SMARTER HONG KONG - SMARTER LIVING

SPPUL - HK

(Smart Portal for Public Utilities)

CREATIVISION TEAM

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Mr. Parihar gained his degree in Electronics Engineering. He has 14 years of experiences in Information Technology working in Financial domain in India, Japan, Singapore and Hong Kong. Mr. Parihar has extensive people and project management experiences. Mr. Parihar is currently a HKU MBA 2014 Candidate.	Ms. Gao has seven years of experiences in treasury management including cash flow, liquidity, FX, interest rate, derivatives, structured products, portfolio management within Banking, FMCG and Real Estate Industry in Hong Kong and Shanghai. Ms. Gao is a CFA Charter holder. She completed her dual Bachelor Degrees in Economics and Law in Nankai University. Ms. Gao is currently a HKU MBA 2014 candidate.	Ms. Wang joined BlackRock in 2012 where she provided risk analytics for institutional clients. Prior to BlackRock, Ms. Wang was a strategic analyst in Bank of America managing risks and strategies on consumer portfolios. Ms. Wang holds a Bachelor's degree in accounting from Southwestern University of Finance and Economics and a Master's degree in accounting from University of Delaware. Ms. Wang is currently an HKU MBA candidate.	Ms. A. Xu worked as an engineer in the Chinese Air Force for 5 years. Her expertise is in project management. She had one year of entrepreneurial experience while she was a college student. Ms. Xu received her Bachelor of Mechanical Engineering and Master of Optical Engineering from Tsinghua University. Ms. Xu is currently an MBA candidate of HKU.	Ms. Gupta has 5 years of work experience comprising 4 years in marketing hotels and 1 year in coaching underprivileged children. She managed marketing and branding activities of South Asia region for Carlson Rezidor Hotel Group that owns and manages Radisson. She pursued her Bachelors of Arts in English from Miranda House, Delhi University (India) and is presently pursuing MBA at HKU.	Before coming to Hong Kong to pursue an MBA, Ms. O. Xu worked in Corporate Controlling department at Siemens Ltd., China as the Cluster Credit Officer. Ms. Xu has extensive experience in credit control, financial accounting analysis and budget management. Before joining Siemens, Olivia worked at China Hewlett-Packard Co Ltd as the Executive Assistant to Senior Vice President. Ms. Xu has a Bachelor's degree in Economics.

1. Problem Statement

Hong Kong is one of the leading economic and financial centers in the world. Hong Kong has gained numerous high international rankings in various aspects, such as economic freedom, financial and economic competitiveness, quality of life, corruption perception. Its Human Development Index is also ranked within the top 5.

To further improve the quality of life of the its citizens, the HKSAR government is looking for opportunities to better administer the city and achieve the goal of a Smarter Hong Kong for a Smarter Living.

To this extent, as part of the local community, we would like to propose to the government an innovative idea, which consists into a central access platform to interface between citizens or local companies and utility providers. This too would help address challenges that individuals or collectivities face while managing accounts with the service providers separately.

Also the captioned study has been performed in the framework of the HKSAR Government Digital 21 consultation and aims at proposing to the Hong Kong government applicable qualitative and quantitative ideas to address the above mentioned concerns and make Hong Kong a smarter city.

2. Business Objectives and Scope

The goal of this paper is to present a proposal for **SPPUL-HK** (Smart Portal for Public Utilities) as a centralized solution to the Hong Kong citizens for accessing public utility services.

Through the new platform, the Hong Kong citizens would be able to manage their utility usage history and bill payment across all the utility services companies such as water, electricity and gas. In addition, the mobile application of this platform will allow the citizen to access the data from their electronic portable devices such as mobile phones and tablets. This platform also, has the ability of handling electronic payments. It would work as a substitution of the conventional paper-based utility services; therefore, eliminate the usage of the printing paper and associated costs of the paper-based services.

This centralized platform would be accessed or potentially managed by the government to gather valuable information about the consumption patterns of its citizens and local companies and, as a result, to effectively lead decision-making on managing utilities resources. This information can also be useful for educating the citizens on how these utilities can be consumed more efficiently.

The centralized platform can also provide valuable information to the utility providers as well as other companies and corporates subject to privacy agreement to access confidential data or public data.

3. Sponsorship and Guidance

Thales Group, a French multinational group that designs and builds large-scale mission-critical systems and provides services for the aerospace, defence, transportation and security markets is the sponsor for this project partnering with the MBA students from The University of Hong Kong. **Mr. Ludovic Lang** (**Marketing & BD Director, Thales Transport & Security (Hong Kong) Ltd.**) is the primary contact person from Thales providing his valuable guidance on the proposal of this project.

4. Market Overview, Sizing and Segmentation

Hong Kong has been a pioneer in the deployment of information and communications technologies. As per World Economic Forum, **Hong Kong takes the top spot of the Financial Development Index for the first time**, overtaking the United States and the United Kingdom. In terms of technology readiness, its **ranked 12th** (among 142**) in availability of latest technologies** and **No. 1 in Internet bandwidth**.

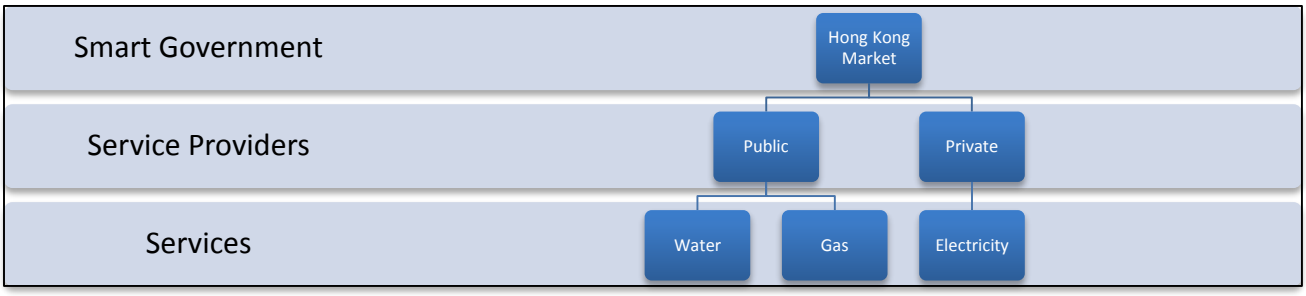
Adoptions of advanced technology in e-commerce and government service are well received by consumers, citizens and businesses. On Innovation metrics, it is ranked 27th for government's procurement of advanced technology products. With the rapid progress in technology and application development, as well as higher expectation from consumers, the market potential is considerable and can generate great value in future.

Our project will target both the public sector and the private sector of Hong Kong market. For the public sector, Hong Kong government and public service providers will benefit from our proposed solution by having an integrated platform for information management. In the private sector, we provide Hong Kong citizens with a one-stop service platform that will improve efficiency and information transparency.

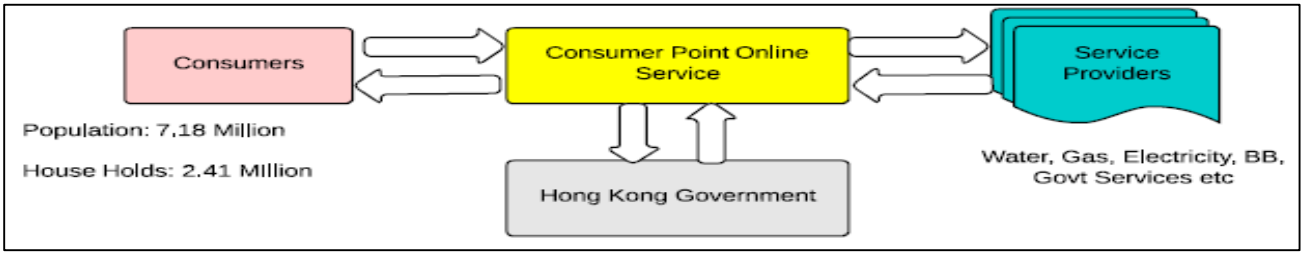
The demographics of Hong Kong can be categorized in below ways:

a) Nationality - 93.6% ethnic Chinese and 6.4% from other groups –south Asians, Americans, British, French, Korean, Japanese etc. Many expatriates live and/or travel in and out of Hong Kong.
b) Age – majority of population lies between 45-54 years, followed by 35-44, and 25-34 and others.
c) Gender - overall the no. of females outnumber the males.
d) Housing – Half of households are Private permanent housing and rest is public rental housing or temporary housing.
e) Occupation - Associate professionals 19.5, Clerical support workers 13.8, Service and sales workers 16.5 followed by other occupations.

MARKET SEGMENTATION



MARKET SIZE AND PLAYERS



5. Competitive Analysis

Utility services are provided by the public companies that are owned by the government. Therefore, a centralized utility management platform will benefit both the government and consumers for the following reasons:

1. Government:

a) Large data generated by the users can be analyzed in order to provide better forecasts on the utility usage.

b) Government and private utility providers can save costs by consolidating the resources for the overall management of the system, including but not limited to billing, communications, hotline, etc.

c) The platform can potentially provide advertising opportunities for new business streams or for consumer awareness enhancement or other communication campaign.

2. Consumers:

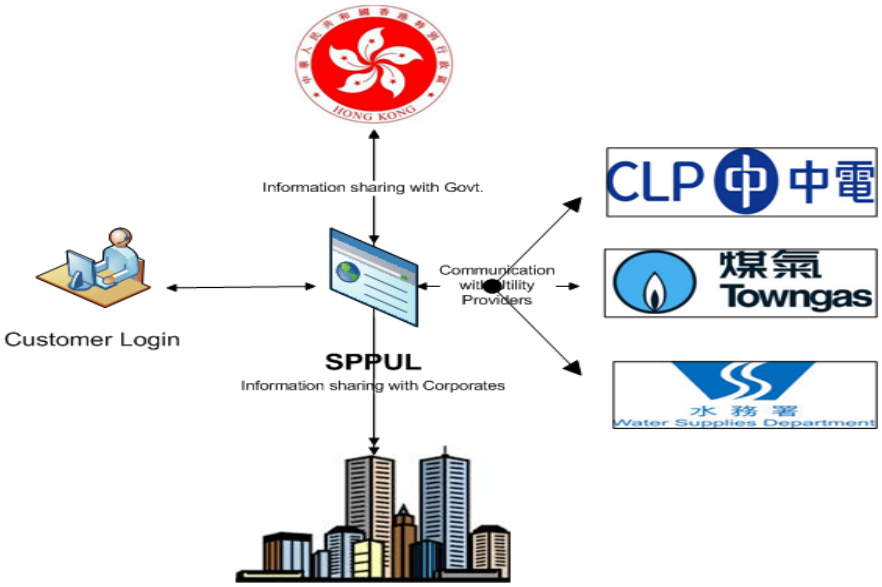
a) Better customer experience from the ease of paying multiple bills on multiple utility platforms.

b) Centralized system will eliminate the duplications of making service change requests.

c) User friendly interface, environment friendly application, single login, password and profile for multiple applications

We could potentially take the advantage of the early bidder of this project with the Hong Kong government and our credibility can be identified by the backing of THALES, which is already a well-established solution provider for various services to Hong Kong.

New competitors in this market would need to face the entry barriers as to how to establish the partnership with the government.



6. Business Model

<table>
<tr>
<td rowspan="2">Key Partners

1) HK Utility Providers
2) HK government
3) Investment Partners (Either VC and/or Government)</td>
<td>Key Activities

1) Account Management (Merging accounts / New Account Opening)
2) Account Profile management.
3) Central Bill Viewing
4) Payment Channel
5) Consumption profiling
6) Awareness generation using predefined profiles.
7) Data providing to government fro smart decision making.</td>
<td rowspan="2">Value Propositions

1) User friendly and easy access.
2) Easy and secure access for the consumers using Digital ID..
3) One step login for utilities.
4) Central information repository.
5) Cost saving for utility providers.
6) Support green environment by using less paper.</td>
<td>Customer Relationships

1) Common platform for all utility access for the Hong Kong citizens.
2) Government supervised relationship between customer and utility providers.</td>
<td rowspan="2">Customer Segments

1) Hong Kong Households
2) Utility providers
3) Corporates
4) Government</td>
</tr>
<tr>
<td>Key Resources

1) Software developers and System integrators
2) IT Teams across utility providers
3) Government Task Force
4) Customer and utility provider relationship staff.</td>
<td>Channels

1) Online portal and Mobile application.
2) Kiosk access to less tech savvy people.</td>
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<tr>
<td colspan="3">Cost Structure

Expenditure: (Government and Utility provider shared investments)
1) Hardware Cost. Data Centre (Possibly using cloud platform provided by HK government).
2) Salaries and Office setup cost.
3) Large upfront investment into fixed assets and ongoing maintenance cost.
Savings:
1. Saving on paper for printing bills and associated expenses.
2. More effective labour utilization.</td>
<td colspan="2">Revenue Streams

1) Fee per transaction from the utility providers.
2) Advertisement and promotions.</td>
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7. Marketing and Online Strategy

The marketing plan will focus primarily on Hong Kong citizens to generate the awareness about this online portal targeting to consolidate their utility accounts under one single umbrella:

Action plan:

1. Customer Awareness Campaign:

a) Through government channels like Free to Air TV Channels etc.

b) Advertisement in the MTR

c) Social media like Facebook and Twitter

d) Advertisement on MyGovHK.com website

2. B2B Marketing for private utilities

The B2B consumer is the private utility provider for electricity namely HK Electric/ CLP Power. The aim of B2B marketing communications is to support the company's sales effort and improve its profitability. B2B marketing communications strategies for HK electric can include marketing activities such as advertising, public relations, drafting collaterals and posters, re-branding of logos and bill format etc. As the technology is advancing, it is impertinent to explore interactive services such as website design, search engine optimization. There can other services that can be provided such as market research services, training programs on how to deal with consumer queries.

The process can be as below:

a. Market Research

b. Positioning strategy

c. Marketing campaign planning

d. Adapting to online marketing mediums

e. Calculate revenue generation and benefit from new marketing plan

8. Financial Model

Based on our financial model, we expect that the payback period is going to be 4.52 years for the project, with a NPV of $1,302,783.17 and an IRR of 53%. The initial investment of the project is projected to be $330,000, which includes hardware, software, office expenses, salaries and working capitals. We are going to fund the project with 50% equity and 50% bank loans. For the first year we are in development stage, thus there would be no revenue generated. Starting from year 2, we charge each of the service provider $0.50 per bill payment. Another revenue stream would be advertising, which is going to generate profits starting from year 2. With these two revenue streams combined we would be able to break even in year 3. The income statement of the project is as follows:

Income Statement									
	Year 1	**Year 2**		**Year 3**		**Year 4**		**Year 5**	
	2014	**2015**	**Var (%)**	**2016**	**Var (%)**	**2017**	**Var (%)**	**2018**	**Var (%)**
Revenues	0	464516.13	N/A	1029032.3	122%	1593548.4	55%	2290322.6	44%
Marketing Expenses	0	100000	N/A	100000	0%	50000	-50%	50000	0%
Salaries	100000	102000	2%	120000	18%	124800	4%	130000	4%
Web Storage	2000	2000	0%	2000	0%	2000	0%	2000	0%
Office	100000	100000	0%	110000	10%	110000	0%	120000	9%
SG&A	36000	36000	0%	39600	10%	39600	0%	39600	0%
Operating Income (EBITDA)	**-238000**	**124516.13**	-152%	**657432.26**	428%	**1919948.4**	192%	**2631922.6**	37%
Depreciation Expenses	-66000	-66000	0%	-66000	0%	-66000	0%	-66000	0%
EBIT	**-304000**	**58516.129**	-119%	**591432.26**	911%	**1853948.4**	213%	**2565922.6**	38%
Interest expense	-8,827.50	-7,062.00		-5,296.50	-25%	-3,531.00	-33%	-1,765.50	-50%
EBT	**-312827.5**	**51454.129**	-116%	**586135.76**	1039%	**1850417.4**	216%	**2564157.1**	39%
Income Taxes	0.00	8489.93		-96712.40		-305318.87	216%	-423085.92	39%
Net Income	**-312828**	**59944.06**	-119%	**489423.4**	716%	**1545099**	216%	**2141071**	39%

With a mobile penetration of 80% and 2,000,000 households in Hong Kong, we believe that our assumptions are rather conservative.

The platform will also enable substantial **cost saving** for the utility providers. The cost of printing paper bills and the associated expenses could be saved on longer run as more and more customers will onboard onto this platform.

9. Risk Management

Managing and delivering public services involves governments in collecting and using vast amount of data. But the government agencies that collect it may not be in the best position to assess what data would be helpful or develop the innovative applications that can take advantage of it.
Data that could identify an individual is not needed or appropriate for such use. But much public data does not relate to people but to the physical environment, and data on people can often be aggregated to avoid potential privacy concerns and then released for innovative re-use.

An "e-Citizen" account that could provide citizens with an easy and convenient access to many e-services should ensure a good privacy data protection. For example, it will be possible for citizens to view which authorized government officials have accessed their personal data over a certain period.

Advanced security technologies provided by Thales that can encrypt data and communication and prohibit the storage of information address the security and privacy concerns that citizens may have with e-services.

10. Growth & Expansion (Scalability)

Our strategy is to target the extensive **online and mobile user community** in HK to start using this new platform to manage their utilities. There are nearly 2 Million households in Hong Kong and we target have at least 20% of this households adopting this new platform to manage the utilities. We expect this to grow at the rate of 20% per annum their after and possibly in 5 years most of the households in HK will be using this platform to manage their utility accounts.

Extension of this service to the **corporates** would enable them to better manage their energy bills. Platform will be able to generate information which the corporates could use to understand their consumption patterns and potentially utilize the information to better manage their energy consumption.

The platform can be further extended to enable the government act as the **clearing and settlement** agency for the utility bill payment for the service providers. Potentially this could further open a revenue stream for the government by providing service based on a fee structure. The similar concept is already been adopted by Octopus in HK.

If this project becomes a success, we can possibly approach other cities in mainland China to provide similar services to their citizens.