Executive Summary

1. Background

In 2011, the Commission of Youth (CoY) issued the "Hong Kong Youth Development Indicators Study", in which various aspects of Hong Kong youth development are examined, and among which, "Competitiveness" is one of the indicators under study. In order to have a more comprehensive understanding of the youth in Hong Kong, the CoY, through the Home Affairs Bureau (HAB), commissioned the Business, Economic and Public Policy Research Centre of Hong Kong Shue Yan University to conduct a study on "The Youth Competitiveness Indicator System in Hong Kong" (Indicator System).

The purpose of the study is to establish an indicator system and develop measurable indicators; to collect various types of data on Hong Kong youths to facilitate the verification process for the indicator system; and to provide reference data for developing suitable public policies and understanding youth competitiveness in Hong Kong. The scope of the study includes clarifying the concept of "youth competitiveness", developing approaches to define the concept and proposing assessment standard and coverage, establishing the Indicator System based on the definitions proposed, collecting information according to the content of the Indicator System, and carrying out data analysis and indicator calculation.

The target groups of this study are Hong Kong residents at the age between 15 and 24, comprising four main categories based on their background information, namely, "senior secondary students", "tertiary students, "working youths" and "non-engaged youths".

- Senior secondary students – students studying at senior forms or attending other equivalent programmes
- Tertiary students – students studying post-secondary schools or attending other equivalent programmes, including those who are preparing for a professional qualification examination.
- Working youths – young people, who are not full-time students, engaging in any kind of legal and remunerated work and services, including full-time or part-time paid jobs
- Non-engaged youths – young people who are neither engaging in any full-time or part-time employment, nor studying any full-time or part-time courses

2. The Definition of "Youth Competiveness"

Currently, "competitiveness" is a general term with no standard explanation or a widely agreed definition. Based on a review of documents and reports from various sources, the research team considered that "the essence of competitiveness" concerns the attainment of the goal of "sustainable development", and therefore "youth competitiveness" should be built on the core concepts of young people's "adaptability to future development trends" for "sustainable development" and "their capability of helping the community in making improvements and enabling the community to achieve sustainable development".

In view of the above concepts, the research team defined the term "youth competitiveness" as "the capacity of youth to independently strive for sustainable development under uncertain societal circumstances". "Youth competitiveness" will not be used to measure one's success or failure. Neither will it be used to draw a conclusion on an individual's life. To maintain competitiveness, young people should make improvement themselves and learn from different situations and challenges encountered in their development process.

3. Details of "Youth Competitiveness"

Taking into account the youth with different characteristics and exposed to different situations, the study delved into "youth competitiveness" in two directions, namely "sustainable development of the youth and their various capabilities" and "keeping in line with future development trends". The research team has reviewed over 100 articles on "youth competitiveness" and identified 21 elements.

In respect of the "sustainable development of the youth and their various capabilities", 14 elements related to the definition of "youth competitiveness" in this report have been selected from these articles, which will constitute the first part of "youth competitiveness". These 14 elements are "living ability", "team spirit", "communication skills", "integrity", "civic awareness", "resilience", "emotion management", "working experience", "family resources", "employment structure", "education system", "human resources policy", "domestic competitiveness" and "social system".

"While young people enter adulthood, they should have the ability to "keep in line with future development trends" for sustainable development". The research team further reviewed articles on future development trends, and identified 7 other relevant elements, including "professional competence", "technological knowledge", "foreign

language proficiency", "international perspectives", "multiple knowledge", "learning ability" and "thinking skills", which form the second part of "youth competitiveness".

4. Methodology for the study on the Indicator System

Based on the 21 elements mentioned above, the research team worked out 7 indicators, namely "adaptability to future changes", "basic skills competence", "psychological features", "regular soft power", "inherent factor", "human resources" and "supporting environment".

The 7 indicators can be divided into 2 main parts. The first part comprises 5 indicators, namely "adaptability to future changes", "basic skills competence", "psychological features", "regular soft power" and "inherent factor", represented by the statistics of young people collected from a micro perspective and gathered from first-hand data (micro-data) obtained through questionaires. The second part comprises 2 indicators, namely "human resources" and "supporting environment", represented by territory-wide statistics collected from a macro perspective and retrieved from existing openly available data (macro-data). The micro-data reflect the competitiveness of young people in Hong Kong while those macro-data indicate the global competitiveness of our young people as a whole. Through consolidating the data from the two sources, the Indicator System not only reflects the self-competitiveness of young people in Hong Kong, but also indicates the global competitiveness of our young people as a whole as compared with those in other regions.

The collection of micro-data by questionnaires was based on a combined sampling approach, i.e. stratified random sampling and snowballing. Appropriate adjustments to the data collected would also be made according to different research categories. For the category of senior secondary students, they were divided into different groups according to their subsidized school types. In each group, schools would be randomly sampled and invited to join the exercise. Different youth organizations or groups were also requested to assist in the survey by conducting questionnaire survey with their service targets. As for tertiary students, young people taking different bachelor's degrees in various institutions were surveyed through various educational institutions, youth organizations and student associations. With regard to working youths, interviewees were referred by youth organizations or associations and through other relevant channels. Regarding non-engaged youths, they were referred with the help of youth organizations, such as district social work service teams, which provide major services to and have frequent contacts with the group in the community.

Macro-data are secondary data primarily gathered from official data publicised by the government or the data released by representative organizations. The main criteria for the selection of data include: the number of nations or regions concerned, the sustainability of data, their relevance to youth competitiveness and the representativeness of data.

After the data collection process, both the micro-data and the macro-data were converted into numbers according to a numerical scale of 1 to 100. They were then grouped to form data components in the Indicator System by way of a weighted average approach. The overall statistics held a larger portion of micro-data mainly because the study primarily targeted at the youth in Hong Kong. On the other hand, as the macro-data were just used as supplementary facts for comparison with other places, its percentage was lower.

In designing the questionnaire, the researched team tried to find suitable topics for and appropriate meanings in line with the 21 elements through relevant academic literature where questions were set according to the definition of "youth competitiveness".

The first indicator is the "adaptability to future changes", comprising the elements of "professional competence", "technological knowledge", "foreign language proficiency", "international perspectives", and "multiple knowledge". These elements mainly reflect the overall ability of the youth in equipping themselves and making proper planning for the ever-changing lifestyle, social transformation and advancement, and to gear up for future changes. The definitions of the elements are set out below:

- Professional competence – relating to individual profession or technical expertise, the professional knowledge acquired and the skills required in a particular field, or the competence of an individual displayed in a certain area.

- Technological knowledge – the technique in processing information technology efficiently and the proficiency with computer programmes.

- Foreign language proficiency – the knowledge of and proficiency in foreign languages.

- International perspectives – the ability to handle cross-cultural exchanges and cope with or adapt to the development trend of globalisation.

- Multiple knowledge – a conglomeration of abilities in adapting to future changes, reflecting the future competitiveness of the youth.

The second indicator is the "basic skills competence" which consists of two elements, i.e. "living ability" and "communication skills", reflecting mainly the performance at work and the self-care skills in life of the youth. Below are the definitions of the elements:

- Living ability – abilities in self-caring, financial management and planning for the future.

- Communication skills– the ability to show and express one's opinions and feelings.

The third indicator is the "psychological features" which comprise the elements of "integrity", "resilience", "emotion management" and "civic awareness". All these mainly reflect the psychological quality of young people in managing adversity and their personal values in daily life. Good psychological qualities and positive values would not only be beneficial to one's performance at work and self care in daily life, but also bring positive impacts to others. Below are the definitions of the elements:

- Integrity – personal conduct and characters, a reflection of an individual's behaviour and conduct.

- Resilience – the ability to overcome difficulties and recover from adversity after a major crisis.

- Emotion management – the ability to show and immediately change the emotions experienced in different situations.

- Civic awareness – the understanding of and concern about civil obligations and the civic values held.

The fourth indicator is the "regular soft power" which comprises such elements as "working experience", "thinking skills", "team spirit" and "learning ability". The indicator is primarily used to measure an individual's ability in self-development, with which he/she can get an edge and add value to himself/herself constantly in various aspects, and demonstrate one's sustainable competitiveness. Definitions of the above elements are given below:

- Working experience – personal experience and exposure, understanding and

appreciation of interpersonal relationship as well as the values towards a job.

- Thinking skills – ability in decision-making and problem-solving, cognitive competence, goal setting capacity, creativity and a sense of moral judgment.

- Team spirit – interpersonal communication skills, comradeship, managerial and organizing capacity.

- Learning ability –motivation for and performance of learning, including both psychological and environmental factors.

The fifth indicator refers to the "inherent factor" of which "family resources" is the element. It is an inborn advantage of the youth, particularly the competitive edge in terms of learning resources and environment they enjoyed. It has a direct influence on the development of the youth. "Family resources" refers to parents' academic qualifications and the relationship between the youth and their parents.

The sixth indicator is the "human resources" which comprise "employment structure", "education system" and "human resources policy". It mainly reflects the human resources structure of a society and various manpower training systems as well as policies. Different employment market structures will also exert direct influence on the performance of the youth. Definitions of the above elements are as follows:

- Employment structure – the scale of the labour market to absorb the youth and the remuneration package offered to them.

- Education system – the distribution of educational attainment of the population, including the level of investment and the efficiency of the efforts made.

- Human resources policy – the relevant input level of human resources, including the level of investment and the efficiency of the efforts made.

The seventh indicator is the "supporting environment" with "domestic advantages" and "social system" as the elements. The indicator reflects mainly the impacts of macro-environmental changes of a community on youth competitiveness. The elements are defined as follows:

- Domestic advantages – the influence of macro-environmental edge and geographical advantages on the development of youth talents.

- Social system – the influence of various systems and policies on the development of youth talents.

5. Verification of the Indicator System and relevant questionnaires

The Indicator System was verified in terms of reliability and validity. Reliability refers to the credibility of the questionnaires which represents the relationship between the questionnaire items and the elements; whereas validity refers to the effectiveness of the System which also represents the relationship between the questionnaire items and the elements as well as the relationship between the elements and the Indicator System. With regard to the verification procedures, the study first verified the questionnaires' reliability and validity. After the reliability and validity of the questionnaires were confirmed, the questionnaires were used as the basis to verify the validity of the Indicator System.

In determining the reliability of the questionnaire items, since the study mainly adopted the Likert scale as its major measurement tool, Cronbach's alpha of the classical test theory was employed. In determining the validity of the questionnaire items, the approach of confirmatory factor analysis (CFA) was employed. As for the validity of the Indicator System, the approach of structural equation modelling (SEM) was employed to verify the relationship between elements and the Indicator System. That means to confirm whether the relevant elements could form the Indicator System statistically and whether the verification result could match up with the relevant goodness-of-fit index.

The study was conducted between October 2013 and February 2014. A total of 4,253 young people aged between 15 and 24 completed the questionnaires. Among them, 2,948 were senior secondary students (from over 40 different schools), 861 being tertiary students (from over 10 different institutions) and 350 being working youths while 94 were non-engaged youths.

With respect to the verification, all questionnaire items passed the reliability test which proved that all the scales demonstrated satisfying reliability (most of them had a Cronbach's alpha larger than 0.7 and the lowest reliability coefficient was greater than 0.5). In addition, the research team conducted CFAs for individual elements using the respective data collected by the questionnaires. Among the questionnaire items, no significant negative correlations were found. At the same time, just very few questionnaire items were found to have insignificant correlations. This revealed that the relationship between the questionnaire items and the elements was confirmed statistically. To maintain the comprehensiveness and consistency of the questionnaires, all items were kept for analysis.

During the SEM analysis, the relationship among the composite indicators, the

indicators and the elements for the tertiary student group under the Indicator System was confirmed. Similarly, the relationship for the senior secondary student group with the Indicator System was confirmed after some fine adjustments. As for the working youth group, the positive relationship between indicators and elements was confirmed. However, since the sample size for the non-engaged youth group was too small to fulfil the requirement of the SEM, no individual analysis for that group was conducted. The above revealed that the Indicator System was statistically verified. To ensure the comprehensiveness and consistency of the study, the research team decided to keep using the Indicators System.

6. Data collation and description

The research team collated the indicators under the Indicator System according to the micro-data and the macro-data collected, which accounted for 70% and 30% respectively. The micro-data constituted a larger percentage mainly because the study primarily targeted at the youth in Hong Kong. On the other hand, the macro-data were only used as supplementary facts for comparison with other places, so its percentage was lower.

Data collected by questionnaires revealed that, on the whole, senior secondary students acquired lower scores in areas of working experience and resilience, as compared to other indicators. Female senior secondary students acquired higher scores in all indicators compared to that of male students. The scores attained by different forms of secondary students were similar in all indicators. Those who attended extra-curricular activities (e.g. voluntary work and student exchange tours) more frequently or those who constantly took care of themselves (e.g. saving up money and tidying up rooms) acquired higher scores in all indicators on average.

As for the tertiary student group, the data collected by questionnaires revealed that, in general, tertiary students acquired lower scores in areas of professional competence and working experience, as compared to other indicators. Female tertiary students scored higher in family resources when compared to that of male students. Those who possessed higher education qualifications acquired higher scores in many indicators. Those who attended extra-curricular activities (e.g. voluntary work and student exchange tours) more frequently or those who constantly took care of themselves (e.g. saving up money and tidying up rooms) acquired higher scores in all indicators on average.

As regards the working youth group, the data collected by questionnaires revealed that, in general, working youths acquired lower scores in areas of foreign

language ability and resilience, as compared to other indicators. The scores attained by females were similar to that attained by males in many indicators. Those who possessed higher education qualifications acquired higher scores in many indicators. Those who constantly took care of themselves (e.g. saving up money and tidying up rooms) and those who attended exposure-broadening activities (e.g. voluntary work and independent travelling) more frequently acquired higher scores in all indicators on average.

The data collected by questionnaires with regard to the non-engaged youth group revealed that, in general, non-engaged youths acquired lower scores in areas of resilience and working experience.

Regarding the macro-data, the research team selected three global indices and extracted all or some of the sub-indices to obtain the macro-data using the weighting method. These three global indices include the Global Competitiveness Index, the Global Cities Index and the QS Best Student Cities Rankings.

The data revealed that Hong Kong ranked high in the world in all areasand even took the lead in some of them such as infrastructure, financial market development, goods market efficienty. Nevertheless, there is still room for improvement in some areas such as good health and primary education, higher education and training, cultural heritage and innovation. The room for improvement mainly lies in quantity. Take higher education and training as an example, Hong Kong ranked high in terms of quality but low in terms of quantity. This means although Hong Kong has performed well in terms of quality and efficiency, there is still room to improve the penetration.

After collecting both the micro-data and the macro-data, the research team converted them into numbers according to a numerical scale of 1 to 100, according to the Indicator System and youth population, to form the various composite indicators on youth competitiveness by way of a weighted average approach. The overall scores for senior secondary students, tertiary students, working youths, non-engaged youths and overall youth were 74.3, 75.1, 74.3, 73.9 and 74.5 respectively. Since different groups had different characteristics and needed to face different situations, the research team took the view that the aforementioned composite indicator values were incomparable among the groups.

7. Conclusion and Discussion

The data collected under different youth groups reveal that the competitiveness

of each youth group varies from each other and that they need different kinds of support in the face of different circumstances. Therefore, it is considered that resources may be pooled to provide assistance in response to the various needs of different youth groups.

As this study is the first of its kind, it focuses on the establishment and verification of the Indicator System, and provides reference data for the formulation of suitable public policies and the understanding of youth competitiveness in Hong Kong. Since no other relevant data are available for comparison and analysis at this point of time, it is hard to determine the development trend of youth competitiveness. It is suggested that more in-depth researches be conducted in the future on the basis of the Indicator System. Data in this research can be used as the baseline data to carry out a cross-point analysis on the development trend of youth competitiveness in Hong Kong, and further understand the mutual effect between different factors and competitiveness. Furthermore, this research can serve as a basis to conduct an in-depth study on young people (e.g. senior secondary students, tertiary students, working youths and non-engaged youths, etc.) facing different situations, taking into account their circumstances and their needs. In addition, after compilation, the data collected for the analysis in this study suggest that different groups of young people have their own advantages. It is considered that it may be possible to select some elements from the data and conduct an in-depth study on the reasons and effects of various advantages and disadvantages, so as to work out more effective ways to help young people enhance their competitiveness.

As time goes by, the youth will one day become the master of our society. Therefore, understanding our youth and helping them enhance their competitiveness are both essential to social development. In this rapid ever-changing world today, the Study on the Indicator System not only allows the community to have a better understanding of the characteristics of our young generation, but also facilitates the Government to develop a more appropriate youth policy and plan for the future of Hong Kong as early as possible.

This study gives a general but specific definition for the term “youth competitiveness”. Based on this definition, the youth competitiveness was analysed and relevant information and data were collected to develop the Indicator System. With this Indicator System, a reference framework and necessary data can be provided for the Government to formulate appropriate public policies for the enhancement of Hong Kong’s competitiveness, with a view to helping the youth realise their visions and lead an enriched life. The research team believes that the goal

of understanding and enhancing the competitiveness of Hong Kong youth cannot be achieved by just a single research. It is hoped that the study will help various sectors in the community understand our youth better and give them more room for development in the future.