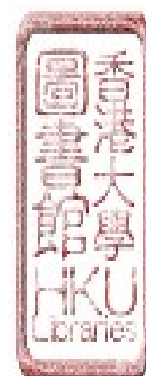


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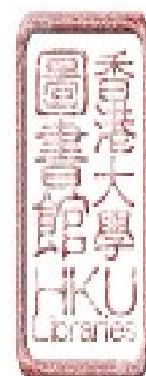
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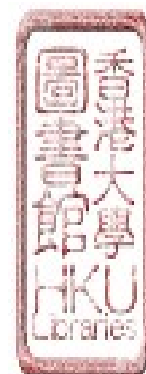


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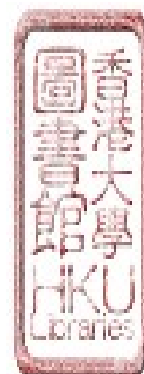
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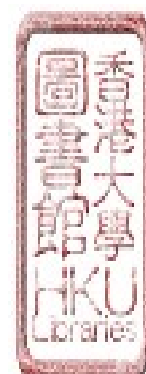


LIST OF ABBREVIATIONS

| | |
|-----------|---|
| ARD | Automatic Rescue Device |
| ASRC | Aviation Services Research Centre |
| BCA | Building & Construction Authority |
| CCTS | Contractor Cooperative Training Scheme |
| CIC | Construction Industry Council |
| CPD | Continuous Professional Development |
| CPR | Contractors' Performance Rating System |
| DAR Panel | Disciplinary Action Review Panel |
| DC | District Councils |
| DEVB | Development Bureau |
| EMSD | Electrical & Mechanical Services Department |
| HIA | Home Improvement Agencies |
| HKHS | Hong Kong Housing Society |
| HKIE | Hong Kong Institution of Engineers |
| HSE | Health and Safety Executive |
| IAEE | The International Association of Elevator Engineers |
| IBMAS | Integrated Building Maintenance Assistance Scheme |
| ITE | Institute of Technical Education |
| LECA | The Lift and Escalator Contractors Association |
| LegCo | Legislative Council |



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| LEIA | Lift and Escalator Industry Association |
| LEO System | Lift and Escalator Ordinance System |
| LESO | The Lifts and Escalators (Safety) Ordinance |
| LOLER | Lifting Operations and Lifting Equipment Regulations |
| MPs | Members of Parliament |
| OEM | Original Equipment Manufacturer |
| PA Scheme | Performance Assessment Scheme |
| PM | Performance Management |
| PUWER | Provision and Use of Work Equipment Regulations |
| REECA | The Registered Elevator and Escalator Contractors Associations |
| SLECMA | Singapore Lift & Escalator Contractors & Manufacturers Association |
| STAS | Specialists Trade Alliance of Singapore |
| UKAS | The United Kingdom Accreditation Service |
| URA | Urban Renewal Authority |
| VTC | Vocational Training Council |

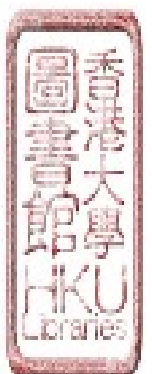


CHAPTER 1 - Introduction

Focus, Objectives and Background of the Project

In view of the increasing lift incidents which have been developing into a social problem and bring potential harm to members of public in Hong Kong, this project addresses the current environment of lift industry in Hong Kong in terms of regulatory action and capacity building. The objectives of focusing on these two aspects are to look into how the Hong Kong government has adopted regulatory tools in the development of the lift industry and evaluate the effectiveness of the tools. The governance approaches and capacities in the lift industry are studied and analyzed. Besides, the project evaluates the problems of monitoring work in the lift industry, and to make recommendations for enhancing lift industry regulation and governance in the future.

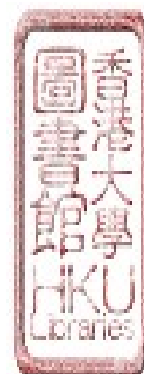
The scope of this project mainly focuses on lifts. Although escalators are another transportation device with similar functions, they are not included in this project given that most past incidents and records were related to lifts only. To have a better focus, this project concentrates on the analysis and evaluation on public



management and governance in the lift industry. Technical procedures and other non-public management and governance issues are excluded.

Since the commencement of lift installation in the nineteenth century, the lift industry has been developing to cope with the speedy urbanization of Hong Kong. Nowadays, there are more than sixty thousands of lifts installed in skyscrapers, towers and high- rise buildings in Hong Kong. Lift management is of paramount importance to ensure the safety of citizens using this transportation device.

In the past years, the government was not actively involved in the lift industry governance. It was not until the frequent failures of lift in the 1990s, the government started to review and enhance the policy instruments originally adopted. Lift related regulations have been amended and the government increased its role in monitoring the lift industry in Hong Kong. More stakeholders were also involved to take part in different roles in lift governance. However, the capacities and competencies of the authorities were caught by limitations in terms of discrepancies in services and restrictions in the development of the industry. The government may need to reposition its role and duty so as to optimize its regulatory actions and capacity building in lift industry.



Research Questions and Propositions: Theory and Practice

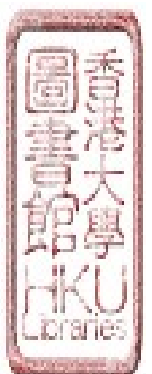
In studying the Hong Kong's regulatory frameworks and the underlying capacity issues in the lift industry, the following research questions provide guidance for the evaluation -

- 1) Why, and how, do governments seek to regulate and enhance the self-control capacity of industries of considerable public significance and interest?

- 2) What regulatory and capacity-building action has the Hong Kong government taken in response to the lift industry as a matter of public interest?

- 3) What other regulatory and capacity-building action could the government take concerning the lift industry in the light of past and present experience?

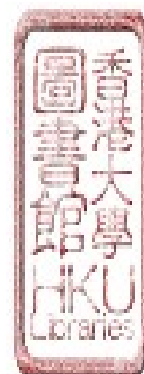
From the emergence of first few lifts in Hong Kong till an abundance of lifts nowadays, the government has been trying to explore different types of governances and policy instruments to cope with different circumstances. The loose rules and regulations in the past and the latest Ordinances and policies promulgated by the government symbolize the increasing regulatory actions taken



over the years. On the other hand, various types of partnership and schemes introduced by the government have implied the capacity building towards the involved parties within the lift industry. In this connection, the above research questions can be answered through the study and analysis of governance and policy instrument used by the government in the past and nowadays.

It appears that the government has attempted to shift to different types of governance and policy instruments to solve the problems brought by the incidents, the increasing number of lift incidents simply implied that there are rooms for the government to improve its regulating actions and capacity building within the lift industry.

While it has no formulation of perfect mixture of regulatory action and capacity building of a state, the choice of the governance and policy tools depends on numerous factors, such as capacity and competency of a public actor, the political environment, interactions among various stakeholders, etc. In this connection, this project also provides recommendations on the application of governance and policy tools through evaluating the problem and concerns raised by different parties and studying various overseas examples to find a way forward for Hong



Kong's future policy direction.

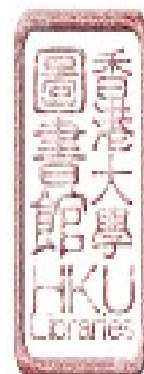
Overview of the Analytical Framework

Policy making of lift industry is a complex issue in the aspect of political, social and economic condition, together with the availability of government resources.

To study the effectiveness of the governance and policy instrument model, several interrelated theories from different scholars are adopted in this project.

Knill & Tosun (2012), McDonnell & Elmore (1987), Braithwaite (2011), Peters & Pierre (2015), as well as Driessen & colleagues (2012) address theories, concepts and related ideas which are synthesized here as the analytical framework for the project.

The model by Knill & Tosun (2012) on the three modes of governance, namely market, hierarchy and network, as well as four types of governances, namely interventionist governance, regulated self-governance, cooperative governance and private self-governance categorize the institutionalized relationship between the public and private actors. The use of different governances looks into forms of cooperation with levels of legal obligation, in both hierarchical and non-hierarchical types between the public and private actors.

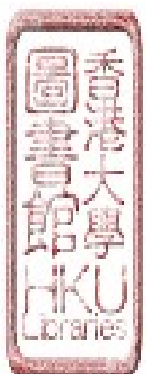


The advent of each governance mode and type is interrelated with the policy tools applied in the lift industry. The policy instruments model with highest regulatory function includes mandates suggested by McDonnell & Elmore (1987), contracts by Peters & Pierre (2015) and pyramid of sanctions by Braithwaite (2011).

Moreover, there are other policy instruments suggest the level of regulatory action decreases with the emergence of capacity building by the public actor, for example, inducements and capacity building suggested by McDonnell & Elmore (1987), soft law and partnership by Peters & Pierre (2015) and pyramid of sanctions by Braithwaite (2011).

At the time when private actors gain highest degree of autonomy and authority over the public actors, there are relevant policy tools such as system changing by McDonnell & Elmore (1987) and network mentioned by Peters & Pierre (2015).

The above only shows a general categorization of governances and policy instruments since the public and private actors can actually adopt any mix of governance(s) and policy instrument(s) according to their needs and society's situation.



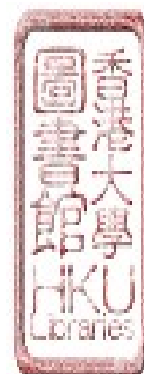
The intermediate social problem could be handled by viewing through the lens of the choice of policy instruments. A further evaluation on the legitimacy of the governance undertaken by the government could provide a further prospective solution when viewing the industry as a whole.

Other dimensions affecting policy making, including the divisibility, solvability, scale and complexity, as suggested by Peters & Pierre (2015) and the two features and context recommended by Driessen & colleagues (2012) indicate the modes and choices of governance guiding to an effective policy implementation.

Research Methodology

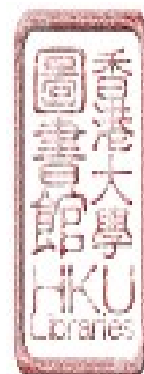
The analytical framework is developed through a literature study, including academic journals, articles and reports on the theories of public administration.

The empirical analysis of the project is based on desktop research on the primary and secondary resources such as the Ordinances, Regulations, Codes of Practices, Legislative Council Papers, Audit Reports, news articles, websites etc., for evaluating the development, regulatory action and capacity building taken in the lift industry. The resources from overseas governments and websites are also studied and analyzed for providing inspiration and recommendations in this project.



Cost implications have been taken into consideration to determine the research methodology in this project. Conducting interview and survey with the EMSD officers and lift industry practitioners would be a considerable research method to obtain direct information such as their opinions and experience, which would provide supportive evidence on the use of governance and policy tools adopted by the government in the past and present practice. However, in view of the complicated administrative procedures to conduct approved research with government officers, and the potential of obtaining subjective result with a limited sample size, the extensive use of desktop research is considered as sufficient.

Apart from the authoritative literature and journals by above-mentioned scholars, the desktop research can provide the most up-to-date data and information on social issues, whereas the official websites of various governments, associations and organizations offer comprehensive and accurate information for public to access. The latest public policies of overseas countries are also searched via the internet.



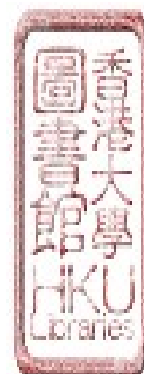
Chapter Outline

This project consists of five chapters, including this introductory chapter. Outline of each chapter is set out as follows -

Chapter 2 as a literature review of the analytical framework includes the Knill & Tosun's three modes and four types of governances, Driessen & colleagues' dimensions affecting the mode of governance, McDonnell & Elmore's four policy instruments, Braithwaite's pyramids of supports and sanctions and Peters & Pierre's four types of instruments, which are used especially to deal with non-government actors.

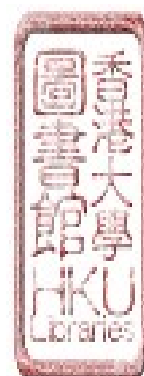
Chapter 3 provides the overview of the development of lift industry in Hong Kong. The changes on regulatory actions and capacity building adopted by the government from 1960s to nowadays are studied, followed by an overview on the whole industry from the angles of responsibility, stakeholders, manpower and the remuneration package within the lift industry.

Chapter 4 evaluates the operation dynamics of the lift industry. The mixed modes and types of governance are evaluated under the model by Knill & Tosun. The



problems occurred in the lift industry are discussed by using desktop research materials in forms of press reports, papers available from the publication from Legislative Council and Audit Commission.

Chapter 5 provides recommendations on the short-term and long-term regulatory action and capacity building by the Hong Kong Government with base on the choices of policy tools and direction of governance, as well as inspiration from the practice and experience from the United Kingdom and Singapore's lift industry.

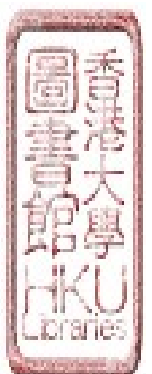


CHAPTER 2 – Analytical Framework

Introduction

This chapter establishes the analytical framework by discussing key concepts of regulatory action and capacity building in the wider context of public management and governance. Regulatory action and capacity building can be carried out by adopting different types of governance and policy instruments. While regulatory action is a hands-on approach aiming to build a legal-binding environment, capacity building is a hands-off approach aiming to build a more flexible environment with multiple decision makers with their expertise. The choice of governance and policy instruments under different political, social and market scenarios is discussed to examine its effectiveness.

Governing an industry is not only about regulations or a set of rules, the resources allocation among the social actors, operations on a set of institutions setting out “who gets what, where, when and how” in society and the management on the symbolic resources that are the basis of political legitimacy (Lasswell, 1958) are also what the government should do for an industry. In a broad sense, the term governance is used to describe the mode of coordination exercised by state actors



over social ones in their efforts to solve familiar problems of collective action inherent in government and governing (Rhodes, 1997; de Bruijn & ten Heuvelhof, 1995; Kooiman, 1993, 2000; Majone, 1997; Kliji & koppenjoan, 2000).

Though there is no particular formula leads to a perfect mixture of governance and policy tools, a public actor may choose the most suitable governance by assessing its political and socio-economic situation, thus deriving specific policy instruments to match with the governance adopted to solve a social problem or to maximize the provision of public goods and services according to actual societal environment. . In this connection, there are possibilities that shift of governance and policy tools being used by a public actor when responding to different social issues.

The interrelated relationships, in terms of the characteristics and features of different governances and policy instruments construct the analytical framework in this project to facilitate our study of lift industry in Hong Kong. Components of the framework are set out below –

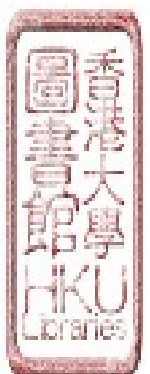
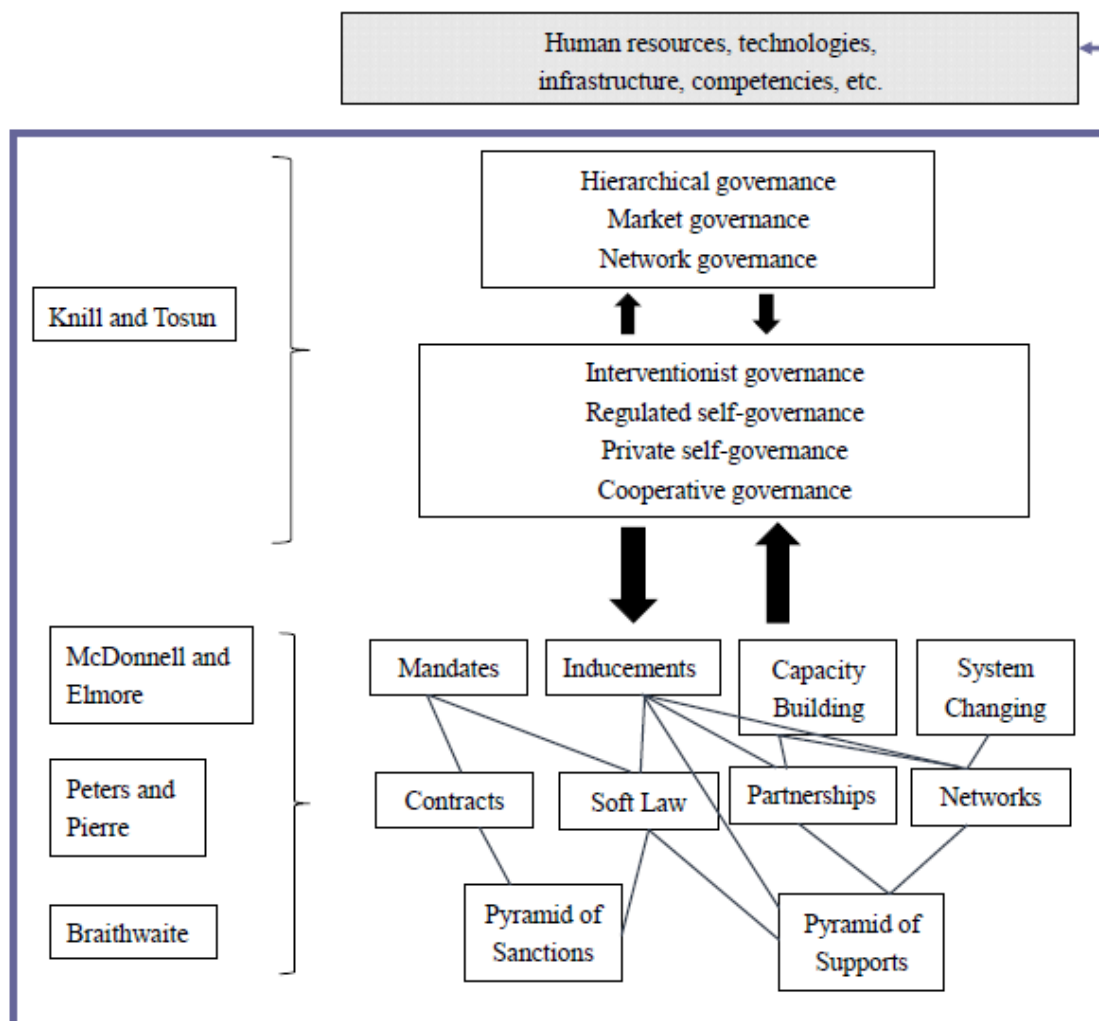


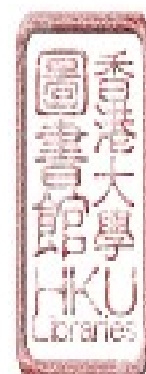
Figure 2.1- Components of Governance and Policy Instruments



Governance: Definitions, Modes & Types

Definitions

Governance is a term used widely in public policy analysis. It is usually viewed as a change process in which political steering is brought by networks coordination in the society instead of centralized power from the state. The coordination among multi-discipline diverted the power in vertical hierarchy and the permeable and



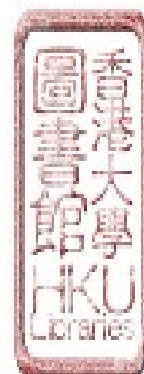
flexible system boundaries will facilitate communication and will support the achievement of higher level goals (Lyall & Tait, 2005).

Scholars have pointed out the difference between the “government” and “governance” approach lying in the placement of power in the system.

Government is a top-down legislative approach attempting to regulate the behavior of people and institutions in quite detailed and compartmentalized ways.

Governance is an attempt to set the parameters of the system within which people and institutions behave so that self-regulation achieves the desired outcomes (Lyall & Tait, 2005).

The term of governance has been viewed with different meanings by different authors. Newman (2001) suggested that governance comprises multiple and conflicting strands and is constituted by disparate forms of power. Benz (2004) identified the core meaning of governance as steering and co-ordination of interdependent actors based on institutionalized rules systems. Some other views the governance as a “State centric image of governance” (Peters & Pierre, 2000). Nevertheless, no matter how the diversification of the power is made under the governance approach, the authors are of the opinion that the state institution still

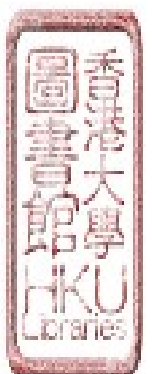


remains a role in the systems.

References of major ideas of governance are made from Knill & Tosun (2012), which they have classified different modes and types of governance base on two dimensions: (i) pattern of political steering and (ii) institutionalized relationship between public and private actors in light of hierarchical and non-hierarchical modes. These two dimensions have derived the governances into two opposite types, that is, governance with hierarchical relationship between the private and public actors, with public actors being the decision maker for political steering and governance with non-hierarchical relationship between both actors, with private actors being the decision maker for political steering and further discussions are elaborated as follows.

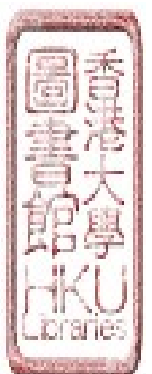
Modes and Types of Governance

Knill & Tosun (2012) provided clear division of (i) three modes of governance and (ii) four types of governance. The three modes can be categorized into hierarchical governance, market governance and network governance whereas the four types of governance can be categorized into interventionist governance, regulated self-governance, cooperative governance and private self-governance. The classification is based on two analytical distinctions: the degree of (i)



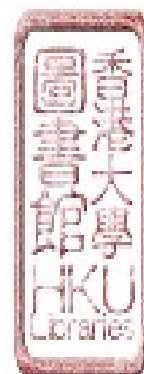
cooperation between public and private actors and (ii) legal obligation that results in policy solutions. In principle, any single type of modes and types of governance will not be adopted solely and it implies that the modes and types of governance actually co-exist in a state.

For *hierarchical governance*, it stresses on the role of formal rules and procedures that are binding for both public and private actors. The authority is on the public actors' side that it has a monopoly on the use of force to bring private actors into compliance with public policy and a distinctive hierarchical relationship is found in this mode of governance. Similar to hierarchical governance, the type of *interventionist governance* provides similar features that reflected limited governance capacity of private actors. Although the interventionist governance does not exclude the involvement of the private actors, the overall responsibility for the provision of public goods lies with the state. Both governances correspond to each other not only the hierarchical provision of public goods but also the reliance on market mechanisms through the hierarchical definition of regulatory frameworks governing market interactions (Knill & Tosun, 2012). In this kind of governance, highest degree of regulatory action is seen because the public actors take the leading role and decision making role during the policy-making,



formulating and implementation stage. On the contrary, the role of private actors are relatively passive in these patterns of governance and their authority are relatively weak.

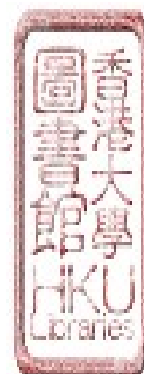
For the *market governance*, it stresses on the opposing model to hierarchical governance based on the idea that goods and services are allocated efficiently without the intervention by the state (Knill & Tosun, 2012). Since it is assumed that information of goods and services are available and can be exchanged in the market, more interactions between the public and private actors are experienced between the public and private actors in order to exchange information. This interactive action has therefore reduced the hierarchical relationship between both actors. The mechanism of market governance is co-related to regulated self-governance in the context of “involving private actors to provide public goods and services”. According to Knill & Tosun (2012), though the *regulated self-governance* obtains the feature of having a clearly defined hierarchical relationship between the public and private actors, it is accompanied by more cooperative relationship between both actors during the formulation and implementation of public policies. Private actors, in the regulated self-governance, can participate and provide ideas during the policy-making and implementation



stage. They may also have the authority to delegate competencies to other private organizations, or to develop regulatory frameworks with public actors to another level of governance – the private self-governance.

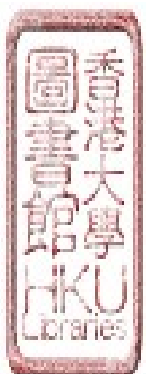
Apart from the above two groups of governance, there are other choices of modes and types of governances which reflect a less hierarchical, or even non-hierarchical relationships between the public and private actors. The degree of legal obligation by both actors are largely decreased at the same time since it stresses on the cooperation and collaboration of both actors and highest degree of capacity building is found. Such features can be found in the network governance, cooperative governance and private self-governance.

The *network governance* is of a modern mode of governance that it involves the coordination and interaction of different involved actors in the state, while the policy decision is no longer decided by public actors by using a top-down approach, but in a negotiate basis as it emphasizes mutual trust and complementarity of resources. (Knill & Tosun, 2012). In the case of *cooperative governance*, private actors play a more dominant role than public actors during the policy-making and implementation process. Both the public and private actors



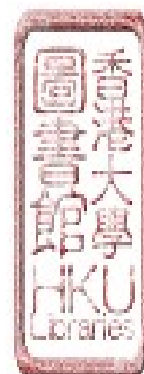
participate on an equal footing and they cooperate together to set out different policies and rules. For *private self-governance*, the cooperation between the state and society is even closer and the authority is mainly in the hands of private actors. In this type of governance, the provision of public goods basically depends on the governance capacity of private actors, rather than the public actors (Knill & Tosun, 2012). Instead of giving out decisions and legal terms, the public actors may contribute as middle-men to solve the conflicting interests or to as a coordinator to facilitate communications of various actors.

Though it deems that there are unique features and distinctive characteristics dividing “regulatory action-type” and “capacity building-type” among the types and modes of governances above, a state may choose to adopt few types of the governances above to cater its needs to tackle the policy problem(s), when considering certain number of factors. Driessen & colleagues (2012) suggested four dimensions affecting the mode of governance in the state. The first two dimensions are the *stakeholder features* and *institutional features*, where the stakeholder features refer to the initiator of actions, stakeholder position and power base, namely authority, legitimacy, leadership and competitiveness and institutional features include the model of representation, rules of interaction and



mechanisms of social interaction. Another two dimensions are the *urban contexts* and *community contexts*. Urban contexts include several key references including policy, planning, spatial, economic and social dynamics, and financial resources. Community contexts are the setting and circumstances of a specific community or industry. The references of community contexts are diverse, including spatial conditions, social networks, population composition, and formal and informal economic activities (Driessen & colleagues, 2012).

The first two dimensions, i.e. the stakeholder and institutional features are the existing features that are being set up between the state and the market. A simple institution arrangement showing the principle and agent relationship and the driver in the policy making can necessarily symbolize the modes of governance undertaken in the state. Driessen & colleagues (2012) suggested that these two features indicate the difference between the modes of governance. The remaining two contexts, i.e. the urban and community context are the objective factors that exists in the society including the political environment, economy, demographics, social dynamics that is to some extent governing the effectiveness of the governance modes to be undertaken. Driessen & colleagues (2012) suggested that the two contexts indicate the choices of the modes of governance.



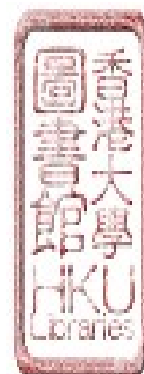
When a state has taken all considerations to sort out the most suitable type of governance, relevant policy instrument(s) have to be adopted at the same time to solve the policy problems or to provide public goods and/or services.

From Governance to the Use of Policy Instruments

Policy instruments can serve to produce institutional effects which facilitate and constrain certain modes of governance at the meso and macro levels (Kay & Daugbjerg, 2015). Kay & Daugbjerg (2015) also suggested that a governance network would inherit a set of policy instruments and the instruments may be changed from time to time to reflect changes of governances. As a result, there is an analogous relationship between the governance and policy instruments, which would highly affect the policy decisions and provision of public goods and services. Similarly, different types of policy instrument can serve the purpose of conduction of regulatory action and capacity building of a state.

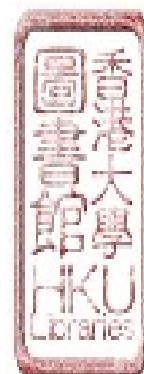
Types of Policy Instruments

According to Vedung (1998), policy instruments refer to “the set of techniques by which governmental authorities wield their power in attempting to ensure support and effect or prevent social changes”. The policy instruments facilitate the

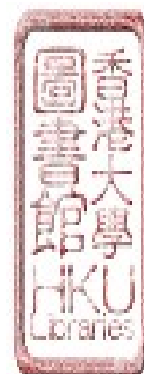


execution of social policies and to bring the policies into effect. Similar to the modes and types of governance, some policy instruments are used to bind a legal or/and hierarchical relationships between the public and private actors. On the contrary, some other types of policy instruments are adopted to initiate cooperative and collaborative relationships between both actors. Regarding the policy design, the instruments must be linked to the assumed causation of the problems a state is addressing, In the following, various instruments are divided into three levels by using the legal obligation and authority obtained by public or/and private actors when planning and executing the policies with the aid of relevant instruments.

McDonnell & Elmore (1987) suggested that *mandates* are rules governing the actions of individuals and agencies. The expected effect of mandates is compliance, or behavior consistent with what the rules prescribe. Mandates here are defined as regulatory action. McDonnell & Elmore (1987) further explained that mandates entail no transfer of money as an inducement to comply. The government using mandates only require enforcement and it entails both the individuals and implementing agencies. The concept of mandates is similar to contracts by Peters & Pierre (2015) and pyramid of sanctions by Braithwaite

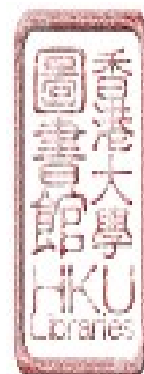


(2011) when public actors require assistance from private actors, however, at the same time the public actors would like to keep the relationship on a legal-binding basis. *Contracts* are a type of common instrument for contemporary governance to procure goods and services including policy domains. A contract has to be specific and rigid to include all the terms and conditions which can effectively protect both the public actors and the goods/services providers. Contracts have the advantage that they are not institutionalized and public actors do not have to concern themselves with problems of capture by the goods/services providers (Peters & Pierre, 2015). As for the *pyramid of sanctions*, it escalates in terms of education, shame, sanction, prosecution and revocation of license, implying that a punitive approach is introduced. It gradually moves upward to a more increasingly demanding interventions, with the ultimate level that legal actions may be taken at the end of the stage, for instance, to terminate the contractual relationships and legal prosecutions may be conducted. This type of policy instruments are effective for imposing regulatory actions towards the private actors and direct compliance is required from the private actors who are of lower hierarchical status. However, this type of instruments causes higher cost to ensure enforcement of agreed terms under the contractual relationship, or under a mandatory environment.



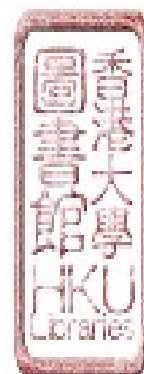
Different from the above instruments which focus on contractual relationship accompanied with legally bound terms and conditions, there is another type of policy instruments which shifts the authority, to a little extent, from the public actors to private actors. Instruments of inducements, capacity building, soft law and partnership can be categorized as similar type of instruments which provide a platform to empower the private actors by building up their capacities in different aspects.

McDonnell & Elmore (1987) explained that under the assumption that when the capacity of public actors is varied from the private actors, *inducements* will be used as a means to transfer money to private actors, e.g., individuals or agencies in return for their production of goods and services. Since the public actors do not have an expertise in particular kind of public goods and services, they need to set some rules or guidelines to ensure the spent money/resources on private actors are tally with the policymakers' (i.e., private actors) intent. In this regard, inducements are usually accompanied by rules since transfers of money are on a conditional grant basis. The use of rules as a policy instrument is therefore similar to another policy instrument, soft law, which mentioned by Peters & Pierre (2015) in the sense that soft law allows negotiation among parties and it provides higher



flexibility for all parties. Soft law allows variability in implementation, including the targets of programme, and even space for adjustments after the launch of programme. Soft law is considered comparable with inducements, especially on the “rules” part. Since the public actors alone are not able to obtain all available information on hand, therefore they would not set out rigid terms and conditions to control the activities and contributions by private actors, who obtain more information or expertise than the public actors. However, there may be still punitive measurements, as mentioned in the pyramid of sanctions, to be carried out by public actors if private actors cannot fulfill the requirement from the public actors and conditions stipulated in soft law would serve the punishment purpose.

Another example of instrument showing the cooperation nature between public and private actors is *capacity building*. It is the transfer of money to agencies and individuals for the purpose of investment in future benefits in both tangible and intangible forms. For instance, material is tangible type while intellectual or human resources are intangible. It involves uncertainty since there will be distant returns and the results are not of immediate type (McDonnell & Elmore, 1987). The main difference of capacity building and inducements is that the time frame for receiving benefits which inducements expect achieving a quicker result than

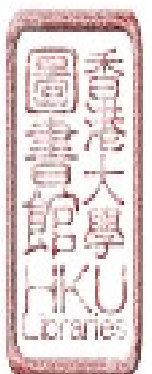


capacity building, which needs more time to develop the outcome.

From the policy instruments of inducements, capacity changing and soft law, they have some similarities as the instrument of *partnership* by Peters & Pierre (2015).

While contracts stress on the “delivery of services” by the agency, partnerships stress on the “agency” as working partner. The status between the public actors and the agencies in partnerships involve collaborative service delivery, especially when the public actor lacks specialized knowledge or expertise. Similar to inducements and capacity building, the instrument of partnerships looks for a continuing partnership with private actors and agencies on an equal footing basis.

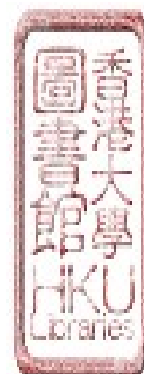
Unlike mandates and contracts, policy instruments of inducements, capacity building, soft law and partnership contain allied principle of having cooperation relationship under a less legally-bound environment, and therefore these types of instruments have higher tendency to be used along with *pyramid of supports*, another instrument promotes the cooperation and trust between public actors and private actors. Braithwaite (2011) suggested that a pyramid of supports is weaker than pyramid of sanctions in the legislation and punishment aspects. The pyramid of supports would provide different levels of positive reinforcements, such as



informal praise, prizes or grants, incentives, etc. to encourage the cooperation between the public actors and private actors.

The last type of instruments, system changing and network suggests the highest authority holding by private actors and even to their partners when there is more than one group of private actor during the policy-making and implementation process. For *system changing*, it refers to the transfer of official authority among public and private actors. The use of this instrument is to broaden or narrow a system to change the institutional structure of public goods being delivered. The shift of authority is expected to increase efficiency to deliver the public goods. The effect of system changing policies may alter the distribution of public resources to providers or consumers of public goods, and to some extent this instrument may be similar to inducements in nature. However, system changing mainly refers to distribution of authority and whereas inducements mainly refer to distribution of money and funds. It is worth mentioning that system changing may lead to the emergence of new agencies, which may have more expertise in particular issues, to deal with the social problem (McDonnell & Elmore, 1987).

Arising from the cooperation between public actors and agencies on a one-to-one

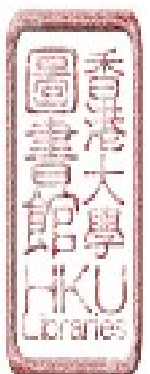


basis within the instruments of contracts and partnerships, the notion of governance through networks derives from more participatory conceptions of governing. Groups of agencies would participate in policy-making and implementation process so as to improve the service quality and more inclusive (Peters & Pierre, 2015). Networks are especially effective when dealing with multiple interests involved that need to be accommodated in a decision. It also enhances the decision making process when multiple decision makers with various professionalisms are gathered to solve a complex social issue.

Both the instruments of system changing and networks may also work along with the pyramid of supports to ensure interactive communication is conducted between the private and public actors. The pyramid of support on the other hand acts as an attractive factor to initiate positive competition among various private actors since the “formal” recognition gained from the public actors would increase their status and reputation for attracting more collaboration with different organizations in the future.

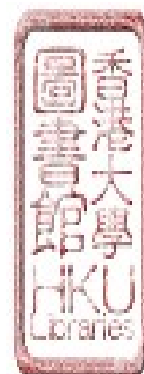
Use of Policy Instruments to Tackle Policy Problems

While policy instruments can generally be divided into three categories, with



regulatory action and capacity building in nature according to the legal obligation complied by private actors, it does not necessarily represent that only a specific set of policy instruments are fit with respective governances according to their similar features. As a result, it is possible that a state would adopt the policy instruments, which are of different characteristics and nature, at the same time to achieve their specific policy goals. For example, a state would make use of contracts to set definite rules and regulations towards the goods/services provider and at the same time, a pyramid of supports may also be adopted to encourage the goods/services provider to strive for better performance within the contract period. For newly developed groups of experts through the policy instrument of networks, a state may want to impose soft law to monitor their performance at the beginning of the collaboration stage and to ensure goal alignments with the groups of participants that they are on the same track as the public actors. The policy instruments are therefore interlocking with each other depends on the choice by the decision makers.

In relation to the above examples given, Kay & Daugbjerg (2015) pointed out that a state should make use of instruments to maintain certain condition or to make a change in current social situation no matter which governance mode a state has.

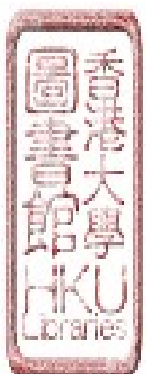


Hence, even softer forms of governance such as network governance still require the use of a mixture of instruments.

Regarding the choice of instruments to tackle the policy problems, Peters & Pierre (2015) provided insights that there are some dimensions which would affect the manner in which public sectors making policy. These dimensions include divisibility, solvability, scale and complexity.

For divisibility, some of the solutions developed to solve the policy problems are deemed undividable. It is also difficult to determine the consumption of goods by people. Because of its vague nature, it undermines the responsibility taken by any parties when the policy problems arise.

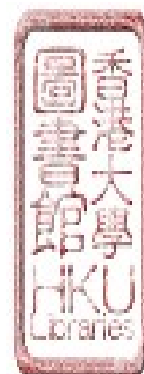
Some of the policy problems may not be totally solved. Intervention may do some good to the policy problem but it may not be able to tackle the root cause. The solvability of a policy problem may be limited by the capacity to solve the policy problems by policy makers and their advisors with the use of their limited knowledge or experience.



The scale of policy problems is in positive co-relation with time dimension. Large scale of policy problems would mean more time consuming to solve. Other factors such as political implications for governments for resources and policy commitment have to be taken into consideration at the same time. Without commitment of time and resources, large scale policy problem could not be solved.

For complexity, it is defined as political complexity and substantive complexity by Peters & Pierre (2015). Substantive complexity includes the complicated nature of the problem and the unpredictable variables. Political complexity refers to the number of competing interests in a policy area and the extent to which these interests are competitive. Political complexity requires building coalitions around solutions.

With reference to the discussion of governances and policy instruments above, it would be direct to point out that procedures of policy-making, formulation and implementation, which derived from choice of governance and policy instruments use, are the most crucial part and the policy makers are the most influential parties on the choice of governance and policy instruments. As a result, some underlying

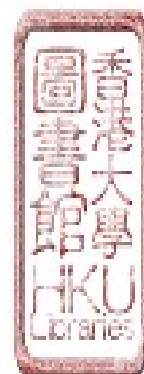


capacities of the public actors, or some other policy makers are crucial to decide the governance and policy instrument(s) to be chosen.

Underlying Capacity for Good Use of Governance and Policy Instruments

Mukherjee & Howlett (2015) stated that “contemporary policy studies recognize that public policies typically result from the concerted efforts of multiple levels of governments and other important policy actors to achieve policy goals through the use of policy instruments”, which implied the capacities and competencies of policy decision-makers are very important since they would determine the policy arrangements and result in the quantity and quality of public good to be brought to citizens. Each of the various types of policy capacity is fundamentally important for any system of governance to function well (Mukherjee & Howlett, 2015).

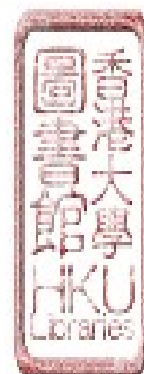
Taking the work from Wu, Ramesh & Howlett (2015), Mukherjee & Howlett put forward three levels of arrangements: individual, organizational and system to become a competent state. The *individual* level highlighted the public actors and policy makers should possess expertise and knowledge of respective social problem; and to understand the interests of different stakeholders. As for the *organizational* level, the mobility of information and infrastructure should be



readily available to cope with materials needed when carrying out various policies. Regarding the *system* level, some institutions and opportunities for knowledge, on the other hand, meaning some intangible competencies should also be available for being held accountable and securing political legitimacy when the policy is launched.

Besides the policy makers themselves, other capacities such as human resources, technologies, infrastructure and competencies are identified and shown in *Figure 2.1* above as the essential elements for public actors and policy makers when they determining their policy styles in the context of lift industry of Hong Kong.

For infrastructure like comprehensive legal system, professional and experienced human resources, sufficient financial back up, etc. are the tangible capacities that the policy makers should be equipped with when developing an appropriate combination of governance and policy instruments. While some soft skills such as effective and efficient communication mechanisms, harmonious political and social environment, relationship of own state and other countries are also important capacities that the policy makers should obtain especially during the policy-making stage.

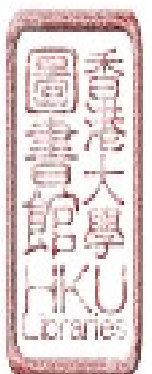


Concluding Remarks

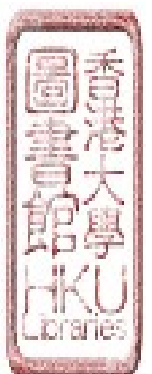
This chapter serves the foundation to structure, guide and inform the empirical findings in the next few chapters. The governance and policy instruments can be categorized in terms of legal obligation and hierarchical relationship between the private and public actors. Depending on the optimal mixture of regulatory action and capacity building being considered by the policy makers, mixed use of governance and policy instruments with different characteristics can be used at the same time. Categorization of governance by Knill & Tosun provides unique features of different modes and types of governance. Besides, types of policy instruments by McDonnell & Elmore, Peters & Pierre as well as Braithwaite help proving that crossed use of policy instruments can be effective.

It is important to note the capability of the government, political and socio-economic situation of the society, as well as the possible capacity building elements after implementation of specific policy instruments. As such, there is no hard and fast rule for a perfect combination of governance and policy instruments for a public sector.

In the following few chapters, the history and development of lift industry in



Hong Kong would be introduced, with the examination of governance, mode of governance, policy instruments and other necessary elements the lift industry had adopted. Furthermore, an evaluation on its effectiveness and shortcomings will be discussed accordingly.

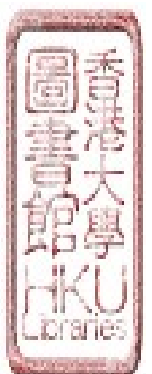


CHAPTER 3 – Overview of Hong Kong Lift Industry – Development and Policy Context

Introduction

Chapter 2 provided the analytical framework of the study of lift industry in Hong Kong. The chapter provides the information regarding the development of the lift industry in Hong Kong since its emergence in 1960s and the different policy tools used in the monitoring of the lift industry since then. In order to understand the background of the lift industry better, the overview of the industry and the stakeholders involved in the industry will also be discussed.

The lift industry is a mature business sector in the world. Starting from the invention followed by the selling of first lift by Elisha Graves Otis in 1853 (Otis Elevator Company, n.d.), the lift industry has been developing across different geographic regions and countries in the aspect of technical mechanism, safety, maintenance, product quality, finance and management. Nowadays, given the growing speed of global urbanization and uplift of skyscrapers, towers and high rise buildings, the demand of lift is escalating and complicating. Related safety and monitoring measures are of greater importance to ensure people to be lifted in safe and speedy means. In Hong Kong, the emergence of the industry only started



from 1960s that a variety of policy tools including the relative ordinances and regulations first developed. The development of the industry is divided into 3 eras: “Emergence of lift industry: 1960s-1990”, “Urbanization and frequent breakdowns of lifts: 1990-2013” and “Current situation of lift industry: 2013-2016”. There were reasons that lead to the change and brought the lift industry to another era. They will be discussed in details in this Chapter.

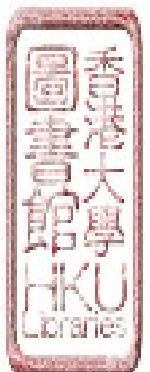
Changes in the Industry: 1960s-2016

Emergence of Lift Industry

In Hong Kong, the first lift and escalator were installed in Hong Kong Hotel in 1888 and Man Yee Building in 1957 by Otis Elevator Company. The appointment of Otis Elevator Company marked the beginning of contractual relationship between the Hong Kong Government and private sectors for the lift industry. It has also initiated the prototype of regulations to monitor relevant parties of lift industry.

Mandate Tools – Ordinance and Regulations

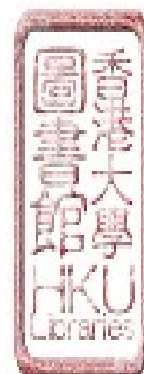
During the 1960s, structure of lift industry was relatively simple and therefore the Hong Kong Government only enacted The Lifts and Escalators (Safety)



Ordinance (“LESO”) (Chapter 327) and Building (Lifts) Regulations (Chapter 123), with a view to authorizing EMSD as the enforcement agency on various provisions of lifts including design, construction, maintenance and testing of lifts and escalators, as well as to providing basic principles which lift users and other relevant parties should abide by the above ordinance and regulations.

The enactment of LESO in monitoring the lift industry by laws and regulations with EMSD as the law enforcement agency marked the use of mandate of policy tool (McDonnell & Elmore, 1987) at the early stage to tackle the lift safety problem in Hong Kong. Use of mandates was a straight forward way for the government to monitor the private sectors and lift users. Besides, the setting out of the policy with rigid terms and little involvement of parties other than the government supported that the Hong Kong Government first adopted the governance by hierarchy, which stresses the role of formal rules and procedures that were binding for both public and private actors (Knill & Tosun, 2012). The LESO was followed by minor amendments in 1990s regarding the wordings and part of the terms.

With mandates and hierarchical governance, Hong Kong Government expected

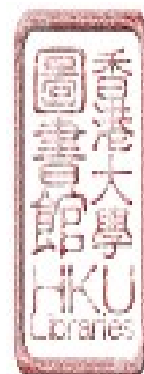


compliance and consistent positive behaviors by private sectors and lift users could reach the target of lift safety.

Urbanization and Frequent Breakdowns of Lifts

In early 1980s, Hong Kong was experiencing a mix of businesses, including provision of raw materials, equipment, technology and management to different countries (Hong Kong Memory, n.d.). At the same time, Hong Kong was transformed from an industrialized city to service-reliance city by providing financial services. With continued population growth and scarce land, upward development by constructing high-rise buildings was the most preferable. As a result, demand of lifts was increasing and more contractors had been engaged to provide different services for lift industry.

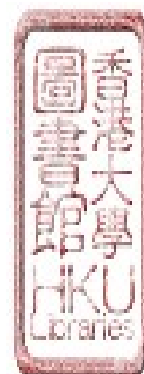
A series of fatal lift incidents in 2008 raised public concern on lift industry. In January 2009, an investigation into the lift regulatory system was initiated by the Ombudsman, who released its findings and recommendations in August 2009. The EMSD also reviewed the Chapter 327 and the Lifts and Escalators Ordinance (Cap. 618), together with the two regulations (the Lifts and Escalators (General) Regulation ("the General Regulation") and the Lifts and Escalators (Fees)



Regulation) were enacted and repealed Chapter 327 in December 2012.

In the old ordinance (Chapter 327), use of mandate measures (McDonnell & Elmore, 1987) for monitoring the lift safety under the hieratical governance (Knill & Tosun, 2012) was highly stressed with the use of different policy tools. Typical systems include the type approval system (see appendix I) for approval on any newly installed lift, resumption permit system for any major alternation of the lift (see appendix I) and issue of use of permit for ensuring periodic examination for safe working orders on the lift operations (see appendix I).

The new ordinance (Chapter 618) has come into new operation on 17 December 2012, with various new measures included to ensure the lift safety. The key change was the Hong Kong Government stepping up the mandate measures by including a new registration system (see appendix II), updates on new qualification requirement for registered lift engineers, and launch on new record keeping system. Other measures include use of escalated sanctions (Braithwaite, 2011) to improper and unsafe practices with the maximum fine increases to \$200,000 and maximum imprisonment increases to 12 months.

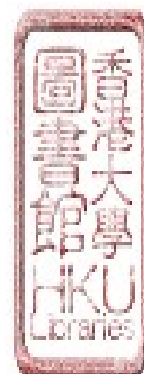


Other than the changes on the policy tools, the new ordinance (Chapter 618) has also made a substantially amendment on clarifying the duties of a role namely “responsible person” in the lift industry. According to Chapter 618 (Electrical and Mechanical Services Department, 2012), the “responsible person” is defined as:

- (1) The owner of the lift; or
- (2) Any other person who has the management or control of the lift.

Examples of the responsible person are a property management unit or a public utilities company who own the lift as their assets. The new definition by the Hong Kong Government has extended the mandate requirements under the new Ordinance which covers a wider group of stakeholders in the industry. The extension has also increased the level of hierarchical governance by additional layers involved, i.e. an addition role of responsible person to look after the operations (the operator) and maintenance works (the maintenance contractor).

The modification of Ordinance from Chapter 327 to Chapter 618 showed the Hong Kong Government still preferred to use hierarchical governance in monitoring the industry. The government has strengthened the restrictions and added more details in the terms to cope with lift industry and users who have growing complexity. As stated by EMSD, the new ordinance introduces “a series

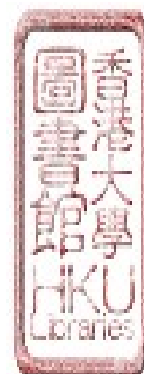


of enhanced control measures including the coverage of the legislation, strengthening the registration regime of personnel engaged in lift and escalator works, increasing the penalty levels of offences and improving the regulatory processes to enhance efficiency” (EMSD, 2012). The new ordinance, which is more sophisticated than the previous one, reflected that the extension of monitoring has extended from technical aspects to personnel, procedural and monetary aspects.

Apart from the revision of the LESO, which is a mandate policy tools, other policy tools were also introduced and amended during the period.

Inducement Tools – Loans and Grants for Property Owners

The Urban Renewal Authority (URA) and the Hong Kong Housing Society (HKHS) jointly operate the Integrated Building Maintenance Assistance Scheme (IBMAS) to encourage domestic property owners and owners of composite buildings to rehabilitate their buildings (Hong Kong Housing Society, 2016). Financial assistance in the form of subsidies and grants are open for application. Owners’ Cooperation/Organizations could apply for subsidy for their buildings. Individual flat owners could apply for interest-free or low interest loan. Grants are

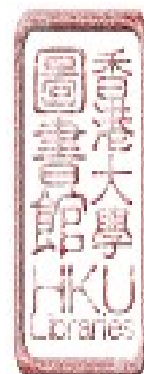


available for the elderly owners. The financial assistances applied are for the carrying out of building maintenance work which includes the work for repairing, carrying out maintenance work or replacement work for lifts.

Capacity Building Tools – Training and Public Education

Capacity building tools are adopted within the lift industry and outside the industry. Trainings are offered to the working talents in the industry and help attracting the new blood to the industry. By promotion and education to the public, lift users gain knowledge and awareness towards the usage of lifts.

There are several institutions offering varieties of training courses in order to nurture the talents in the industry. The Construction Industry Council offers on-site training to new practitioners by Contractor Cooperative Training Scheme, that subsidies to the main contractor are provided (Construction Industry Council, n.d.). The Vocation Training Council also offers various refreshers courses for the workers so that they are remained of the skills and techniques while updated knowledge could be acquired.

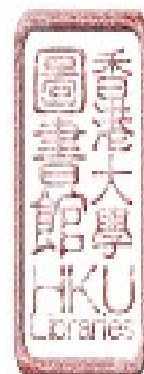


Public education and promotion also played an important role for the dissemination of the importance and knowledge of lift safety. Seminars, official website information, TV advertisement, posters and information leaflets are produced by the EMSD to enhance stakeholders, including responsible persons, contractors, engineers, and workers on their lift maintenance and management information and increase the public awareness on lift and escalator safety. As supported by Braithwaite (2011), most problems can be solved by expanding the self-regulating capacities of concerned parties to solve them for themselves.

Sanction and Supports - Performance Appraisal System

Starting from June 2009, the EMSD introduced the Registered Lift and Escalator Contractors' Performance Rating System (CPR), which aimed at providing transparent and impartial mechanism to assist lift owners or related property management agencies to evaluate the register contractor's performance in safety and service quality aspects so as to facilitate them in choosing suitable contractors for the provision of maintenance and repair services.

The CPR is operated based on the Performance Management (PM) points. The EMSD adopts a risk-based approach in sampling lifts for audit inspection, which

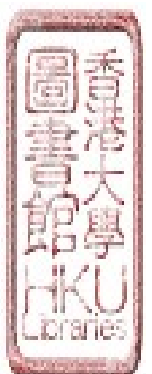


are selected based on the assessed risk of age, installation type, nature of works, incident, and changes of maintenance contractor, complaint and past performance of the contractors. The more complaints, warnings or orders have been received, the more audit inspections will be conducted on the lifts maintained by those contractors.

Any substandard items or non-compliance found by the EMSD during the lift and escalators inspections will be accorded as PM points, which will remain valid and be accumulated for 12 months. The CPR results will be published every 3 months. The EMSD will take corresponding follow-up actions based on the nature of the non-compliance items found.

In 2014-15, a total of 5 professional engineers and 28 inspectors were involved in the team responsible in conducting audit inspection for 10,850 lifts. The total expenditures for audit inspection and incident investigation on lifts and escalators were 25.2M (Electrical and Mechanical Services Department, n.d.).

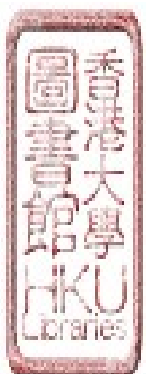
The rating of CPR is divided into Safety Performance and Services Quality Performance and the non-compliance items are categorized into Categories A, B,



C, D, E and X. Category A non-compliance items have critical safety implications and it is used to reflect the Safety Performance. Services Quality Performance is reflected by Categories B, C, D and E, which are accorded different points according to their level of seriousness. The convictions in the Court for infringement of Chapter 618 and guilty counts by the Disciplinary Board will be categorized as Category X. The overall performance rating is defined by the services quality performance index, which is calculated based on the total PM points and number of lifts or escalators inspected in the period.

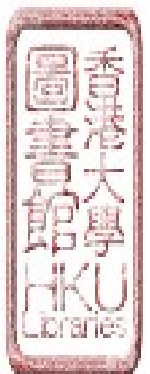
The CPR and related enforcement action was launched with an effect of both “sanctions” and “supports” (Braithwaite, 2011) in monitoring the lift industry. It also works in accordance with the presumption suggested by Braithwaite (2011) that the strategies at the lower part of the pyramid are of higher priority of choice in reason of the level of intervention and cost, and the concept of virtuous, rational, and incompetent law breakers.

On the sanctions’ side, Braithwaite suggested that the pyramid of sanctions shall be in the escalated sanctions. Warning letters are to be issued to concerned contractors by the EMSD for several situations: a Category A item of a particular



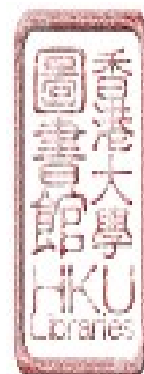
contractor is found, points accorded exceed a certain limit, or the average points accorded exceed a certain limit in preceding 12 months. Further disciplinary action will be taken if more than 3 warning letters are received by a contractor. The disciplinary board will hold a disciplinary hearing which may impose sanctions, including reprimand, fine, suspension or cancellation of registration, to the concerned contractor. Prosecution action will be considered if an offence is committed under Chapter 618. The escalating punishments set by the EMSD are therefore of the same principle of Braithwaite's pyramid of sanctions.

For minor non-compliance incidents, the use of CPR and the issue of warning letter are considered as suitable and cost-effective to prevent non-compliance through a monitoring scheme operated by the EMSD. The disciplinary action is considered to be imposed only if more than 3 warning letters are issued, as the meeting of the disciplinary board requires considerable time for in-depth case investigations and discussions before making final decision on the sanction imposed. Criminal prosecution on suspected infringement of the Ordinance requires court hearing and related administration works which are considered as the most interventional and costly.



On the support side, a new Star Rating System was introduced by the EMSD. Contractors who do not have any safety performance irregularities detected in the past 12-month period will be awarded with a green Safety Star. Any non-compliance found in safety aspect will receive a warning letter. The non-compliance record will be kept for 12 months. Blue Quality Stars will be awarded to contractors based on the services quality performance index. The higher the index, the more “blue stars” will be awarded. Each contractor could be awarded as many as 5 “blue stars”. No blue stars will be awarded to contractors who do not have any green stars. The rating scheme is also considered as a means of inducement (McDonnell & Elmore, 1987) to the contractors for providing better quality service for the lift industry.

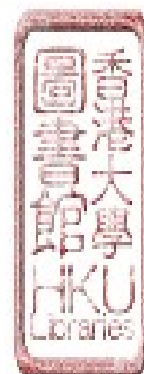
The use of hierarchical governance by the Hong Kong Government shows that it still plays a key role in policy making to ensure lift safety (i.e., the common good) within the community. At the same time, the introduction of appraisal scheme also marked the adaptation of regulated self-governance, where constellations in which hierarchical intervention through legally binding rules is accompanied by a more cooperative relationship between public and private actors (Knill & Tosun, 2012).



Current Situation of Lift Industry

The situation of the lift industry was further improved after the changes in policy tools and governance during the era of urbanization and frequent breakdowns of lifts during 1990-2013. Apart from the CPR, the EMSD launched a pilot run of the voluntary lift service recognition scheme which encourages responsible persons for lifts to enhance the lift safety levels and to improve their lift management skills in October 2015. A total of 94 applications covering 1 230 lifts, 254 buildings and 39 corporations were involved. The submissions will be assessed according to the evaluation benchmarks on “status of implementation of the seven lift modernization solutions”, “lift management performance of the responsible person” and “lift suspension time due to equipment failure”. According to the rating criteria, gold, silver and bronze award was attained by 3, 26 and 16 applicants respectively (Hong Kong’s Information Services Department, 2016).

As a pilot run scheme on the material (in terms of certificate) yet informal awards, the adoption of “Quality Lift Service Recognition Scheme” is an practical example of “informal praise” suggested by Braithwaite (2011) acting as a token of recognition on the responsible person’s contribution on for encouraging self-regulation and maintaining lift safety.



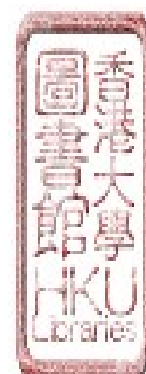
By adopting different measures mentioned above, the contractors' performance is being quantified by various marking schemes. As a result, they will receive awards for their outstanding services and at the same time different levels of penalties according to the seriousness of fault(s) committed. The Hong Kong Government would refer recalcitrant contractor(s) based on the PM points accorded to legal prosecutions ultimately.

With a strengthened focus on the hierarchical governance after the amendment on the ordinance and a direction of shift to the regulated self-governance by system change upon the introduction of the supports and sanction tools, the number of lift accidents remains at a low level from 2013 to 2015, ranging from 330 to 439 numbers per year. By taken account the total number of lifts with 61,655 numbers as at April 2015, the accident rate is about 0.7%. (Audit Commission, 2016)

Table 3.1 Lift or escalators incidents: 2013-2015

| Years | 2013 | 2014 | 2015 |
|------------------------------|-------------|-------------|-------------|
| Lift incidents | | | |
| Caused by passenger behavior | 319 | 437 | 427 |
| Caused by equipment fault | 5 | 4 | 11 |
| Occurred during lift works | 6 | 5 | 1 |

Source: Electrical and Mechanical Services Department (2016)

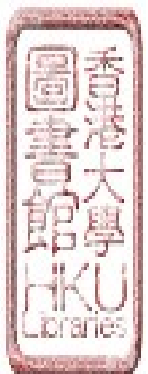


The majority of the lift incidents were caused by passenger behavior, constituting more than 95% of the total. Only a minority (less than 5%) is caused by equipment fault or construction works. The steering behind the passenger behaviors and equipment faults was worthwhile to explore. A sensible presumption on the passenger behavior attributable to the knowledge and recognition of the passengers (or the public) and equipment fault attributable to that of the maintenance contractor could be under different roles in the stakeholder arrangement under different type of governance leading to choices and priority between the hierarchical governance and market governance.

As mentioned by Driessen & colleagues (2012), the setting and circumstances of a specific community or industry can affect the choices of governance modes. In the following, facts regarding the overview of the lift industry based on responsibility and manpower are discussed and evaluated to provide grounds for the studies on the effects of governance in the chapters thereafter.

Responsibility for the Lift Industry

Since there are no owners' corporations for public housing estates and the corporation may have not yet been formed in some Home Ownership Scheme estates, the lift maintenance work is carried out by the contractors of Housing

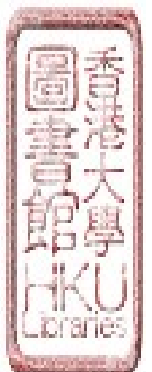


Department. It is worth noting that the lifts in the public housing estates are not covered by the Lifts and Escalators (Safety) Ordinance. It hires registered engineers and contractors to carry out the lift maintenance work. To ensure the work quality, it has an independent checking unit to monitor the performance of the registered engineers and contractors by inspecting 10% of the regular maintenance work.

There is often chance to have a single contractor responsible to undertake the maintenance of all the lifts in a public housing estate and some Home Ownership Estates. Provided the lifts were produced by different manufacturers, how to guarantee the contractors are able to carry out thorough inspections on all the lifts. The lift maintenance contractors hired by Housing Department are requested to follow the Technical Circular issued by the EMSD to the industry.

For those estates that are under the Tenant Purchase Scheme, their owners' corporation tendered the lift maintenance contractors on their own that the contractors are regulated by the EMSD.

Regarding government buildings, the lift maintenance work are carried out by the



Electrical and Mechanical Services Trading Fund.

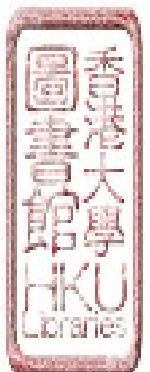
Supposedly, the EMSD should carry out audit check for 10% of the lifts in private building every year. The check sample is a result of risk assessment. In addition, EMSD is supposed to carry out surprise checks to ensure the lift maintenance contractors are performing an up-to-standard service.

Stakeholder Associations in the Lift Industry

Since the first lift installed in Hong Kong in 1888, the lift industry has been growing over the past 120 years. Not only the regulatory body but also the other stakeholder associations shed light on the development of the lift industry. There are many associations or institutions promoting the lift industry by publicizing and exchanging the knowledge and information in the society. Examples are as follows:

Trade Associations

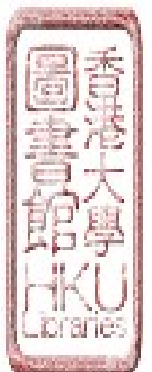
There is only one known trade association for lift and escalator contractors in Hong Kong - *The Lift and Escalator Contractors Association (LECA)*, representing the major lift and escalator contractors selling and providing



maintenance service of the lifts in Hong Kong. According to the Lift and Escalator Industry Association (n.d.), established in 1971, the objectives of LECA are –

To attain a consistently high standard of competence in the lift and escalator industry; to promote and cultivate the safety in the lift and escalator industry; to assist in the provision of all necessary steps for the general advancement and improvement within the lift and escalator industry so as to serve better the public of Hong Kong; to represent those engaged in the lift and escalator industry in Hong Kong in negotiations and discussions pertinent to the industry as a whole in Hong Kong; to enhance the training in the lift and escalator industry; and to be responsible of the funds of the Association for the purposes and objects of the Association. (Lift and Escalator Industry Association, n.d.)

The association contributes to the knowledge dissemination through studying and preparing technical articles related to lifts and escalators, organizing safety-arousing activities and promoting news on safety and health amongst LECA members. It also provides lift practitioners with training courses which can meet the requirements for registration and registration renewal.

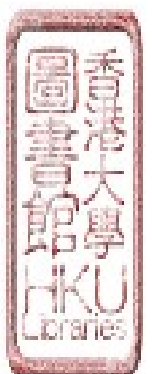


Labor Unions

There are several labor unions representing different working class in the lift industry with different objectives. *The Hong Kong General Union of Lift and Escalator* was established in 1986 aiming at promoting solidarity of the lift industry workers; encouraging effective communication and negotiation between employers and employees and fostering harmonious labor relations. (Hong Kong's Information Services Department, 2011)

The International Association of Elevator Engineers (Hong Kong-China Branch) (IAEE) was established in 1993. While the first IAEE was set up in France in 1986, the association aimed at defining and promoting of vertical transportation's engineering as a specialized profession; promoting of international standards; encouraging of higher professional standards; promoting of scientific and technological expertise and facilitating the co-operation between members. (International Association of Elevator Engineers, n.d.)

The IAEE collaborates with the EMSD to organize free training which can meet the requirements for registration and registration renewal of lift practitioners.

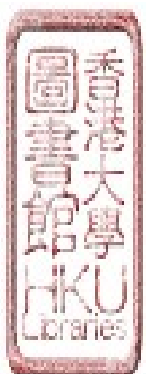


Educational Institutions

A number of institutions are providing education and training to the workers and engineers in the lift industry. The *Hong Kong Institution of Engineers (HKIE)* is a learned society incorporated under the Hong Kong Institution of Engineers Ordinance (Chapter 1105) in 1975. The HKIE plays an important role in the lift industry. Although the practitioners are qualified by the EMSD, the training and development courses held by private institutes for the Continuous Professional Development of the lift engineers are qualified by the HKIE. The professional body provides lift engineers with various seminars and activities to promote lift safety.

Vocational Training Council (VTC), established in 1982, is the largest vocational and professional training and development service provider in Hong Kong. Providing a wide-range of pre-employment and in-service courses through its 13 member institutions which focus on different industries, the VTC provides lift practitioners with recognized programmes for their registration and registration renewal.

Construction Industry Council is established in 2007 in accordance with the



enactment of the Construction Industry Council Ordinance, the council aims at strengthening the sustainability of the construction industry by providing a communications channel, increasing consciousness of health and safety, as well as improving skills development. Various Guidelines, Codes of Practices and Codes of Conduct in lift industry are produced to support the participants in the industry.

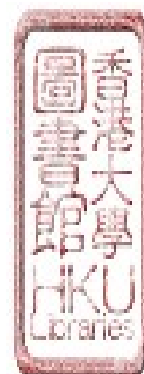
Other Related Associations

There are other trade associations indirectly related to the lift industry, including the Hong Kong Construction Association, Hong Kong Electrical Contractors Association, the Hong Kong Association of Property Management Companies Ltd. and The Hong Kong Federation of Electrical and Mechanical Contractors Ltd.

Manpower in the Industry

Overview

According to the figures stated in the Audit report no. 66 by Audit Commission (2016), there are 64,000 lifts and 9,000 escalators in Hong Kong, with 40 registered contractors in the market and 332 registered engineers to carry out inspections with 5,300 competent workers to carry out installation and repair work in the lift industry. The current Code of Practice stipulated that registered lift

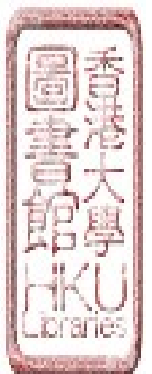


contractors must assign at least 2 lift workers to carry out 10 types of lift works.

The Lift and Escalator Ordinance stipulated that every lift or escalator should have a responsible person for its management. The lift and escalator should be maintained by the registered contractor in at least monthly basis. For a lift, the use permit should be renewed every year. Hence, the demand for maintenance, inspection and examination works on lifts is huge.

The fact is, there is not enough manpower to cater the demand in the market. The ratio of engineer to lift and escalator is 1:218 and the worker to lift and escalator is 1:54 (at least 2 workers per lift work).

There are no guidelines from the EMSD restricting the number of lift to be examined in a day. In 21 months from January 2014 to September 2015, there were as many as 146 occasions that 62 registered engineers conducted lift certification work and lift examination covering 7-13 lifts in one single day (Audit Commission, 2016). It is very doubtful on the quality of the certification and examination with such a busy schedule for the engineers.



Manpower is stringent in the EMSD too. According to the Development Bureau, the establishment of the team to carry out audit check and incident investigation in 2013-2014 was 4 professional engineers and 19 inspectors. It was slightly expanded to 5 professional engineers and 28 inspectors in 2014-2015 and no further expansion was planned in the year 2015-16 (Electrical and Mechanical Services Department, n.d.). They are deployed to carry the work for lift and escalator inspection and audit check by internal posting within EMSD. The numbers of lift and escalator are increasing every year that the manpower should be increased at the same time to cope with the increasing service demand.

Remuneration

The lift industry is not an attractive career in terms of the salary range, as compared with other jobs in the construction sector.

According to the Average Daily Wages of Workers Engaged in Public Sector Construction Projects as Reported by Main Contractors by Census and Statistics Department (2016), Salary for lift workers are the 2nd lowest in the construction projects, just a little higher than Building services maintenance mechanic. Even the non-skilled general workers and labours pay higher than the technical duties.

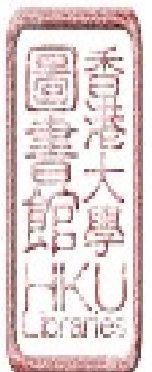


Table 3.2: Average Daily Wages of Workers Engaged in Public Sector Construction Projects

| | | | | | |
|----------------------------|------------------------|-----------------------------|---------------------------------------|-----------------------------|-------------------|
| Building services mechanic | Fire services mechanic | Lift and escalator mechanic | Electrical fitter (incl. electrician) | General workers and labours | Bamboo scaffolder |
| 736.2 | 968.7 | 771.0 | 1,068.7 | 920.9 | 1,748.8 |

Source: Census and Statistics Department (March 2016)

The Report of Salaries and Employee Benefits Statistics - Managerial and Professional Employees (Excluding Top Management) also reveals the situation of the engineers. (Census and Statistics Department, 2015)

Table 3.3: Salaries and employee benefit statistics - Managerial and Professional Employees (Excluding Top Management)

| 選定的行業主類／職業 Selected industry section/occupation | 平均數 Average | 下四分位數 Lower quartile | 中位數 Median | 上四分位數 Upper quartile |
|---|----------------|-------------------------|---------------|-------------------------|
| 元 \$ | | | | |
| 樓宇建築、建造及有關行業 Building and construction and related trades | | | | |
| 會計師 Accountant | 39,400 | 28,800 | 34,300 | 54,500 |
| 屋宇裝備工程師 Building Services Engineer | 37,500 | 30,700 | 37,200 | 45,600 |
| 機械工程師 Mechanical Engineer | 46,100 | 30,900 | 33,900 | 60,000 |
| 人事部經理／人力資源部經理／ 員工關係經理 Personnel Manager/ Human Resources Manager/ Staff Relations Manager | 49,800 | 39,900 | 50,400 | 56,200 |
| 工程計劃經理 Project Manager | 67,400 | 55,600 | 64,900 | 81,300 |
| 安全主任 Safety Officer | 43,100 | 36,100 | 42,900 | 48,100 |
| 結構工程師 Structural Engineer | 46,100 | 40,000 | 44,500 | 50,700 |

Source: Census and Statistics Department (2015)

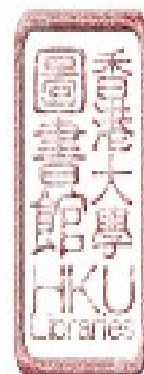


Although it seems an average monthly salary of a mechanical engineer is not bad, its median is substantially lower than the building service engineer and structural engineer. It is difficult to attract talented engineers to join the industry.

Training Requirements for the Lift Practitioners

The government puts a comparatively loose regulation on the training of registered lift engineers and lift workers. It is treated as a self-assessment and self-declaration exercise. For the Registered Engineer, they must determine by themselves whether the training fulfills the Continuous Professional Development (CPD) requirement in their own individual conditions (Electrical and Mechanical Services Department, n.d.). For the registered workers, their employers (i.e. registered contractors) are responsible for the assessment if the training satisfies the CPD requirement.

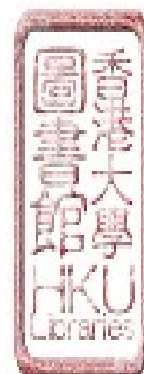
The recognized trainings by the government are mostly those organized by the stakeholder associations in Hong Kong and the practitioners are free to choose the courses they want to take. While the quality of the training highly depends on the stakeholder associations, the training outcome could vary among different practitioners.



Concluding Remarks

Since the emergence of the lift industry in 1960s, the government has been making use of mandates and hierarchical governance, coupled with different policy tools for monitoring the performance of the lift owners and lift practitioners in Hong Kong. The industry relies much on the use of mandates and hierarchical governance with enhancement in ordinances and guidance throughout the years.

Involvements of parties other than the government are increasing with the development of the industry over the years. For the market, except those with lifts under the government entities and public housing, is free for hiring different contractors for carrying out the maintenance works on their own through different methods such as tendering, direct purchasing, etc. For the aspect of promotion, training, education, etc., some other stakeholder associations are also working for the industry in an order to help fostering the industry development besides effort paid by the government. By taking into accounts the development, stakeholders and manpower in the industry, detailed discussion in difference modes and types of governance would be in the coming chapter before recommendations are made.



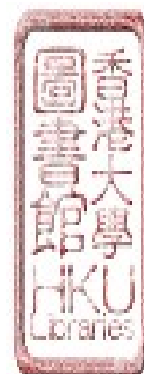
CHAPTER 4 – Operational Dynamics of the Lift Industry

Introduction

Further to the introduction of various policy tools adopted by the Hong Kong Government in relation to the monitoring of lift industry in Chapter 3, this chapter starts with evaluating the mixed modes of governance in the Hong Kong Lift Industry followed by discussing problems on monitoring work in the lift industry with reference to different criticism raised by LegCo members and the Audit Commission. The parties involved in serving the lift industry through hierarchy, market and network governance suggested by Knill & Tosun (2012) would be discussed. The problems identified by various concerned parties, including the Audit Commission and the LegCo members, are further evaluated to explore whether the applications of the mixed modes of governance in the lift industry is effective to manage the industry.

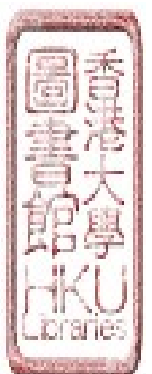
Mixed Modes and Type of Governance in the Lift Industry

By recapping from Knill & Tosun (2012), the definition of the three modes of governance are as follows: the hierarchy governance stresses on the role of formal rules and procedures that are binding for both public and private sectors; the



market governance stresses on the opposing model to hierarchical governance as it is based on the idea that goods and services are allocated efficiently without intervention by the state; while the network governance is a relatively new idea that the governance is based on the coordination and interaction of different involved actors in the society with the interrelated four types of governance (interventionist governance, regulated self-governance, cooperative governance and private self-governance) classified based on the legal obligation that results in policy solutions. As discussed in the previous chapters, the modes and types of governance co-exist in a state. The government applies the legislation Chapter 618 and different policy tools such as subsidies and grants, training and education etc., to bind all the lift owners and lift practitioner in Hong Kong for executing proper actions regarding the lift operations and maintenance. The use of such regulations is definitely a mode of hierarchy governance. The laws and regulations set out by the government is a type of interventionist governance, where there are specific and detailed rules to be followed by the players in the lift industry. Violation of the laws and regulations would be subjected to legal consequence.

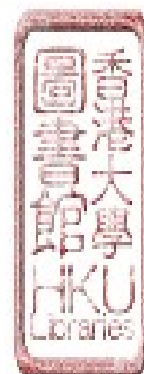
The actions taken by EMSD, such as the audit inspection, prohibition orders, warning letters, etc., in addition to contractor rating system, star rating system,



quality recognition system, are the examples to the support and sanction pyramids of responsive regulatory theory by Braithwaite (2011), are working with the operations of the hierarchy governance.

Although the mode of hierarchy governance which the safety monitoring by the government as a watchdog agency is adopted, the operations of the lift industry, such as the appointment of the contractor, purchasing of materials, human resources management etc., are still free and open to the market dynamics. The lift owners could choose the contractors and manufacturers on their own that the government has no right to intervene which contractor the lift owners are appointing and which manufacturer they are using. To some extent, the operation of the lift industry is based on the market to govern.

Besides safety monitoring and operations, the training, education, knowledge dissemination etc., are supported by most of the stakeholder associations in the industry as mentioned in Chapter 3. The associations also served as the advisory bodies to the government and they are invited to participate in the planning stage of guidelines and code of practices to offer comments and concerns. The involvement of the stakeholders of the lift industry in policy making and



implementation is considered as a type of regulated self-governance, where there are still rules to follow and parties other than the government could give ideas to the government.

The stakeholder associations are independent bodies who plan and organize their own activities appealing to the public. However, these stakeholders associations have to take account for the regulations and policies of the government when deciding the directives or policies of the associations. The associations still have their own authority at last.

For the training and promotion aspect of the lift industry in Hong Kong, the government supports and welcomes the involvements by the stakeholder associations in the development and training courses offered. The decisions for both parties are independent but interrelated with a mode of network governance for the cooperation in the industry.

The parties involved serving different functions in the Knill & Tosun modes of governance in the lift industry of Hong Kong are summarized in Table 4.1.

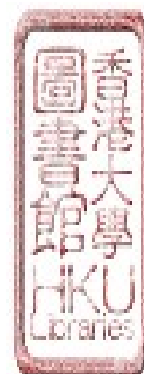
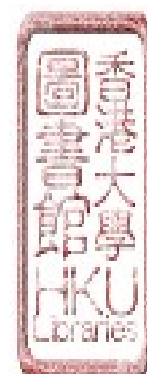


Table 4.1 The mode of governance of the lift industry in Hong Kong

| Function | Parties Involved | Mode of Governance |
|---|---|---------------------------|
| Safety Monitoring | Government Lift Owners Lift Maintenance Contractors Other Lift Practitioners | Hierarchy |
| Lift Operations and Maintenances | Lift Owners Manufacturers Suppliers Lift Maintenance Contractors Other Lift Practitioners | Market |
| Education, advisory and Manpower Development | Government Educational Institutions Trade Associations Labour Unions Other Stakeholder Associations | Network |

Different modes of governances have different advantages. For instance, hierarchical governance set out precise and obligatory rules which leads to a more effective implementation, as the force of law can be used to impose fixed standards or objectives (Baldwin et al., 2011: 35). Safety shall always be put at high priority that the hierarchical mode of governance, coupled with interventionist type of governance serve their purposes of strict monitoring.

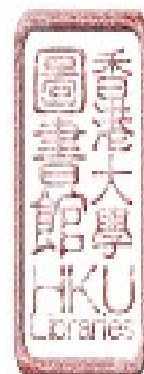


If different modes of governance are applied in different areas in the industry, the capacity of the government could be alleviated as the market resources, e.g. the private sectors, are more utilized. With the coordination and interaction of different actors in the society, the government can make use of the strength of the lift practitioners, associations, educational institutions etc., for the daily operations and maintenance, promotions and industry development. Resources could be allocated to focus on the monitoring the safety of lift industry and reviewing related regulations and provide appropriate supporting measures.

The operational dynamics of the lift industry is clear with adoptions of different governance modes and types in different areas. If all the three modes are held effectively, the resources in the society shall be better utilized for the industry development. However, whether the application of three modes in the lift industry is effective is still yet to be further evaluated.

Problems in the Current Lift Industry

The LegCo discussions subsequent to the lift incidents have placed increasing public awareness on the safety of lift operations. With more and more press reports and papers available from the publication from LegCo and Audit



Commission, the public concerns are emerging to a point that the nature of the policy problem becomes more significant.

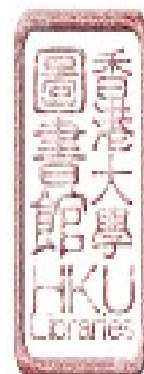
A number of problems were revealed in the audit reports by the Audit Commissioner and legislative papers:

Operational Problems: Observations and Recommendations by the Audit Commission

Delays on the services by the government were spotted for the safety monitoring works, as revealed in the audit report (Audit Commission, 2016) with the delay in ratification works and issuing and serving prohibition orders included.

For the delay in ratification works, remedial actions should be performed after the issue of improvement orders and advisory letters within a limited timeframe.

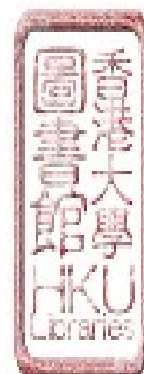
Improvement orders and advisory letters can be issued under several circumstances. The Lift & Escalator Ordinance stipulates that an improvement order may be issued by the EMSD to the responsible person of a lift or an escalator if it is believed that the lift or the escalator will have potential risk of person injury or property damage. The EMSD may also issue an advisory order to



the responsible person of a lift or escalator if the lift or escalator is found to be of substandard yet not having critical safety matter.

Prohibition orders are used to suspend the operation of any non-compliance lifts and escalators. The Lift and Escalator Ordinance authorises the EMSD to issue a prohibition order which forbids a lift or an escalator failed to fulfil the required permit validity, periodic maintenance work conductivity and lift safety. According to EMSD procedure manual, the EMSD would issue a prohibition order 12 hours before the permit expires and the order should be served before the permit expires. The responsible person will be reminded by the EMSD through sending reminder card, calling by telephone and issuing the prohibition letter to ensure the responsible person would be notified and no lift or escalator without valid permit to be used.

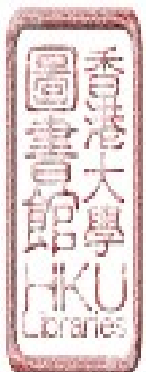
The Lift and Escalator Ordinance stipulates that periodic checking is required for any lift once a month. Non-compliance on the monthly maintenance requirement by a registered contractor may lead to operational suspension. Therefore, a new registered contractor should be appointed within one-month from the termination date of previous registered contractor in order to fulfil the maintenance



requirement.

Despite the statutory requirement, the record related to insurance of prohibition orders stored in the Lift and Escalator Ordinance System (LEO System) revealed the orders were served with delays, which increased the risk of a lift to be operated without receiving a valid prohibition order. All of the service delays carried by the EMSD would delay the remedial actions to be taken by the lift and escalator owners. It would hence increase the chance of users to be exposed to dangerous environment. The number of lift incidents could be reduced if EMSD could make enhancement in the inspection and enforcement process. The insufficient manpower to handle the lift and escalator safety is also another key that may lead to the delays.

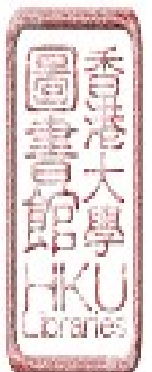
The Audit Commission further provided their views on the deficiency on lift industry governance. In the Director of Audit's Report No. 66 which was issued in April 2016 (Audit Commission, 2016), the Audit Commission provided their audit review in the aspect of "Monitoring of safe operation of lifts and escalators". The Audit Commission stated their observations in the aspects of monitoring work of registered persons, regulatory actions, and the information management system.



The problem of safety monitoring mentioned by audit commission was not lying in the policy tools itself, but actually the way of that the government carries out implementation. Indeed the actions taken by the government were not sufficient and the comments by audit commission further imply that the actions were not effective and deterrent to the lift practitioners.

One of the examples is the monitoring work of registered person, in which the consideration of disciplinary actions against failed registered contractor was delayed, despite the L&E Ordinance enacted in 2012 and EMSD circular issued in 2013 which have required that the registered contractor with serious misconduct or conviction shall be referred by the EMSD to the Development Bureau (DEVB) to consider any disciplinary action by establishing a disciplinary board. In 2015, the EMSD only established a Disciplinary Action Review Panel (DAR Panel) to review the seriousness of misconducts and to decide the necessity of setting up disciplinary board. The DAR panel was accused of the delay in reviewing the needs for the disciplinary hearings.

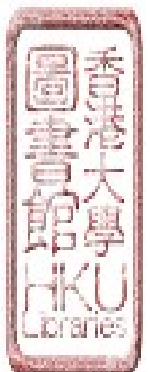
Further to that, for the significant non-compliances with EMSD requirement, it was revealed that the performance monitoring points were not accorded under the



Performance Assessment Scheme (PA Scheme) as the issues were not covered in the PA Scheme.

The Audit Commission also stated that the actions on surveillance audits and supervise inspections need to be strengthened, as only half of the surveillance audits for registered contractors were completed within the target of two-year period. Around 5% of surprise checks, which was used to check physical attendance of the Registered Engineers, were not conducted on the original scheduled dates.

Besides the surveillance audits, it was also stated that the Registered Contractor change-over examination reports submitted to the EMSD were of delays and omissions. According to the code of practice from EMSD, when there is take-over from a new Registered Contractor, it is mandatory to have the report submitted within one month after the take-over. It was found that around 5% failed to submit any change-over report, and 22% of the submitted reports were delayed for 11 days at most. Last but not least, internal instructions on monitoring the maximum number of lifts or escalators examined by Registered Engineer are absent, hindering the target achievement and service standard by EMSD. Not only the

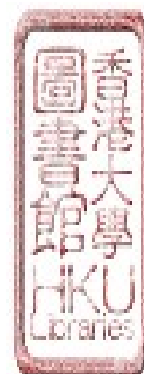


take-over reports, there were also a substantial lift's Responsible Person who did not inform the EMSD if any remedial actions had been performed after receiving advisory letters for non-compliance during inspections.

Furthermore, issuing and serving prohibition orders were delayed. There were 26% and 15% prohibition orders to be issued with delays and failed to be issued respectively. Over 80% of the prohibition orders were served after the orders' effective dates and around 10% of the serving and effective dates of prohibition orders were not found in the EMSD record. The submissions of incident reports by Registered Contractor were also delayed with 7% of the reports failed to be submitted within the reporting requirement of seven days.

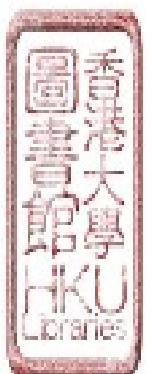
In addition, the retrofitting of new security devices for government lifts were delayed, with half of the works were not completed. Some non-reportable incidents which may jeopardize the passengers' safety were found not included in the "reportable lift or escalator incidents" maintained in the LEO System.

Apart from the numerous delays, Audit Commission also stated its observation in the management of information system. The LEO System, which was developed



in 1980s, was found not supported with essential report types which could provide the EMSD with valuable data on the issuance and submission of various orders, letters or reports. Information in the LEO System were not updated that crucial data in the system were found in complete and inconsistent with other data sources such as the Controlling Officer's Report.

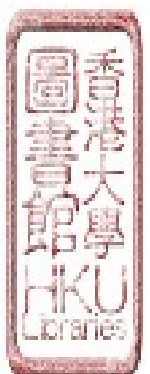
Based on the above findings from the audit reports, it may be spotted that the mode of hierarchy governance and the type of interventionist on regulating the lift safety could have a weak side for implementation. As suggested by Knill & Tosun (2012), hierarchical 'push' is not the only factor affecting the implementation of policies. Of similar importance are 'pull factors', i.e. aspects which influence the willingness of implementing bodies and policy addressees to comply with regulatory rules. It has been argued that governance patterns that are responsive to the motivations and interests of implementers and the target actors contribute to implementing the regulation in question effectively. The hindrances that the government is facing on executing the hierarchy governance with resistance from the lift practitioners are obvious with the various examples of missed or delayed reporting to EMSD by the Registered Contractors as mentioned earlier. The non-cooperation from the lift practitioners to cope with the government on the



safety monitoring makes the hierarchy governance and interventionist more difficult.

In addition to the findings above, the Audit Commission further advised some areas that the government might improve including the revision of current monitoring mechanism, strengthening its capability on regulation enforcement and system enhancement.

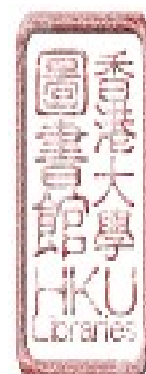
For revising its monitoring mechanism, the Audit Commission recommended that the EMSD should ensure the DAR Panel to review misconduct or convicted Registered Contractors and decide the necessity to refer the case to the DEVB in timely manner. The PA scheme should be reviewed regularly to include non-compliance actions stipulated in the EMSD requirement in the Scheme. The EMSD should build up its capacity for surveillance audits and supervise inspections to meet its targets. Related guidelines on the maximum number of lifts or escalators per day to be examined and certified by registered engineers should be provided for its officers to refer to.



The Audit Commission also advised the EMSD to strengthen its ability to conduct regulatory actions. To prevent users to be exposed to dangerous environment, the EMSD should ensure the records on serving prohibition orders are properly handled. Regular reviews should be conducted to consider the inclusion of some significant but non-reportable incidents posing safety risk to passengers to be included as reportable incidents. Follow-up actions should be taken for Registered Contractors' non-compliance on the time requirement in submitting incident reports. The retrofitting works on government lift should also be completed in a timely manner.

The Audit Commission also pointed out the need for the EMSD to upgrade the LEO system to ensure necessary management reports will be generated and input of essential information will not be omitted.

Though the above recommendations are valid to pinpoint and improve the particular measures, the overall context shall be more essential in considering the enhancement. Indeed, the lack of manpower and resources in the government (as discussed in Chapter 3) is one of the critical prerequisites for the above recommendations to be implemented effectively.

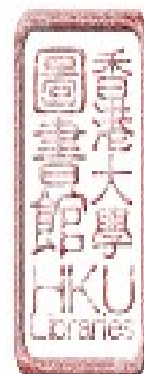


The Hong Kong government adopted market mode of governance and regulated self-governance type in the lift industry as well. However, the findings of the audit report imply that there are rooms of improvement in both mode and type of governance, maybe by means of incorporating network mode of governance and cooperative type of governance to some extent.

Concerns of the LegCo Members

Although the lift industry governance has been reviewed through the enactment of new Ordinance and related policy tools since 2012, concerns were raised from the LegCo members who question the authorities in the following aspects (Hong Kong SAR: Legislative Council, 2013):

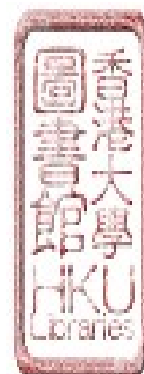
Ir Dr Hon LO Wai-kwok, the legislator in the engineering functional constituency showed his concerns in the lift industry in the implementation aspects. He enquired if communication mechanism had been set up between the government and the industrial associations and supporting measures have been taken to encourage continuous education and meet the lawful registration qualifications. He further questioned whether the authorities have provided the industry with suitable supports to increase the remuneration attractiveness of the trade and



measures to deal with the business difficulties e.g. price competition. He suggested the authorities have to provide subsidies for property owners with financial difficulties. He later queried the EMSD has provided enough manpower to carry out its monitoring duties after the enactment of amended Ordinance.

The legislative council member in labour functional constituency, Hon TANG Ka-piu, JP, doubted the existing lift industry is in lack of effective regulatory controls and human resources. He showed his suspicion on the effectiveness of the Performance Appraisal System and requested the authorities to consider more frequent regular and irregular surveillance checks on the lifts maintained by contractors with low performance rating. While the manpower requirement for maintenance duties has been increased together with the increasing number of high-rising buildings, he enquired if the industry provided adequate manpower to meet the demand and the government provided effective measures to attract new blood to join the industry.

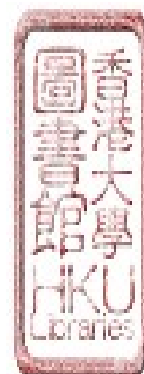
The government replied the LegCo members that proper measures were adopted for the above concerns. Over 30 talks were held by EMSD to over 3,000 property owners, management companies' representatives and trade practitioners for



promotion on the correct assessment on the contractors. They were advised that when assessing the quotation from the bidders, they should not consider only the price quoted, but other factors like manpower resources, technical support and past performance (including records of incidents and warning letters as well as performance ratings) such that contract bids with guaranteed quality can be chosen at a reasonable price.

In addition, the stakeholder associations including vocational training council (VTC), construction industry council (CIC), the Hong Kong Federation of Electrical and Mechanical Contractors and the Lift and Escalator Contractors Association will strengthen their training capacity with new apprentices courses and new training schemes to nurture new blood for the lift industry.

Besides, the government advised that it is considering to enhance in the Performance Appraisal System by conducting more inspections for lifts maintained by registered contractors with relatively low performance ratings, and to conduct audit visits to these registered contractors to ascertain if they have the necessary facilities, resources and manpower to provide the level of service in compliance with the Ordinance.



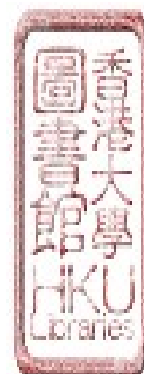
Manpower for lift safety monitoring in EMSD has been increased throughout the years. The Administration will also review regularly the manpower situation to ensure that appropriate resources are allocated for the department to carry out law enforcement and public education work.

Despite of the replies above made by the government, some concerns that raised by the legislative members were still not fully addressed. The communication channel between the government and the stakeholder associations was still not developed in an organized manner. Although the associations were taking actions on helping the industry development, the lack of formal communication channel between the parties which would cause ineffective information exchange on the latest industrial situation and hinder the development of the lift industry.

The manpower for government is still at a low side (as discussed in Chapter 3) even though the number of posts were increasing. This significantly produce discouraging effects on attracting new blood to join the trade.

Loophole in Mixed Modes & Types of Governance

With the concerns and problems discussed, it could be inferred that loophole may still exist in the current mixed modes of governance in the lift industry. The

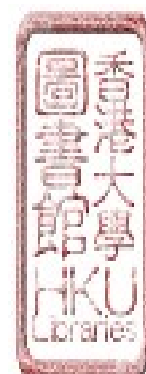


concerns or problems in the industry compared against the different modes of governance are summarized in Table 4.2.

Table 4.2 Concerns and problems faced in the lift industry in mixed modes and types of governance

| Area | Problems / Concerns | Possible root | Mode of Governance | Disadvantages of the Governance |
|---|--|-------------------------------------|--------------------|---|
| Safety Monitoring | Delay in surveillance and disciplinary actions by the government | Insufficient manpower and resources | Hierarchy | Resistance from policies addressers |
| Education, advisory and Manpower Development | Few people enter the industry | Industry not attractive | Network | Distinctions between insider and outsider of the networks |

The replies to the LegCo members or the views from the Audit Commissions were making direct recommendations based on the current mixed modes of governance in the industry. For example, if there is “insufficient manpower and resources” under the hierarchy governance, then making “sufficient manpower and resources” will be a solution. Certainly the said recommendations could be an enhancement for the industry development under the existing modes in short term. However, in

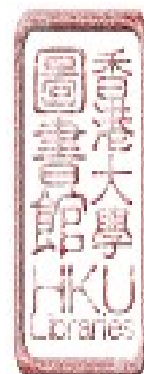


evaluating the whole industry in a longer term, the effectiveness of the current mixed modes of governance is worthwhile for exploration. The current modes of governance and types of governance along with the use of different policy tools could be adjusted. In addition to the interventionist and regulated self-governance, increasing the extent on other types including cooperative governance and even the private self-governance may be a way forward to the development of lift industry.

Concluding Remarks

A mixed mode of governance is adopted in the lift industry in Hong Kong. All the above-mentioned comments drawn from the audit report and LegCo members revealed the shortcomings of the current modes and types of governance adopted by the Hong Kong government.

An insufficient manpower and resources for the authority has led to the limitations on law enforcement while the shortage in the human resources capacity resulting from unattractive remuneration and lack of career prospect has hindered the development of the industry. In short term, specific measures for different areas including specialized training, manpower increase, financial subsidies etc., as

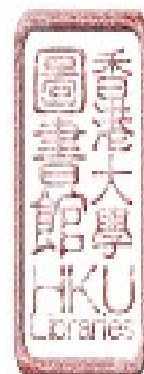


mentioned in the legislative council meeting and by the Audit Commission, were proper measures for the enhancement in the lift industry.

In the long term, the background context and effectiveness of each policy tools shall be evaluated to provide a more completed set of solutions for the industry.

The practice and experience of other countries would be a valuable reference for the better development of the industry in Hong Kong.

In the next chapter, the governance modes and use of policy tools in the lift industry in Hong Kong and other countries are evaluated so that further recommendations to Hong Kong government to improve the lift industry would be suggested.



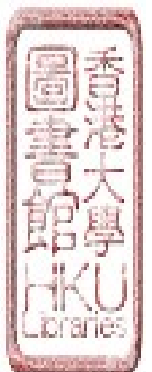
CHAPTER 5 – Selected Overseas Experience, Recommendations & Conclusions

Introduction

This chapter is to compare the mixed modes of governance in the Hong Kong lift industry with other countries including United Kingdom and Singapore, and the policy tools that are implemented under the mixed modes of governance under different context to gain insight for enhancement. Inspiration from the overseas experience will be extracted and recommendations based on the use of appropriate policy tools and the prerequisite for Hong Kong guiding to an effective governance will be discussed and provided. A conclusion linking the key findings in the relevant chapters and the vision of this project will be presented at the end of this chapter.

The Lift Industries in the United Kingdom, Singapore and Hong Kong

When viewing the lift industry in other countries such as United Kingdom and Singapore, the use of governance modes and types are more or less the same to that of Hong Kong: a mixed mode of governance including hierarchy, market and network with different types of governance including interventionist governance,

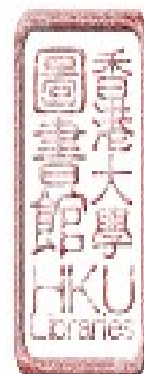


regulated self-governance, cooperative governance and private self-governance applied under the three areas: safety monitoring, lift operation and maintenance, and education, advisory and manpower development. As suggested by Knill & Tosun (2012), these three modes co-exist in a state with different types of governance symbolizing the degree of cooperation between the public and private sector and a basic distinction between the hierarchy and non-hierarchy modes.

Regulations for the Lift practitioners in United Kingdom

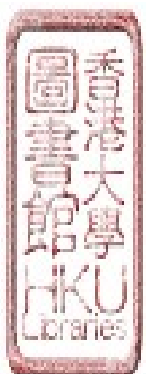
In United Kingdom, the Lifting Operations and Lifting Equipment Regulations (LOLER) are applied to people and companies who own, operate or have control over lifting equipment (United Kingdom Health and Safety Executive, n.d.). This includes all businesses and organizations whose employees use lifting equipment, whether owned by them or not. Another one, the Provision and Use of Work Equipment Regulations 1998 (PUWER), are applied to people and companies who own, operate or have control over work equipment. (United Kingdom Health and Safety Executive, n.d.)

Both of the regulations require the passenger lifts and combined goods or passenger lifts in workplaces subject to periodic inspections and examination by



competent persons. The practice is very similar to that of Hong Kong. However, according to the United Kingdom Health and Safety Executive (n.d.), both LOLER and PUWER only apply to the lifts provided in a workplace for workers. Lifting equipment that are not provided for or used by the people at works, for example, the lifts in shops for the customer to access, are not subject to the regulations above in most cases. Therefore, the coverage of the regulations is not exactly the same between that in United Kingdom and Hong Kong.

In United Kingdom, the Health and Safety at Work Act (Government of the United Kingdom, n.d.), however, imposes the general responsibilities that if the lift is operated by or to some extent under the control of an employer or a self-employed person in connection with their business, they still have some responsibility for the health and safety of people they don't employ. This includes members of the public who use the lift and those people who may work on or inspect the lift. Therefore, in another words, the lifts that are not provided for use in workplaces by workers, i.e. those for public or private use such as lifts in shopping centers, the operators are actually also bound to have a responsibility to carry out reasonable and practical measures to ensure the safety of the lift



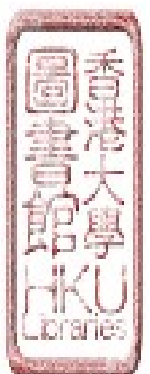
operations. The practice of LOLER and PUWER might be a similar maintenance regime for reference.

The hierarchy governances adopted by United Kingdom and Hong Kong are similar. Both are using regulations to bind the responsibility for safety operations. However, for some type of lifts, such as the passenger lifts for people who are not at work to use, the United Kingdom is allowing more flexibility but remains stringent requirement with reasonable and practical actions taken by the responsible persons on managing the risks.

Regulations for the Lift Practitioners in Singapore

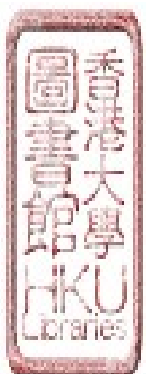
In Singapore, according to the Government, the Building Maintenance and Strata Management (Lift and Building Maintenance) Regulations is applied for the industry. The content of the regulations is similar to that in Hong Kong, i.e. the Chapter 618, in which periodic examination is required by a lift contractor in the presence of an approved person (Government of Singapore, n.d.).

The Singapore Government has been putting high attention to the safety of the lift industry. In July 2016, the Building Construction Authority of the Singapore



government has completed the first phase of review on the lift regulations, in which several new measures were newly incorporated.

A permit to operate was added to the regulations and shall be renewed annually with all relevant examinations, tests and inspections carried out by approved persons. Before issuance of the permit to operate, the Authority shall have the right to re-test or request for additional documents. However, the permit to operate have to be issued before the lift commences on a normal operation. It is important to note that the permit has to be displayed in the lift in a prominent manner and a conspicuous location (Building and Construction Authority of Singapore, 2016) such that the lift users can be aware and play a role on the surveillance as well. Besides, in the new regulations, the Authority will have the right to perform random audit checks on the maintenance contractor to see if relevant outcomes that are based on a checklist in the regulations are met. If any contractors fail to meet the requirement, they may be subject to prosecution with a fine up to \$5,000. Furthermore, a mandatory reporting on any severe incident with death or passengers' injury, or any failure on the lift components which are safety critical shall be made by the lift owner and contractor to the Authority as soon as possible (Building and Construction Authority of Singapore, 2016).



All the measures that is new incorporated into the regulations above have stepped up the hierarchy governance by the Singapore government to the industry practitioners. Indeed, these all measures were already incorporated by the Hong Kong regulations Chapter 618 in the year of 2012 when the regulations were amended. For example, the “Permit to operate system” is comparable with the “Permit to use system” in Hong Kong, while the audit check and mandatory incident reporting systems has also been adopting by the EMSD. It can be spotted that the Singapore government is following the pace of Hong Kong SAR government in which they take a very similar step to strengthen the hierarchy governance by applying different policy tools on the lift industry for the safety monitoring.

Different Approaches on the Hierarchical Governance by the United Kingdom and Singapore

From the above examples in United Kingdom and Singapore, it can be seen that although all three countries or city adopt the hierarchy governance, the strength applied or the application of the governance actually differ a bit among one another. The table below tabulates the comparison among three:

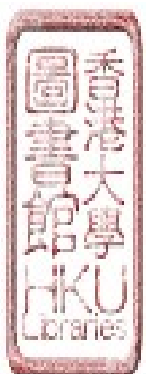
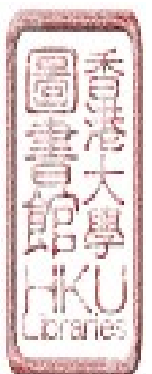


Table 5.1 Comparison of style of hierarchical governance

| Area | Style of hierarchical governance | Features |
|-----------------------|--|--|
| United Kingdom | Allow more room for the market to decide the way coping with the regulations | Rely more on the disciplines by the industry practitioners |
| Singapore | Pursuing adoption on more policy tools to strengthen surveillance on regulation compliance | Will need more manpower and resources for implementing the policy tools |
| Hong Kong | Adopted various policy tools with high surveillance on regulation compliance | Have high demand on manpower and resources for implementing the policy tools |

In fact, the United Kingdom is using a more flexible approach on the hierarchical governance, in which it specifies comparatively less rigid terms in the regulations but accepts a more sensible and reasonable approach by the duty owner and lift practitioners. The approach by United Kingdom may be effective if it accompanies with a good market governance, as stated by I. Mukherjee & M. Howlett (2015), “a market requires stringent but sensible regulations which are diligently implemented in an order to function effectively.” In the following, the

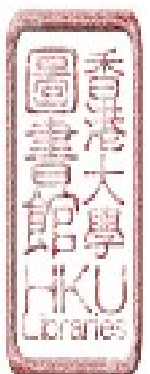


community context and other policy tools adopted by three places: United Kingdom, Singapore and Hong Kong will be examined for further evaluation on the governance modes.

Advantages from the Geographic Location for the Lift Market in United Kingdom

The key vendors or manufacturer of lifts in worldwide nowadays are mostly based in Europe (Statista, n.d.) including Finland, Germany and Switzerland, and other countries including United States and Japan.

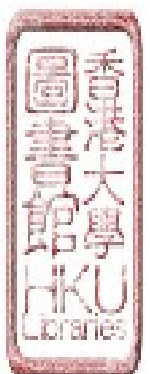
While the lift market for the three places operates on a similar basis where in most of the cases, the lift contractors are hired on a market basis for the lift operations and maintenance and tender bids or direct purchasing are made by the lift owners or building management unit for the services, usually at times when there is serious defect that the lift contractors cannot resolve at their own, for example, replacement on components which are only manufactured from Original Equipment Manufacturer (OEM), the lift contractors will then need to consult the manufacturer for advice on solving complex technical issues.



On geographical dimension, United Kingdom is the closest to most of based countries of most key lift manufacturers in the world. Comparatively, it does possess higher potential for getting the most on-hand technical support from the nearby OEM than the other two places, despite the fact that the quality of the local lift maintenance contractors for the three places is also a dominant element for ascertaining a safe operation of the lifts.

More Advanced Education on the Lift Engineering in United Kingdom

The education for lift engineering is similar among the three areas, usually certificates, short courses, apprentices training etc., are provided by relevant institutions. For university graduates in Hong Kong and Singapore, they can pursue by taking the courses for enhancing their learning if they want to or if they are already engaged in the industry before obtaining professional qualification, so are that from the United Kingdom. A slight difference is that the university at United Kingdom has been launching master degree for lift engineering (Master Portal, n.d.) but not for the universities in Hong Kong and Singapore.

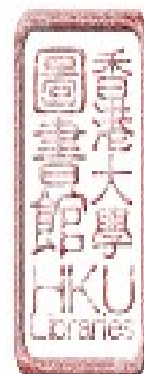


Community Contexts among United Kingdom, Singapore and Hong Kong

The other context, including the population, number of lifts, and number of practitioners are also essential in determining the effectiveness on the governance of lift industry, as mentioned by Driessen & colleagues (2012).

As at 2016, the population in United Kingdom is around 65 Million (Worldometers, n.d.), while that of Hong Kong is around 7.4 Million (World Population Review, n.d.) and that of Singapore is around 5.7 Million (World Population Review, n.d.). Obviously the United Kingdom has the largest population among all, and the usage of lifts shall also be relatively higher among the three places. The estimated number of lifts in Hong Kong is around 62,000 (Audit Commission, 2016), while that of United Kingdom is around 250,000 (Diffin, E., 2010) and that in Singapore is around 59,000 (Building and Construction Authority of the Singapore Government, n.d.).

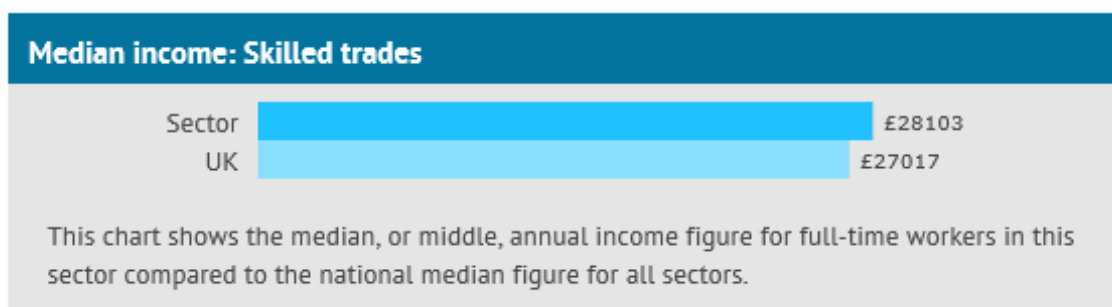
It is sensible that the scale of lift usage is much larger in United Kingdom than that in Hong Kong and Singapore due to the larger areas and populations. From an economical point of view, the economical of scale helps the development of lift industry as lift practitioners have a large market to engage such that the



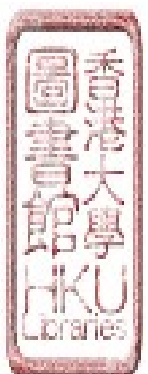
mobilization of resources and specialization of labor across different regions becomes more effective. The large market can attract more business stakeholders to engage which in turns can help foster the development of the industry in different aspects.

The lift industries in United Kingdom, Hong Kong and Singapore have quite different prospects among one another. In United Kingdom, the lift industry is quite a healthy sector with above-average performance. The figure below shows the median income for the lift industry against that of United Kingdom. (National Careers Service, n.d.)

Figure 5.2 Comparison of medium income figure of full-time worker in lift industry



Source: National Careers Service, United Kingdom



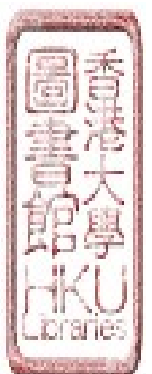
The median for the lift sector is above the median to that in United Kingdom by 5% in 2015, showing that working in the lift industry could be a good choice in United Kingdom.

Conversely, in Singapore, the lift industry is not very appealing for people to join.

As mentioned by Ms Mary Kok, the head of Mitsubishi Elevator Singapore's Human Resource and Admin Division, "There are not many people who are interested in our kind of line, in the lift industry. And we're facing competition from the other sectors such as engineering, building services, transportation."

(Loh, C.J., 2016) Ms Kok has also added that, "Look at the age group we're hiring. They're the X and Y generation. They actually look for visibility, comfort, high salary, and glamour." (Loh, C.J., 2016)

The statement by Ms Kok has reflected that the lift industry is facing a challenge with a lack of manpower due to the low remuneration packages and salary, which is similar to the situation in Hong Kong as mentioned in Chapter 3. The reason leading to such unattractive packages for the people to join the industry is to be

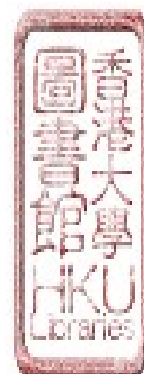


determined. But it necessarily reflect the situations that the lift industry in United Kingdom, Hong Kong and Singapore are having quite opposite prospects.

Among all the three places, only United Kingdom does not have a large manpower insufficiency in the lift industry comparing with Singapore and Hong Kong; in addition, the career prospect of lift engineering is not bad in United Kingdom which shows quite an opposite situation to that of Hong Kong and Singapore.

In United Kingdom, the Lift and Escalator Industry Association (LEIA) is the trade association and advisory body for the lift and escalator industry (Lift and Escalator Industry Association, n.d.). It was formed in 1997 with a membership covering some 95% of the lift and escalator industry. LEIA represents a single voice for the sector and its members undertake the maintenance of over 250,000 products falling within the scope of the Association (Lift and Escalator Industry Association, n.d.). The association has 170 member companies as at 2016.

According to the Lift and Escalator Industry Association (n.d.), LEIA objectives include –

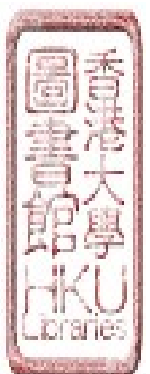


provision of advice on health, safety and standards matters, determination of skills requirements and the promotion of education and training, co-operation within the sector and between the sector and its customers and suppliers, development of the commercial environment and maintaining the best standards of quality and workmanship. (Lift and Escalator Industry Association, n.d.)

The association has been using guidelines and recommendations for the lift practitioners to follow. Besides, it has also issued its own code of practice to assist the lift practitioners to cope with the regulations issued by the state.

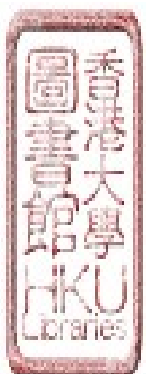
The association has also issued distance learning course for the practitioners to engage and has also launch vocational training for nurturing talents in the industry.

In Singapore, the Singapore Lift & Escalator Contractors & Manufacturers Association (SLECMA) is formed in 1975 to promote and protect legitimate trade practices in connection with the manufacture, importation and distribution by its members of all kinds of lift and escalator equipment (Singapore Lift & Escalator



Contractors & Manufactures Association, n.d.). It also work closely with the authority, developers, owners and users in ensuring a high standard of performance and safety in the operation of the lift and escalator equipment in Singapore (Singapore Lift & Escalator Contractors & Manufactures Association, n.d.). The association has 14 member companies as at 2016. Similar to the Lift and Escalator Contractors Association (LECA) in Hong Kong, the association is timely invited by the government as an advisory body on the legislations, and has regularly organize seminars and trainings for the lift practitioner to engage in for their development.

By viewing the three main stakeholder associations in the lift industry in Hong Kong, United Kingdom and Singapore, it can be spotted that there is a slight difference on the roles and functions among the three. The stakeholder associations in United Kingdom are having a much larger scale and influence on the industry. Indeed, it takes an active role in issuing own codes or guidelines to the industry practitioners as a surveillance tool to the lift maintenance contractor rather than being passively invited by the government to take part in the advisory role on the legislation. It is actually taking a role on involving the implementation on the safety monitoring in addition to the planning and advice stage.



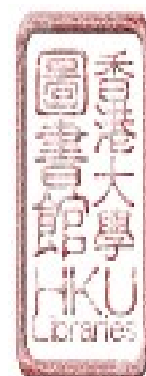
A table below tabulates the comparison among the associations in different areas

(A detailed comparison on the three associations is included in Appendix IV):

Table 5.3 Comparison among the associations in different areas

| Areas | Associations | Functions | No. of Members | Influencing Power |
|-----------------------|--------------|--|----------------|--------------------|
| Hong Kong | LECA | Act as advisory body to legislations and promote the industry | 11 | Comparatively Low |
| United Kingdom | LEIA | Issue own guidelines and Code of Practice. Provide recommendation to the lift practitioners. Act as advisory body to legislations and promote the industry | 170 | Comparatively High |
| Singapore | SLECMA | Act as advisory body to legislations and promote the industry | 14 | Comparatively Low |

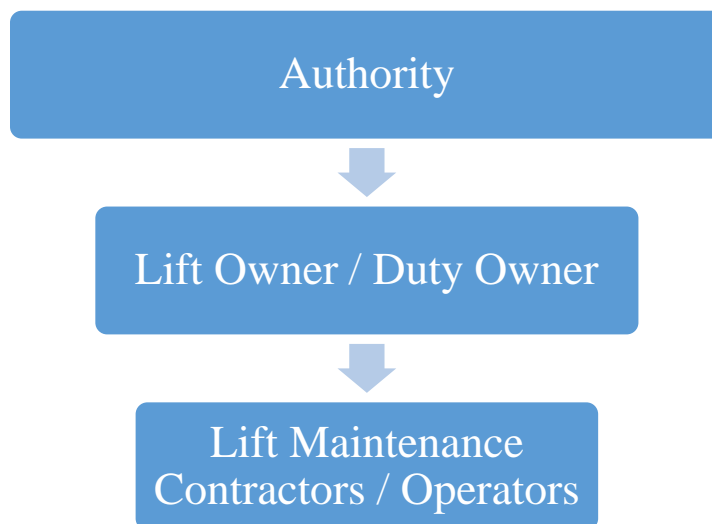
Source: (1) Lift and Escalator Industry Association.; (2) Singapore Lift & Escalator Contractors & Manufactures Association. and (3) Lift and Escalator Industry Association.



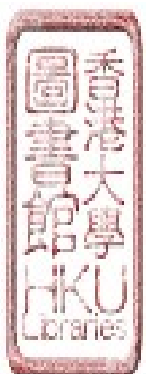
Understanding the Governance and Policy Tools in the Three Places

As mentioned, hierarchical governance is applied for ensuring safety operations and maintenance in all the three places: United Kingdom, Hong Kong and Singapore. Throughout the hierarchy governance, several layers of players are applied with the regulations on lift safety monitoring. A very simple and typical layout is shown below to illustrate the concept:

Figure 5.4 Hierarchical governance applied in UK, HK and Singapore



The Authority is the legal institutions in implementing and ensuring the regulations. In United Kingdom, the Health and Safety Executive (HSE) is the responsible authority for reducing work-related injury and ill-health at the workplaces. On spotting non-compliance issues at the places where the conditions are poor or not complying with the law, the authority will advise improvement or

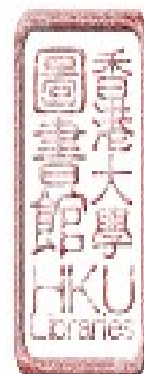


making prosecution when appropriate. (United Kingdom Health and Safety Executive, n.d.)

In Singapore, the authority is the Building & Construction Authority (BCA) where it is an agency under the Ministry of National Development, championing the development of an excellent built environment for Singapore (Building and Construction Authority of the Singapore Government, n.d.). Similarly the Authority is responsible for the execution and monitoring on the compliance of the regulations: Building Maintenance and Strata Management (Lift and Building Maintenance) Regulations.

For Hong Kong, as mentioned in Chapter 3, the Electrical & Mechanical Services Department (EMSD) is the authority in providing regulatory services in E&M safety and in the utilization of energy. (Electrical and Mechanical Services Department, 2016)

It can be seen that although the three authorities are based on different background, i.e. the HSE in United Kingdom focuses on the health and safety area in the workplaces; the BCA in Singapore focuses on the built environment in the

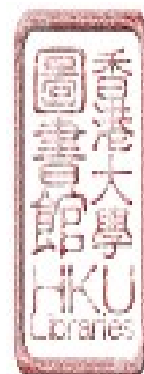


community; and the EMSD in Hong Kong focuses on the E&M (electrical and mechanical) services in the community, the three authority are on the same role in implementing and monitoring the regulations related to lift safety.

Recapping from Chapter 2, McDonnell & Elmore (1987) suggested a range of policy tools including mandate, inducement, capacity building and system changing. Braithwaite (2011) also suggested the pyramid of support and sanction.

In the following, the policy tools that are adopted by the three areas: United Kingdom, Singapore and Hong Kong will be compared under the three aspect: safety monitoring, lift operation and maintenance, and education, advisory and manpower development under different modes of governance as mentioned in Chapter 4.

The mandates adopted by the three areas are patent, i.e. the regulations that were introduced before, including the Lifting Operations and Lifting Equipment Regulations (LOLER) and the Provision and Use of Work Equipment Regulations 1998 (PUWER) from United Kingdom, the Building Maintenance and Strata Management (Lift and Building Maintenance) Regulations from Singapore and the Lifts and Escalators Ordinance (Cap. 618) from Hong Kong. All of these



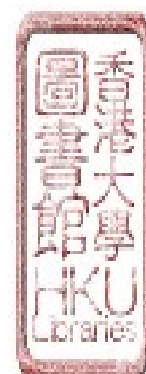
mandates are applied by the three areas on safety monitoring purposes. As mentioned, the regulations adopted by United Kingdom are less rigid but using a more sensible approach, in which it does not specify the maintenance regimes for the lifts outside workplaces but requires “reasonably practical measures” undertaken by the duty holders.

Table 5.5 Mandates applied in UK, HK and Singapore

| Countries / City | United Kingdom | Hong Kong | Singapore |
|------------------|---|---|--|
| Mandates | Lifting Operations and Lifting Equipment Regulations (LOLER) & Provision and Use of Work Equipment Regulations 1998 (PUWER) | Lifts and Escalators Ordinance (Cap. 618) | Building Maintenance and Strata Management (Lift and Building Maintenance) Regulations |

Source: (1) United Kingdom Health and Safety Executive.; (2) Government of Singapore. and (3) Electrical and Mechanical Services Department.

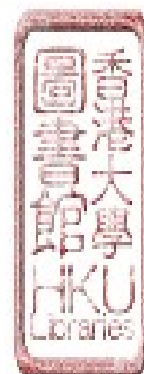
The inducement adopted by the Hong Kong government includes (Hong Kong’s Information Services Department, 2013) providing subsidies to the owners of old and dilapidated buildings for carrying out repair and maintenance works, incorporating lift maintenance works, under the Integrated Building Maintenance Assistance Scheme which is administered jointly by the Urban Renewal Authority



and the Hong Kong Housing Society. The subsidies provided for the people in need for a timely maintenance on the old lifts are expecting a return of good services or good maintenance to ensure the safe operations in the community.

On the other hand, in Singapore, query was made by Mr Pritam Singh (Pritam Singh., 2016), a Singapore Politician and lawyer, on whether subsidies by the government on the replacement or upgrade on the old and aged lifts will be considered (The Straits Times, 2016). The idea by Mr Pritam Singh is similar to the inducement scheme that is adopted by the HKSAR government.

In United Kingdom, the idea was a bit different that grant could be provided for only disabilities by the government for facilitating the disabled or disable persons living in the property (United Kingdom Housing Executive, n.d.). Under exceptional circumstances, the United Kingdom government also accept application for renovation, repair or replacement for the houses with an imminent and significant risk to the occupier. However, it is noted that under these grants, the targets were mostly based on the rural homes and little cottages, where a lift merely exists.



Other than the government, the Home Improvement Agencies (HIA) in United Kingdom, which are a group of not-for-profit organizations currently run by the local authorities, housing associations and charities, are also helping people who own their own homes, or who live in privately rented accommodation, and who are elderly, disabled, or on a low income to repair, maintain or adapt their home (Citizens Advice, n.d.). The HIA are currently overseen by the Foundations, which is appointed and funded by the United Kingdom Government.

The inducements that are implemented by the Hong Kong government or by the United Kingdom government and the Home Improvement Agencies (HIA), or proposed by Mr Pritam Singh in Singapore, are all encouraging the enhancement on lift safety through subsidies or grants with a focus on the safety monitoring area.

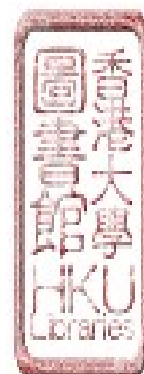
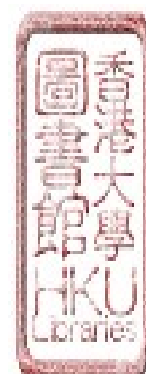


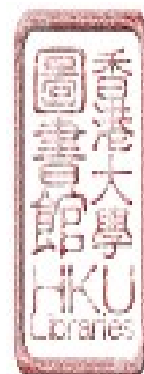
Table 5.6 Comparison of inducements and focused area in United Kingdom, Hong Kong and Singapore

| Countries / City | United Kingdom | Hong Kong | Singapore |
|---------------------|--|--|--|
| Inducement | Subsidies to owners living in privately rented accommodation and are elderly, disabled, or on a low income | Subsidies to owners of old and dilapidated buildings | In debate on providing similar subsidies |
| Focused Area | Safety Monitoring | Safety Monitoring | Safety Monitoring |

The difference among the three is that, the United Kingdom has been mainly providing the inducement to a third party in the network but the Hong Kong Government was providing the subsidies directly to the lift users. Although the effect may be seen the same that the funding will eventually be allocated to help the needy, it can be sensibly understood that the subsidies provided to a third party may indeed incur more cost than that in a direct provision to the users; however, the extra cost that the United Kingdom paying is at the same time also contributing to build up the network in the industry, in which in a shorter term, the inducement is simultaneously doing a capacity building and in a longer term, striving for a system change in the industry.



When viewing the capacity building, different stakeholder associations in Hong Kong have been taking effort in nurturing talents for the industry. According to the Construction Industry Council (CIC) (n.d.), the CIC has been providing subsidies to the main contractor through a Contractor Cooperative Training Scheme (CCTS), where it cooperates with the main contractors by providing respective on-site training for the participants to increase the overall training capacity as well as attracting new-blood to the industry. The scheme is open to the public in which, according to the Construction Industry Council (n.d.), citizens who are aged 18 or above and are physically fit for training and interested in Construction Industry, will be eligible to apply for the scheme. Before passing the scheme, all participants are subject to sit for an assessment conducted by CIC to ensure that their skills were acquired and developed in the training. Besides, the Vocational Training Council (VTC) has been launching different refresher courses on lift maintenance & operational related works to the current lift practitioners such that they are timely reminded on the skill and knowledge during their works (Vocational Training Council, n.d.). For Hong Kong, capacity building actions for both new entrants and existing practitioners were provided.



For Singapore, such support from the stakeholder associations was comparatively less but the Singapore Lift & Escalator Contractors & Manufacturers Association (SLECMA) has been in long partnership with the Institute of Technical Education (ITE) to organize different courses, visits and seminars to the lift practitioners. The measures for training and refreshing existing practitioners in the markets were provided but those for attracting new entrants are not common.

Unlike Hong Kong and Singapore, as mentioned previously, United Kingdom does not have such a great insufficiency on the manpower in the lift industry comparatively. But similar actions were also taken by the Lift & Escalator Industry Association (LEIA) and the universities that they offer distant learning courses (Lift and Escalator Industry Association & University of Northampton, n.d.) and master degrees (University of Northampton, n.d.) for anyone interested in the industry or the lift practitioners to take part in.

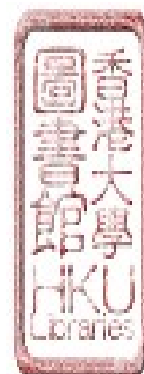
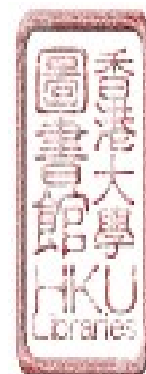


Table 5.7 Comparison of capacity building and focused area in United Kingdom, Hong Kong and Singapore

| Countries / City | United Kingdom | Hong Kong | Singapore |
|--------------------------|--|---|---|
| Capacity Building | Training and courses offered by LEIA and universities for existing lift practitioners. | Scheme organized by CIC for attracting new blood to the industry. Training and courses offered by VTC and other associations for existing lift practitioners. | Training and courses offered by SLECMA and ITE for existing lift practitioners. |
| Focused Area | Education and manpower development | Education and manpower development | Education and manpower development |

Source: (1) Lift and Escalator Industry Association.; (2) Singapore Lift & Escalator Contractors and Manufacturers Association. and (3) Construction Industry Council.

Under the comparison, it was noted that Hong Kong has been making use of the network to create capacity building in the industry, which is at a better pace than the Singapore although they face similar problem. In a short term, it is of the opinion that Hong Kong is embarking on a right track but the details of the cooperation with the stakeholder associations are also essential to evaluate the effectiveness of the partnership.



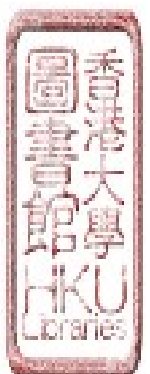
As mentioned previously, system changing was made in all the three areas: United Kingdom, Hong Kong and Singapore with the involvement of stakeholder associations on the education and manpower development. Nevertheless, other than education and manpower development, on the other areas such as safety monitoring, Singapore and United Kingdom had also system change by actions shifting from the authority to the lift owners and other stakeholder associations, which might also be worth considering by the HKSAR government.

Inducement were taken by the Singapore government to the lift owners for help monitoring the lift safety, in which an annual operating grant, making up around 15% of the annual total income, is provided for the Town Councils to support its daily operations.

According to the Town Councils (n.d.), the Town Councils in Singapore were formed in 1989 to –

empower local elected representatives and residents to run their own estates.

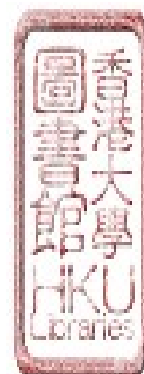
The residents can participate in decision-making and local estate management and elected Members of Parliament (MPs) are empowered to



lead Town Councils and decide on local estate management matters. (Town Councils, n.d.)

One of the characteristic of the Town Council is that it created the TCMR framework which aims to reflect the efforts for both the residents and the council in which reports are issued annually to the public so as to enhance the transparency and public accountability. The public will be able to reflect and pinpoint ideas on their concern during the annual reports to encourage community ownership. (Town Councils, n.d.) The updated version of TCMR, which was implemented in April 2012, cover six areas including state cleanliness, estate maintenance, lift performance, service & conservancy charges arrears management, corporate governance and financial adequacy. (Town Councils, n.d.)

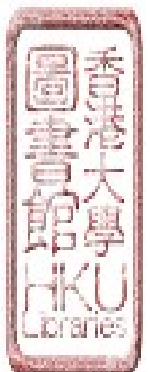
The lift performance concerned by the Council will be presented by three elements including the number of lift breakdowns per month, the percentage of lifts managed that break down three or more times a month and the Lift Automatic Rescue Device (ARD) failure rate per month (Town Councils, n.d.). The report will be disclosed to the public annually.



With the help of the town council, the surveillance role on lift safety was actually partly shifted from the government to the lift owners. The difference between that of Hong Kong and Singapore is that instead of stating the responsibility through regulations, the lift owners in Singapore actually take an active role to do more than that of the regulations required and participate in monitoring the long term performance of the contractor, in which this role is mainly undertaken by the government departments in Hong Kong.

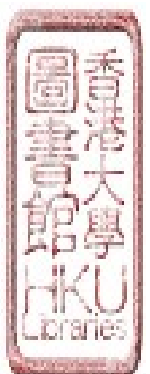
In United Kingdom, though similar to Hong Kong, different government departments are also responsible for monitoring the lift safety at their workplaces and had issued different technical memorandum for their staff to follow (Department of Health, 2016). In addition to the authority itself, the stakeholder association has been taking different other actions to take part in the safety monitoring.

An example is that the Lift and Escalator Industry Association (LEIA) has been issuing its own code of practice and technical guidelines for the lift practitioners to follow on lift maintenance (Lift and Escalator Industry Association, n.d.). As mentioned, the United Kingdom is a bit different that its regulations on lift safety



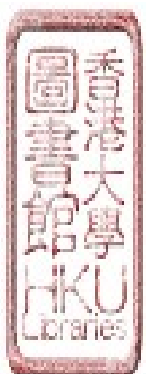
are focused on those existing in the workplace, while for the others not covered in a workplace, the regulations are more flexible that requires a “reasonably practical maintenance regime”. Indeed, the LEIA is using its strength of network with issuance on different technical guidelines and code of practice to assist the government and the lift practitioners for consideration in these aspects.

From another perspective, the stakeholder association, LEIA in United Kingdom is actually taking part of the role in advising and supervising the industry on the lift maintenance in addition to the Authority, which makes the difference with Hong Kong that almost all regulations and code of practices for lift maintenance are issued by the government departments only for the lift owners and practitioners to follow. Although it has no harm that the government authority take the charge in ensuring the safety monitoring through the regulations and guidelines, the shift on actions by system changing can necessarily help the government to alleviate on its manpower demand, in which a manpower insufficiency is actually the problem and concern that the HKSAR government is facing for the lift safety monitoring as mentioned in Chapter 4.



As suggested by McDonnell & Elmore (1987), one effect of system-changing policies may be to alter the distribution of public funds to providers or consumers of public goods and services, and in this sense they may resemble inducements. This is explained by the example from Singapore that the government is providing inducement for the Town Councils on self-monitoring. It was also further suggested by McDonnell & Elmore (1987) that the fundamental property of system-changing policies is the distribution of authority, not money. And changes in the distribution of money follow changes in the distribution of authority.

Therefore an inducement that provided by the government to the market players such as the stakeholder association or the lift owners is eventually aiming to steer a system change in the industry. Nevertheless, from another example in United Kingdom, it was spotted besides monetary support, other elements, such as the expectation on increasing efficiency or expectation on altering the distribution of political power (McDonnell & Elmore 1987), or even changes in mandates (McDonnell & Elmore, 1987) are also possible to lead to a system change. As can be seen from the United Kingdom example, association such as the LEIA does not actually have benefit or monetary support from the government on producing own codes of practices or guidelines, but their actions was targeted to ensuring a high

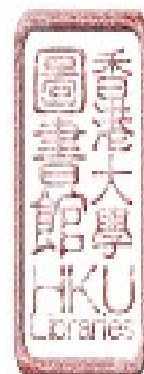


standard of service level offered by their member so as to upkeep their competency in the market. As mentioned by the Lift and Escalator Industry Association (2013), “Having selected a LEIA member following this Code of Practice, customers can be confident that they have chosen a competent organization to carry out their maintenance.” The alternation of political power has indeed helped enhancing the business of the LEIA from another perspective.

Recommendations: Inspirations from Overseas Examples

From the examples previously, it is observed that United Kingdom has been using the most flexible hierarchy governance among three but with a strongest network with the stakeholder associations, while its lift market along with its lift usage, population and the number of lift practitioners are the largest among all. For Singapore, its scale of the lift market and populations is very similar to that of Hong Kong. Although it is following the pace of Hong Kong to step up the hierarchy governance in safety monitoring, its network governance is in some areas better than that of Hong Kong with different use of policy tools appropriately.

It was noted that both Singapore and United Kingdom were having system changes in some areas of lift industry which may worth the HKSAR government

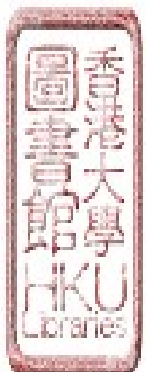


considering. From a micro point of view, both United Kingdom and Singapore are worth Hong Kong considering to learn for enhancement on the use of policy tools. However, for a long term development, United Kingdom is a more ideal form of market on the lift industry for the Hong Kong Government consideration.

Better Choices of Appropriate Tools and Shifting to Network and Market governance

As mentioned in Chapter 2, policy instruments as the micro-foundations of governance are the unit of analysis. Instruments can serve the purpose of producing institutional effects which facilitate and constrain certain modes of governance at the micro and macro levels. In that sense, a good choice of policy tools can necessarily affect the overall governance in long term.

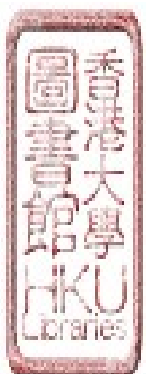
One of the largest concerns of the HKSAR Government is the safety monitoring on the lift industry. This is also explained by the consequence that the HKSAR Government has kept strengthening the hierarchy governance by amending the regulations as mentioned in Chapter 3.



From the examples from Singapore and United Kingdom, instead of kept strengthening the hierarchy governance, the Government could make good use of inducement and capacity building tools leading to a system change on the safety monitoring in long term.

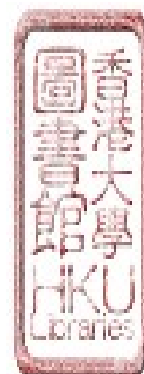
Using the investment on operating grants for the Town Councils in Singapore as an example, where the Town Councils makes use of different channels to get involved the residents on taking ownerships and responsibilities in creating own good for their district. The Town Council has regularly received feedback and views from the residents after they have announced the results from TCMR through newsletters, online surveys, and block parties (Town Councils, n.d.). In addition to that, the Town Councils also actively involve residents on proposal or consultation for idea on improvement through channels such as such as Town Hall Meetings, block parties, mini-exhibitions and survey.

Similar actions could be done in Hong Kong such as providing incentives, say in terms of financial subsidies, to the district councils. The lift users, such as the Owner's Corporation of the building representing the residents in the community, can be invited by the district councils to take part in the surveillance job on the lift



safety. The concerted effort from the districts can largely strengthen the surveillance on the lift safety. This actions also resembles the cooperative governance stated in Chapter 2, in which the public and private jointly develop and implement the policy.

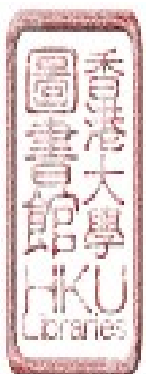
In addition to investment on the network, any independent citizens, i.e. every lift users, are also able to participate in the lift safety surveillance. A similar concept is the campaign raised by the Police to fight crime in a city, in which rewards or recognitions will be given to the citizens who report and assist in stamping out the offenders. Indeed, back to 2012, the inclusion of Permit-to-use requirement in the amended regulations by the HKSAR government was intended to enhance the surveillance coverage by involving the lift users. The mandatory requirement on displaying the permit-to-use certificate allows every lift users to know and assure that the lifts are in proper conditions with proper inspections conducted within a year, which was a good step to embark on the users' engagement by raising their awareness. In the future, at a later stage, when more and more citizens are acquainted with the basic requirement of a safety operation under the law, different "supports" as suggested by Braithwaite (2010) such as informal praise, prize or grants could be provided to the good citizens who have committed in



supporting the surveillance of lift safety in Hong Kong, through different activities such as campaigns, schemes etc., organized by the Government.

The advantage of involving the citizens in the lift safety surveillance is that the residents are the most convenient and also powerful party with the large community group. The monitoring can be seamless as every second there could be someone using the lifts and doing a feasible surveillance under their purview. Besides, with the advanced technology nowadays, the availability of mobile phone, camera and internet has made the report of non-compliance much simpler and easier.

Previously different tools such as inducement or supports were recommended to expand the involvement to the network and independent users. It was also suggested that the district councils in Hong Kong could be a feasible party to cooperate with the government on the lift safety surveillance. Nevertheless, in the past, opinions have been reflected by different council members that the role and responsibilities of the district council allowed by the HKSAR Government are very minimal and the district council could actually do very little on the administration and management on the community. Also, opinions were reflected

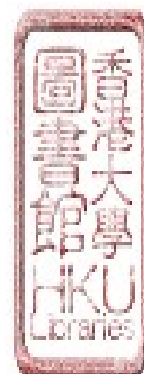


that the remunerations of the district council members and other staff were too low that it does not allow sufficient capacity for carrying the administrative works.

(Hong Kong SAR: Legislative Council, 2001)

Quoting from the legislative council meeting in February 2013 (Hong Kong SAR: Legislative Council, 2013), it was stated that “Some members expressed dissatisfaction that the functions of District Councils (DC) remained to be advisory, and criticized the Government for being unwilling to confer DCs with more power to facilitate their management and monitoring of district facilities.” These members considered that without the appropriate power, it would be difficult for DCs to fulfill a more proactive and meaningful role in district administration. They also queried the Administration's commitment to honor its undertaking.

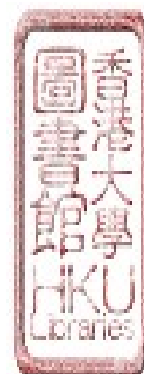
However, the Government response has been showing that the Government was staying reluctant to shift the administrative power to the legislative council. Back to date of 2001, the Secretary of the Home Affairs Bureau (Hong Kong SAR: Legislative Council, 2001) has stated that “the Government had worried that the conferring of administrative power to the district council may distort the



administrative structure and utilization of the public resources, which may at a chance lead to administrative disorder at the eighteen districts.” Indeed, the Government think that the conferring of the administrative power shall be proceeded step-by-step.

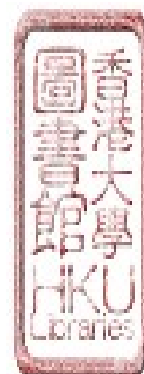
Despite the reply from the Secretary of the Home Affairs Bureau in 2001, after twelve years, similar concerns were still raised by the council members in the legislative council meeting in 2013. In this legislative council meeting, the Administration (Hong Kong SAR: Legislative Council, 2013) advised that –

“Under the Basic Law, the main role of district councils was to serve as an advisory body in district administration and other local affairs. The Administration further advised that the Government had not given a commitment to devolve all the powers of the two former Municipal Councils to district councils and it was not the Government's intention to change the positioning of district councils as an advisory body under the law. Neither did the Administration see a consensus in the community for DCs to function as an administrative body.”



Although the district council has been in an endeavor to strive for an increase on administration power in the district, the above quotes from the legislative council meeting has shown that the Government was quite conservative on the view to conferring the administrative power to the district council. Furthermore, the Government was persistent on the Basic Law that was set out by the state defining the advisory role of the district council.

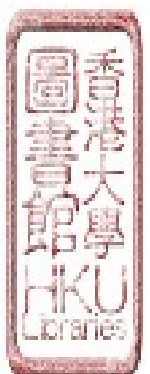
According to Knott (2015), in regulating and guaranteeing contracts and private property, governments face a political moral hazard: the temptation to exploit this legal and contractual power to their own advantage. He also further stated that ideology prevents or actively oppose private market exchanges. This is to certain extent explaining the perception of the Hong Kong Government that possesses. As mentioned by the Government, the conferring of the administrative power may at a chance lead to disorder for the eighteen districts, which may in turn make the management from the Authority more difficult or even out of control. The conservation of the administrative power at the authority can put the Government at the safest position, which is also the most advantageous for the Government. That also defers the Government from devolving all the administrative power to the district council.



The conservation of the power at the Government will make a sacrifice on the private market exchanges which hinders the shift from Government to governance. Though the examples from Singapore has been introducing a good case for Hong Kong to consider, with suggesting the use of inducements for a short term return on a stronger lift safety surveillance with a better quality on lift operations and maintenance and more ideally a system change in a long term. The perceptions of the Government itself is a prerequisite for the shift on the governance with different choices of appropriate policy tools applied to involve the lift users.

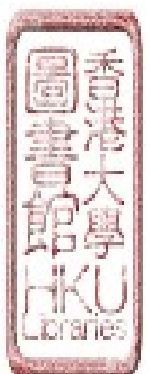
Expanding the Roles of the Stakeholders in the Capacity Building

From the examples of United Kingdom, the engagements by the stakeholder associations are much more common than that in Hong Kong. As mentioned previously, more than 200 numbers of Home Improvement Agencies (HIA), which are the non-profit organizations in the United Kingdom, are overseen by the Foundations under the appointment by the Government. The Foundations is funded by the United Kingdom Government and the charities in which it will provide the grant or loan for the HIAs to help the needy in the society, such as lift maintenance or modernization for the aged house. (Foundations, n.d.)



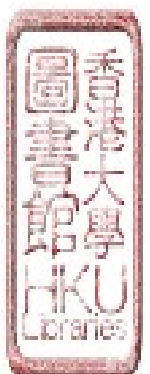
Not to mention a comparable scale of involvement by the stakeholder associations in Hong Kong, the inducement adopted on the stakeholders for alleviating the Government's burden on safety monitoring is worth considering. Similarly, the initiative that was taken by the Lift & Escalator Industry Association (LEIA) in United Kingdom to issue own technical guidelines and code of practices is an ideal direction that Hong Kong may follow as well.

By considering the current institutional arrangement, the universities in Hong Kong may be one of the appropriate institutions for kicking off similar actions for helping the lift industry, as the universities are the places with more technical knowledge and available competent persons in evaluating the standards and technical requirement for a safe lift maintenance and operations. Besides, the universities, which does not involve in the business of lift operations and maintenance as carried out by the lift contractors, could be a more neutral party for contributing to the safety monitoring in the industry. The universities can also act as a main body in a skeleton and invite different lift practitioners to involve in a design stage. Furthermore, with different batch of graduates from the universities each year, new blood can be most easily attracted at the beginning stage for involving different activities to help out the lift industry in Hong Kong.



One of a remarkable examples in Hong Kong is the Aviation Services Research Centre (ASRC) established in 2012, which is an industry-led non-profit making organization established by The Hong Kong Polytechnic University in collaboration with Boeing Corporate (Aviation Services Research Centre ASRC, n.d.). The partnership of the university and the industry supplier is a good bridge to develop new or improved technologies and processes regarding aviation applicable to the industry. The ASRC business scope covers aviation service research, manpower development, and business information exchange. (Aviation Services Research Centre ASRC, n.d.)

As mentioned by McDonnell & Elmore (1987), system changing is a longer term process which aims at creation of capacity for future production, where system changing may result in the creation of whole new classes of agencies, and it may also be accompanied by changes in mandates and inducement that are designed to enhance their effects. Hence, in successfully implementing a system change for long term, the policy direction and communication between the government and the stakeholder associations, such as the universities, by using different appropriate tools such as funding, financial subsidies etc., will be an essence for the future development.

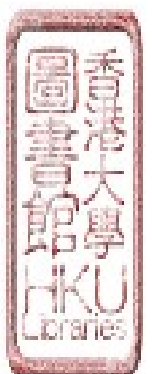


Developing an Ideal Mode of Governance

As mentioned in Chapter 2, the policy, planning, spatial, economic and social dynamics, financial resources and the setting and circumstances of a specific community or industry, as indicated by Driessen & colleagues (2012), affects the choices of the modes of governance.

With the comparison between Hong Kong and United Kingdom, it is noted that the context concerning no matter on the spatial, economic, social dynamics etc., in the lift industry, United Kingdom is much prosperous than that of Hong Kong, with a much stronger network of associations and lift practitioners, a more approachable base of manufacturer for providing technical support, a higher usage of lifts and more users in the industry, better educations for the particular industry and a better career prospect for the lift practitioners, yet with a less rigid regulations applied to the market.

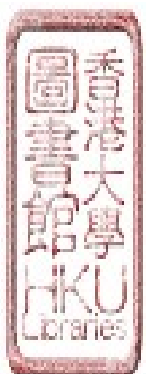
Theoretically, the United Kingdom has a more ideal context for effective use of market and network governance in the mixture as it possess more market resources, a more completed and sophisticated network, and a higher potential for attracting investment in the industry. As stated by I. Mukherjee & M. Howlett



(2015), a market requires stringent but sensible regulations which are diligently implemented in an order to function effectively. He further added that these conditions are usually difficult to be met by many governments and in many sectors due to a lack of sufficient analytical, managerial, political competences and capabilities. The example of United Kingdom and Hong Kong has to certain extent demonstrated the difference on effective use of market governance and the difficulties of a government due to the deficiency of the community context respectively.

To consider an ideal development from a perspective in longer terms, a change on the community context could be one of the roots guiding to a more effective market or network governance in the industry. However, as can be sensibly presumed, the development of such community context requires a long period of time with different social and political direction changes and coordination, given that many such political and social changes are unpredictable, say when facing a disaster, a national policy change, environmental changes etc.

In addition to considering appropriate choice of policy tools leading to a system change, the community context itself, which guides the effectiveness and the



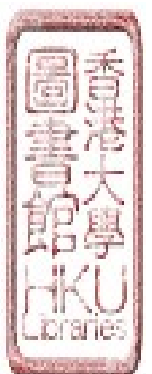
feasibility of a successful governance shift, shall also be another essence for consideration. But having mentioned previously, this macro context involves various different actors and sectors in the society and the capacity building in such area is a very long term goal for Hong Kong to develop deliberately in the future.

Conclusions

This project begins with a review on the lift industry in Hong Kong, starting from 1960s to 2016, examining the use of hierarchy mode of governance with mandates including regulations and law. Through studying the policy of the HKSAR Government on the lift industry by the governance models from Knill & Tosun (2012) mentioned in Chapter 2, it was noted that there was a trend of increasing legal obligation with the tools adopted by the HKSAR Government throughout the years.

The objectives of this project is to examine the capacity building on the lift industry in addition to the regulations that were imposed by the Government.

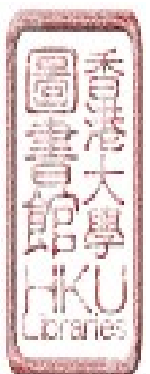
Various policy instruments in Hong Kong using the models from McDonnell & Elmore (1987) and Peters & Pierre (2000) were examined and applied. It was noted that although different instruments have applied, areas including the



pyramid of support undertaken by the HKSAR Government can be enhanced and were suggested.

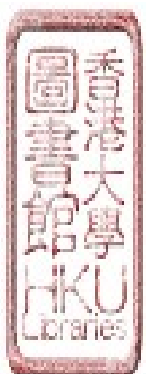
The application of mode of governance in the lift industry in Hong Kong is in a mixture form of hierarchy, market and network governance. However, even after the amendment of Ordinance in 2012, it was noted that although the new act of ordinance have imposed a stronger effect on safety surveillance and have re-defined more layers of industry player in the hierarchy, several problems were still revealed by the Legislative Council and Audit Commission, which have indicated the underlying capacity insufficiency in carrying out the safety surveillance under this mixed mode of governance. The capacity insufficiency has led to the resistance on implementation by the Authority and hindrance on the development in the industry under the loophole of the current mixed governance mode.

To pinpoint the area for improvement, inspiration from the relevant practice and experience in Singapore and United Kingdom were drawn and a lot of measures were identified for reference. By comparing the three areas: United Kingdom, Hong Kong and Singapore, it was noted that although the three areas are all

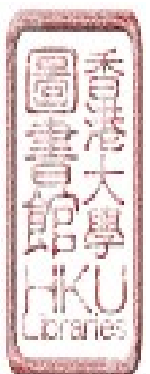


having a mixed mode of governance concerning different areas in the lift industry, they are having quite different approach in carrying out the governance. Using models from McDonnell & Elmore (1987), recommendations for policy tools, including inducement and capacity building tools, to increase the involvement and to evolve the role of lift users and network stakeholders, were suggested, based on the pioneering practices by the United Kingdom and Singapore. The suggested tools strive for a system change for the industry in a long term.

The aim of this project is to suggest appropriate policy tools leading to a more effective mode of governance for the lift industry. By quoting from the legislative councils meeting papers, the government is somehow revealed reluctant to release its power to the market and private sectors in some areas. The perception of the HKSAR Government is another important criteria leading to success of governance in the lift industry. Therefore, besides suggesting appropriate tools and policy for enhancing the capacity, this project also serves for assisting the government to have a more thorough understanding on the use of network and market governance by a system change with the overseas examples quoted such that the Government can have a different perceptions on utilizing public resources for solving social problems in a long term.



Having said the suggestions for appropriate choice of policy tools, a comparatively ideal mode of governance was also explored for the network and market to effectively operate in the lift industry. Given this involved more complex conditions for the government and society to meet in an order to make up the effectiveness on the governance, where many different unpredictable and variable factors may necessarily affect the development, this ideal concept of governance is another longer term goal for the Government to pursue and to consider deliberately in the future development. Related research concerning these variable factors in affecting the ideal modes of governance could be valuably undertaken to further provide valid findings to aid for the future development of the industry.



APPENDIX I:

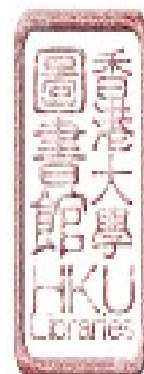
The requirements on different systems regarding the lift regulations stated by the Electrical and Mechanical Services Department (2012) are as follows –

Type Approval System

To ensure that only lifts with proper design, good quality and in compliance with EMSD standards are used in Hong Kong, the Ordinance stipulates that no lift works shall be carried out unless the lift to be installed and all its safety components are of a type for which written approval has been obtained from the Director of Electrical and Mechanical Services (the Director).
(Electrical and Mechanical Services Department, 2012)

Use Permit System

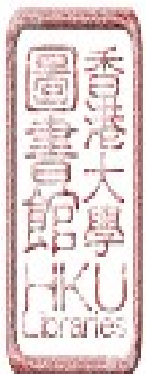
The Ordinance stipulates that the responsible person for the lift shall arrange examination of the lift by a registered lift engineer after the completion of its installation, so as to confirm that the lift is in safe working order. The lift must not be put into use and operation without a use permit issued by the



Director. The Ordinance also stipulates that the responsible person for the lift shall arrange examination of the lift by a registered lift engineer before the expiry of the one-year validity period of its use permit, so as to confirm that the lift is in safe working order. The lift must not continue to be used or operated unless the use permit has been renewed by the Director. (Electrical and Mechanical Services Department, 2012)

Resumption Permit System

The Ordinance stipulates that the responsible person for the lift shall arrange examination of the lift by a registered lift engineer after the completion of a major alteration of the lift, so as to confirm that the part affected by the major alteration is in safe working order. (Electrical and Mechanical Services Department, 2012)



APPENDIX II:

According to Electrical and Mechanical Services Department (2016), the following requirements are imposed to the registration system:

Registration system

The following stakeholders are required to be registered in accordance with Cap.

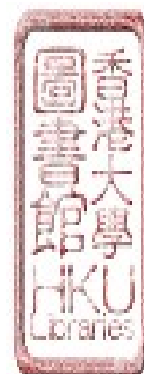
618: (1) Lift and escalator contractor; (2) Lift engineer; (3) Escalator engineer; (4)

Lift worker; (5) Escalator worker

While the registers are statutory required, the arrangement developed a group of professionals and experts in the industry through promotion of experience and continuous training.

The following requirements for the lift and escalator contractors are stated by the Electrical and Mechanical Services Department (2016):

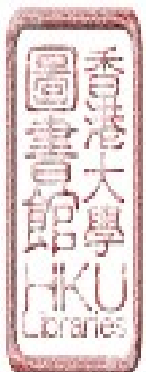
Lift and escalator contractors are eligible only if the company (1) has a member who is the corporate member of Hong Kong Institution of Engineers



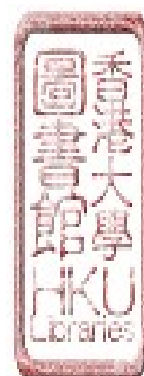
or registered lift/ escalator engineer; (2) consists of not less than two extra employees with one of them being qualified lift and escalator workers; (3) is in possession of necessary resources to carry out the works and (4) is capable of obtaining technical support from a lift manufacturer or an escalator manufacturer for technological updating, technical training of staff, and sourcing of spare parts. The renewal of contractors' license requires the fulfillment of the mentioned criteria. (Electrical and Mechanical Services Department, 2016)

Lift and escalator engineers are required to have relevant educational and practical working experience in the aspects of installation, maintenance, commissioning and examination. Continuing professional development and related working experience is also required for renewal of registration. (Electrical and Mechanical Services Department, n.d.)

Qualified lift and escalator workers are classified into different types according to training level and working experience. Only the registered workers who are employed by a registered contractor can perform installation, commissioning, testing, maintenance, repair, alteration or demolition of lift or escalator without



direct supervision of qualified person (Electrical and Mechanical Services Department, n.d.). Workers are required to prove their working experience and continuous professional development training record (Electrical and Mechanical Services Department, n.d.).



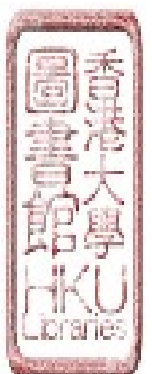
APPENDIX III:

Brief background of the lift technology advancement history

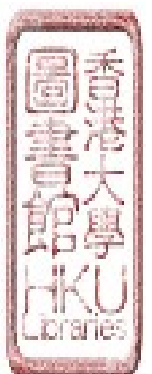
The early lift design were only simply mechanical components using steam as power drive. Typical example includes ropes and pulleys. Later on different types for different applications were developed including pure-belt driven lift, hydraulic-driven lift. No matter what type of mechanical drive, i.e. using ropes and gears (for geared type) or using oils and piston (for hydraulic type), the principle in pulling up the lift using media such as ropes or pushing up the lift using media such as hydraulic oil with a power source (steam in past) is more or less similar to the concept and principles for the lifts' operations nowadays.

With the technology advancement, the use of electricity in driving the lift was developed in the 19th century. The use of electricity instead of steam has enhanced the energy usage in driving the lift and had also been being commonplace in the society nowadays.

Given the similar design concept, breakthroughs were made continuously throughout the 20th and 21st century by including different new components such



as gearless traction with friction reduction, direct drives with high energy-efficiency motors, automatic controls etc., for energy enhancement. The design and development of lift in the industry has been sophisticated with long history of use and operations. While the lift design has been mature with good structure and proper safety devices nowadays, the operations and maintenance under the supervisions of government might necessarily be of much higher essences as one of the critical factors on ensuring the lift safety in the society.



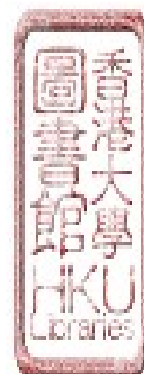
APPENDIX IV:

Function of trade associations in United Kingdom, Singapore and Hong Kong

As an established industry in a developed country/city, trade associations are established to serve as a communication platform for the service providers and seekers. However, the extent of services the trade associations provided differs across countries. The trade association in United Kingdom, Singapore and Hong Kong will be discussed below.

United Kingdom

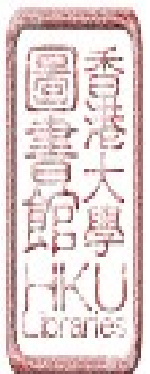
LEIA has a membership covering 95% of the lift and escalator industry (Lift and Escalator Industry Association, n.d.). Despite the large scale of membership, it has strict membership requirement which aim to provide the customers with reassurance when they are looking for member companies for services. According to the Lift and Escalator Industry Association (n.d.), apart from possessing ISO 9001 certification awarded by a certification body approved by UKAS (the United Kingdom Accreditation Service) or a European certification body of equivalent status, the members are required to –



have a minimum of three years registration in accordance with the Companies Act; have a provision of three consecutive years of accounts, which includes the last complete financial year; a written Company Safety Policy or OHSAS 18001 certification; product and third party insurance cover of £5m (minimum); and two industry sponsors, one contractor member and one supplier member. (Lift and Escalator Industry Association, n.d.)

The membership program of LEIA not only enable its members to gain access to many useful resources of the industry, but also as an accreditation for quality assurance. The resources including professional advice, update of technical/safety legislations, discount on learning courses. Clients are able to find the competent contractors easily via LEIA that in turn the contractors could have their business grow. The win-win situation encouraged the service providers and product suppliers to comply with the legislations and quality standard in order to join LEIA as a member.

Hence, apart from Health and Safety Executive who is responsible for the legislation and law enforcement regarding lift safety, LEIA helps the lift industry to achieve self-initiated compliance and even standard enhancement.

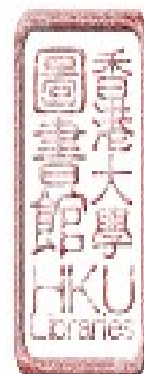


Singapore

The Specialists Trade Alliance of Singapore (STAS) is the association for building and construction industry in Singapore. The Singapore Lift & Escalator Contractors and Manufacturers Association (SLECMA) is the member association of STAS in relation to the lift industry. According to the Singapore Lift & Escalator Contractors & Manufactures Association (n.d.), founded more than 40 years ago, SLECMA's objectives are to –

promote and protect legitimate trade practice regarding the manufacture, importation and distribution by its members of all kinds of lift and escalator equipment and ensure the performance standard and operational safety by working with the authority, developers, owners and users. (Singapore Lift & Escalator Contractors & Manufactures Association, n.d.)

Unlike LEIA in United Kingdom, there are no specific criteria in being a member of the SLECMA. However, the members of SLECMA are all sizable contractors (Singapore Lift & Escalator Contractors & Manufactures Association, n.d.). The function of SLECMA is as an alliance among the existing contractors in dealing with other stakeholders including the developers and the government bodies, e.g.



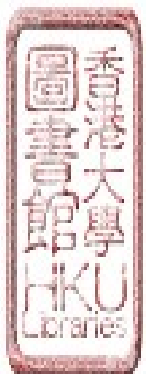
Building and Construction Authority.

Hong Kong

The Lift and Escalator Contractors Association (LECA) is the association lift and escalator contractors. Like LEIA in United Kingdom, there are criteria to meet in order to become a member of LECA.

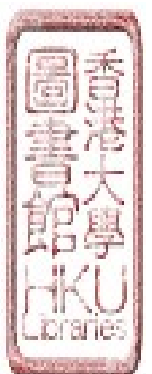
According to The lift & Escalator Contractors Association (n.d.), the following criteria has to be met to become a member of LECA:

Eligible LECA member should (i) be engaged, wholly or partly, in work (other than solely building work) connected with the manufacture, erection, commissioning, testing, maintenance, alteration or repair of lifts or escalators or the machinery or equipment provided therefore, and it has a place of business within Hong Kong; (ii) have been registered with the Electrical and Mechanical Services Department of the HKSAR Government as a registered lift and/or escalator contractor, and has been accepted and is retained by the HKSAR Government on its list of approved lift and/or escalator tenderers, for at least 5 years; (iii) have in its employment at least two persons who are



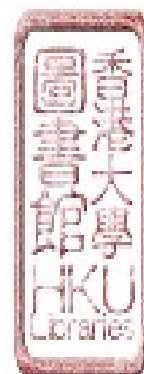
included on the Register of Lift and/or Escalator Engineers maintained by the Electrical and Mechanical Services Department of the HKSAR Government; and (iv) have been included on the List of Approved Suppliers of Materials and Specialist Contractors for Public Works of Works Branch, Development Bureau of the HKSAR Government. (The lift & Escalator Contractors Association, n.d.)

Apart from being an alliance to liaise with other parties as SLECMMA did, its members could benefit from receiving review and analysis from the committees of LECA regarding major accidents and legal cases (The lift & Escalator Contractors Association, n.d.). The benefit of being a member of LECA is less than that of LEIA, where the platform could enhance the business of the contractor which brings monetary return.

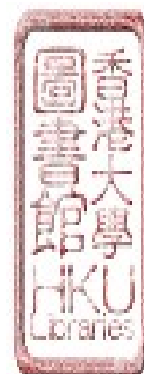


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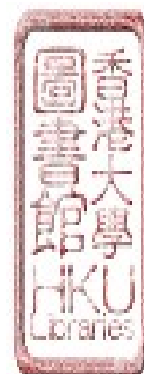
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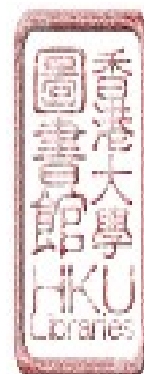
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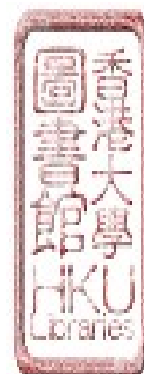
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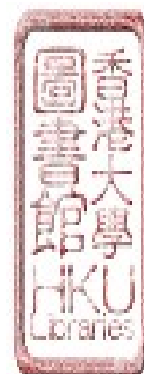
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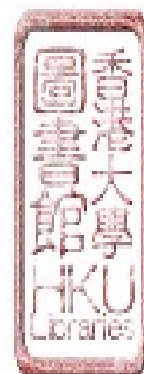
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