
**Review of the Information Technology Strategy for the
Social Welfare Sector in Hong Kong**

**for the
Social Welfare Department**

Final Report

**Prepared by
Newtrek Systems Limited**

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1. BACKGROUND

In 2001, the Social Welfare Department (SWD) took the lead to consult the Hong Kong Council of Social Service (HKCSS) and other major stakeholders to draw up the Information Technology (IT) Strategy for the Social Welfare Sector (IT Strategy) with a strategy framework setting out the components¹ for IT development with Lotteries Fund (LF) being the main funding source for IT development. Since then, IT projects were mainly funded by LF through the Business Improvement Projects (BIP) Scheme². A review was conducted in 2004 by SWD. The review confirmed that the IT Strategy formulated in 2001 would remain as a pertinent guide for non-governmental organisations (NGOs) in the social welfare sector to exploit IT to underpin their corporate governance and business development in the areas of infrastructure, communications, application systems, accessibility and humanware. The funding mode through BIP Scheme remained unchanged till the set-up of a \$1 billion Social Welfare Development Fund (SWDF) to be implemented in three three-year phases from 2010-11 till 2018-19 for the purpose of supporting subvented NGOs in, inter alia, IT projects for upgrading the business systems of NGOs, e.g. IT infrastructure and system development, to enhance NGOs' management capacity or facilitate their re-engineering.

In 2011, SWD commissioned the University of Hong Kong to conduct a review of IT strategy for the social welfare sector which was concluded in 2013 with 4 strategies and 13 recommendations. The strategies and recommendations were implemented in two phases from 2013-14 to 2014-15 and from 2015-16 to 2017-18. Given that the implementation for the strategies and recommendations of the review in 2013 had been completed as scheduled in 2018, SWD viewed that it was opportune to conduct another IT strategy review (the Review).

NewTrek Systems Limited (the Consultant Team) was commissioned, through open bidding, by the Social Welfare Department (SWD) to conduct the Review in August 2019 on the overall IT development of the social welfare sector in Hong Kong. The study aims at getting an in-depth understanding on the current status and the accumulated experiences subsequent to the implementation of the IT strategies in 2013, as well as the future IT development of the social welfare sector (the sector). The Review will at the end recommend strategies for the sustainable IT development for the sector.

¹ The components include (i) infrastructure; (ii) communications; (iii) application systems; (iv) accessibility and (v) humanware.

² Business Improvement Project (BIP) Scheme on IT related projects was once a scheme with funding support for NGOs to improve their corporate management and services delivery. Through the implementation of IT projects, NGOs were expected to accumulate knowledge and competence in wider use of IT.

2. OBJECTIVES

The Review targets at achieving the following objectives:

- (1) To revisit the strategies and recommendations made in the 2013 IT Strategy Review and the implementation progress and achievements since then;
- (2) to study the current environment of IT adoption in the social welfare sector in Hong Kong;
- (3) to consult NGOs and other stakeholders on their views on the IT Strategy for the social welfare sector in Hong Kong;
- (4) to devise strategies and directions for sustainability development in IT and information management in the social welfare sector with respect to the IT development directions advocated by the Government such as smart city, technology innovation, e-Services and cloud services, etc.;
- (5) to examine ways to support the social welfare sector in IT development and information management including but not limited to citing experiences in other developed countries, including Asian countries; and
- (6) to prioritise the proposed strategies and recommendations with respect to the current IT development and environment in the social welfare sector as well as financial capability.

3. SCOPE AND METHODOLOGY

3.1. SCOPE

This Review covered all NGOs providing social services under the subventions of SWD. At present, there are 169 Non-Governmental Organisations (NGOs) providing a wide variety of social services across the territory. The staff size of the NGOs ranges from a few staff members to over thousands. The following methods are used to solicit views from the NGOs:

- a) An exploratory questionnaire survey to all 169 NGOs to get both qualitative and quantitative views of the Small/Medium/Large (S/M/L) NGOs on their existing IT systems/provision, management, development and IT needs;
- b) a documentary study on the policies and procedures of randomly selected NGOs and related documents/reports pertinent to the use of IT and information on the implementation of IT projects;
- c) a literature review on the policies and programmes in supporting IT development in overseas contexts; and
- d) holding in-depth individual NGO interviews and focus group meetings that involve different levels of staff for collecting their views on IT development.

3.2. METHODOLOGY

To kick-start the Review and get some sense of the IT development of the sector, the Consultant Team met a few key stakeholders, including the Hong Kong Jockey Club Charities Trust (HKJCCT), Information Technology Resource Centre (ITRC) of the Hong Kong Council of Social Service (HKCSS), and representatives of the Volunteer IT Advisors League (VITAL)³. They have been playing certain roles including funding support, providing information and training, serving as advisors/mentors, etc., for NGOs.

Upon designing the questionnaire for conducting a survey for the subvented NGOs, it was sent to all 169 NGOs through e-mail on 20 January 2020 and the return was collected back through mail, e-mail or fax (**Appendix 1**). The first submission deadline of the questionnaire was on 28 February 2020. However, due to the impact of the coronavirus disease 2019 (COVID-19), the deadline was extended twice, first to 20 March 2020 and then to 3 April 2020. To facilitate further returns, a warm reminder was issued to all non-responded NGOs on 6 April 2020 to inform them that the Consultant Team would continue receiving the questionnaire by mail, e-mail or fax, or during the on-site interviews which started on 19 May 2020. Up to 31 July 2020, 92 questionnaires were received and enumerated successfully, and the response rate was 54.4%. The list of responded NGOs is at **Appendix 2**.

³ Formed by a group of IT professionals with experiences in providing support and advice to NGOs on their IT development

The statistical results of the questionnaire (**Appendix 3**) provide the background information on the NGOs' current IT implementation status and outlook of their future IT plans, which served as pointers for the Consultant Team to further examine during the in-depth individual NGO interviews and focus group sessions.

Following the questionnaire survey, the Consultant Team conducted in-depth individual NGO interviews with their senior executives by a random quota sampling scheme that covered the whole spectrum of service types. Finally, 45 interviews were conducted between 2 June 2020 and 17 July 2020. The list of interviewed NGOs and the collected key views are at **Appendix 4** and **5** respectively.

During the interviews, the Consultant Team also reviewed the NGOs' policies and procedures pertinent to their use of IT. In addition, the implemented project deliverables and documents of the IT projects funded by the Social Welfare Development Fund (SWDF) were reviewed as well. The documentary study is important in assessing and evaluating the concerned NGOs' IT operation management, IT security measures and maturity in IT project management, which shed light on the pace of IT development of the social welfare sector. Among which, the Consultant Team found ten representing cases of both with success and challenging experiences (**Appendix 6**).

In addition, the Consultant Team invited all NGOs to nominate their middle-level management and front-line staff, including IT staff, to join eight focus group meetings with specific topics that were held between 18 August 2020 and 2 September 2020. Two sessions were organised particularly for S-NGOs and IT managers of NGOs respectively. Another four focus group sessions were held for NGOs with service for child & family, elderly, rehabilitation and other social welfare services respectively. The list of NGOs that joined the focus group meetings and the key viewpoints are at **Appendix 7** and **8** respectively.

The Consultant Team also conducted a literature review on the IT strategies and IT development initiatives of some other places, which included examination of IT sustainability development, IT community-wide initiatives and innovation technology deployment, thus providing reference for the IT development of the social welfare sector in the local context.

The literature review information collected included the following places and details are at **Appendix 9**:

- United Nations (UN)
- Australia
- Republic of Korea
- Singapore
- Taiwan
- United States of America (USA)

Having summed up and analysed the findings from the aforesaid activities, the Consultant Team devised the strategies and recommendations with the following design thinking journey:

- 1) First of all, the Consultant Team has carried out a statistical analysis on the questionnaire survey and found that the current IT deployment status of the NGOs of different sizes were

different in terms of infrastructure, data and system security, software applications, governance, humanware and operation areas.

- 2) During the in-depth individual NGO interviews and focus group meetings, the representatives' viewpoints are grouped under two major categories, i.e. business drivers/requirements as related to business challenges and new suggestions on IT development. The Consultant Team then identified the most critical business challenges as reflected by the NGOs.
- 3) Having considered all the information and viewpoints gathered through different review activities, the Consultant Team derived the areas that would have IT opportunities which shed lights on the formulation of the strategies.
- 4) The Consultant Team, having summed up the findings from the questionnaire survey, in-depth individual NGO interviews, and focus group meetings, considers the following areas namely IT governance and management, adoption of e-Services, data and system security, making use of common applications are of most concern.

4. QUESTIONNAIRE SURVEY RESULTS

4.1. QUESTIONNAIRE DESIGN

One set of questionnaire with four Parts was designed:

Part	Purpose / Target Respondent
I	Screening Questions
II	NGOs' Agency Head / Service Head
III	NGOs without IT Staff or Outsource IT Operation to External Vendor (Lite Version)
IV	NGOs with IT Staff

The questionnaire in form of Microsoft Word and PDF format was sent to all 169 NGOs via e-mail on 20 January 2020 and was collected back through mail, e-mail or fax.

4.2. SMALL / MEDIUM / LARGE NGOS ASSUMPTION

The 2013 survey categorised the NGOs under Small, Medium or Large group, according to the subventions from SWD.

In considering the comparable and inflation factor over the last 6 years, the Consultant Team decided to maintain this categorisation definition. Subsequently, the following financial frontier is set to determine the size of the NGOs and hence as the foundation for analysis dimension:

Size	SWD Subventions Amount in Year 2019-2020	Number in 2019 Survey	SWD Subventions Amount in Year 2011-2012	Number in 2013 Survey
Small (S-NGO)	<= HK\$10 million	59	<= HK\$5 million	63
Medium (M-NGO)	> HK\$10 million and <= HK\$100 million	73	> HK\$5 million and <= HK\$50 million	71
Large (L-NGO)	> HK\$100 million	37	> HK\$50 million	36
Total		169		170

4.3. NGO STAKEHOLDERS IN THE IT STRATEGY FORMATION AND EXECUTION

In the design of the questionnaire, the Consultant Team made the assumption that different parties of a NGO would be involved in the IT strategy formulation and IT operation respectively. Thus, the questionnaire was divided into two main groups, aiming to address to two groups of stakeholders.

Group	Targeted Key Stakeholder	Supporting Stakeholder
Part II - Management Level	NGOs Agency Head	Board Member Service Head Senior Executive Middle Management
Part III or Part IV - IT Operation Level	NGOs IT Operation Manager	Service Head Middle Management Centre in Charge Frontline Staff

4.4. ANALYSIS BASIC DIMENSIONS

With reference to the analysis objectives, the Consultant Team analysed the results with respect to the 2013 IT Strategy Review and implementation progress, the current IT adoption status and NGOs' views on the important consideration factors in the future IT strategy.

4.5. RESPONDENTS

Among 169 NGOs, the response rates of the questionnaire for S/M/L NGOs are shown in the below table. Up to 31 July 2020, 92 questionnaires were received and enumerated successfully, and the response rate was 54.4%. The list of responded NGOs and key results are in **Appendix 2 and Appendix 3** respectively. The response rates have met the overall targeted response rate of 53.3% for considering the survey successful as proposed by the Consultant Team when designing the questionnaire.

Size	Population Size	Respondent (Sample Size)	Response Rate
Small (S-NGO)	59	30	50.8%
Medium (M-NGO)	73	32	43.8%
Large (L-NGO)	37	30	81.1%
Total	169	92	54.4%

4.6. EFFECTIVENESS OF THE 2013 STRATEGY

In reviewing the effectiveness of the 2013 Strategies, i.e.

Strategy 1 - Enhancing IT capacity for NGO of different sizes;

Strategy 2 - Providing more flexibility in funding IT projects;

Strategy 3 - Enhancing Data Security and Web Accessibility; and

Strategy 4 - Sharing of Resources and Experience in IT development and management,

the result shows that for Strategy 1 and Strategy 2, the overall satisfaction towards the two strategies is 86% and 85% respectively. It shows that the two strategies have been well received by NGOs.

In relation to Strategy 3, the area has around 71% overall satisfaction, but the satisfaction rates as indicated by the S-NGO and M-NGO groups are lower, which are 68% and 64% respectively.

For Strategy 4, it has around 64% overall satisfaction, mainly contributed by the S-NGO and L-NGO groups, while the M-NGO group has a satisfaction rate of only 37% in the sharing of resources and experience area.

4.7. IT GOVERNANCE

In terms of IT Governance of NGO, i.e. whether NGOs have IT strategy in place to govern the IT development of the organisation, the questionnaire survey reveals that only around 48% of the NGOs (mainly L-NGOs) answered the questions. The result implies that most of the NGOs do not have IT strategy or IT plan of their own. It appears that despite IT governance has been advocated since 2013 Review, up till the present, NGOs have not put emphasis on its importance in relation to having IT plan set up as a blueprint for guiding the agency not only in IT development but also in linking up IT and service development.

4.8. INFRASTRUCTURE

IT Infrastructure, Application Systems and Service Delivery Capacity Building

Based on the survey findings, 78% of NGOs need to continuously improve the IT Infrastructure in order to facilitate support for upcoming new technology solutions. Around 60% of the responded NGOs largely satisfy with their multiple organisation efficiency improvement area (i.e. Back-office Management Systems, Service Management Systems, Service User System (e-Services) and System Maintenance & Support Service), but the remaining 40% still could not achieve the required efficiency improvement. Simplifying business and/or operation processes is still the essential improvement incentive to drive IT projects, while on-line application (97% of respondents indicated “either implemented”, “has plan to implement” and “will consider”) and e-Payment (75% of respondents indicated either “implemented”, “has plan to implement” and “will consider”) are the major expected improvement areas among NGOs. It is also noted that about 88% of the NGOs are considering using Cloud Technology in future.

IT Security

According to the survey findings, S-NGOs and M-NGOs are not really satisfied with the IT Security implementation work (only 8.7% and 11% satisfied, respectively, for responded S/M-NGOs), while 27.6% of the responded L-NGOs satisfied with their IT Security implementation status. Budget constraint and lack of expertise in the IT area are common factors preventing the NGOs, in particular the S/M-NGOs, in addressing the IT security risk. Overall speaking, the degree of satisfaction in this aspect is on the low side which calls for higher attention.

4.9. SOFTWARE APPLICATIONS

When asked about software application development and the relevant funding, the responses indicated that all NGOs achieved different degree of success in the software application

development and deployment projects since the last review. For instance, taking responses of Satisfied/Need Some Improvement for Back-office Management Systems, Service Management Systems and Service User System (e-Services), the percentages are 55%, 60% and 48%, respectively. The L-NGOs benefited from the SWDF in particular, as supported by the 53-80% “very satisfied” and “satisfied” response in the 9 improvement areas (sharing of information, retrieval of management report, simplified workflow, enabling new services, reducing manual work, process control, operation efficiency, increasing handling capacity and staff collaboration) in achieving organisation effectiveness in IT development. The responses to a series of questions relating to e-Services improvement indicated that this is a common area for catching up among NGOs of all sizes. In responding to operation concerns for “adoption of IT strategies in the future”, 89% of the NGOs have the intention to implement e-Services in their future plan, so as to catch up with service user’s expectations, enhance communication, respond to service needs, improve operation efficiency, strengthen information management, overcome service delivery barriers, increase productivity and expand public’s accessibility. When asked about e-Services application, it was indicated that Social Media was an essential means to communicate with service recipients. Some Neighborhood Elderly Centre (NEC) service operators may not have a website but instead have a Facebook account to communicate with their service recipients.

In response to the question regarding strategies that should be adopted in formulating IT strategy for the social welfare sector in the future, about 88% of the NGOs are considering using Cloud Computing in future.

E-Services and adoption of cloud services are definitely the future trend of IT implementation for NGOs covering various application areas.

4.10. **HUMANWARE**

The answers to a series of questions relating to humanware indicated that L-NGO group is willing to expand their internal IT team as business grows. On the other hand, the S-NGO and M-NGO groups still count on outsourcing services.

S-NGOs and M-NGOs has a low IT Management Staff and Project Management Ratio as expected (76.7% of the responded S-NGOs has no IT staff); however, it is also found that M-NGO has a low ratio in all IT staff categories especially only 36.7% has IT deskside support, and largely go for outsourcing strategy. Contrary, L-NGOs has a reasonably healthy status.

Business Analyst is supposed to share and drive the improvement of the business practices, management control and efficiency of the entire social welfare eco-system. However, the low ratio of Business Analyst in the NGO sector (especially among S-NGO/M-NGO, i.e. 0% and 6.7% of the responded S/M-NGO respectively) hinders the IT development of the NGO sector.

When asked about the factor(s) that limit/ prevent their organisations in addressing IT security risks, “lack of expertise in the relevant field” was selected by S/M/L-NGOs with 73.3%, 62.5% and 26.7% respectively, which illustrated that NGOs generally consider that they do not have the talents in the IT Security Area. Moreover, “budget constraint” for the same question was selected by S/M/L-NGOs with 83.3%, 81.3% and 73.3% respectively as the most prominent factor. This reflects that IT security is considered as a lower priority IT investment area under the limited IT budget. As such, they rely more on internal resources to handle the problems rather than deploying external resources. It is realised that 98%, 91% and 80% of the NGOs has

installed anti-virus software, firewall and backup devices respectively in the IT security measures. Nevertheless, there is low response rate (14%-55%) for the aspects of IT security training, security incident management procedure establishment, hiring IT security consultancy service and off-site backup for ransomware attack.

4.11. KNOWLEDGE AND APPLICATION SHARING

After analysing the answers to questions for the Section “IT Experience, Knowledge and Application Sharing”, it appears that NGOs in particular the S- and M-NGOs did not respond positively in the area. They considered the improvement in the area was not significant upon implementation of the relevant strategy in 2013. In particular, only 2 and 3 counts of sharing from S-NGO and M-NGO, respectively, were recorded in the survey return for the question regarding “sharing of knowledge and experience in IT development with other NGOs”. In addition, all NGOs expressed that more training to business users in leveraging IT technology to deploy business solutions is needed.

In the 2013 Review Strategy 4 - sharing of IT experience and knowledge, the overall satisfaction rate is relatively low comparing with other Strategies. In the current survey, 74% of the respondents indicate that it needs more effort and time taken to agree on a common approach, 77% agree that each NGO has its own customisation requirements. It is hard to accommodate all customisation requirements from all participating NGOs. 58% agree that they lack drivers/platforms for promoting common IT applications for NGOs. 55% agree that unfulfilled customisation discourages system implementation, user acceptance is low and extra work around is needed for implementation. 42% also agree that without a dedicated service provider, it would likely be lack of ongoing user training and user support on problem solving in using the system.

It is widely accepted by the respondents that each NGO would have their differences in service management and operation procedures. The software so developed may not be applicable to other NGOs. In addition, they do not have additional resources to customise the IT application and implement the system for other NGOs, as well as to provide user training and user support for other NGOs in using the system.

4.12. FINANCIAL PREFERENCE

On “Financial Preference”, the survey indicates that 80% of the NGOs largely depend on the Lump Sum Grant (LSG) for their recurrent IT payroll and recurrent expenses. 59% of the NGOs would also make use of LSG for IT capital expenses. Furthermore, 61% of the NGOs would rely on SWDF to fund the capital expenditure of their IT projects.

4.13. IMPORTANCE OF FACTORS ON IT DEVELOPMENT

In order to understand from the perspective of NGOs on factors relating to IT development, the Consultant Team gave a list of factors for NGOs to rank the priority with ranking in 1 being the highest concern and 10 being the lowest concern. The returned ranking after tabulation is given in descending order of priority as follows:

1. Funding availability
2. Planning capacity and resources for IT development
3. Organisational capacity building and retention
4. IT security and governance
5. IT solution evaluation
6. IT application systems' quality and ongoing user support
7. IT project management in achieving the implementation objectives
8. User acceptance on change of operation flow and business reengineering
9. Sustainability in IT development
10. Work culture change

Apart from “Funding availability” being considered as the first priority, it is worth to note that factors ranked from 2 to 4 are closely related with IT governance and IT security which indicates NGOs though as described in earlier sections that they do not have too much emphasis on IT governance and IT security due to one reason or other. However, in reality, they indeed recognise the importance of the areas of concern.

4.14. ANALYSIS BY SIZE OF NGOS

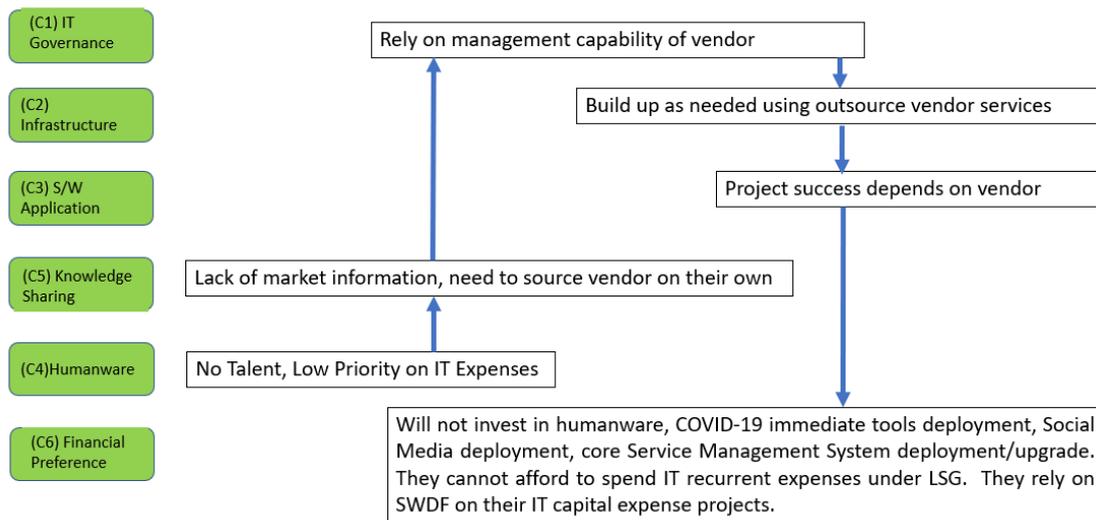
With reference to the questionnaire survey findings, the Consultant Team finds that there are indeed differentiations among S/M/L NGOs on how they manage or wish to manage their course of IT development. The table below shows the key areas.

Small Size NGO
<ul style="list-style-type: none"> ➤ Lacks IT talents and highly relies on outside support ➤ E-Services adoption will improve users' satisfaction and experiences ➤ Increased adoption of good market solutions and cloud technology will increase cost-effectiveness
Medium Size NGO
<ul style="list-style-type: none"> ➤ Prefers using IT talents / vendors outside ➤ Can expand internal IT team yet a matter of choice on where to put the resources ➤ Adoption of cloud technology will facilitate IT operation, but the source of funding is a concern for continuous development of back-office systems and services delivery systems which will lead to a higher capacity in service development
Large Size NGO
<ul style="list-style-type: none"> ➤ Well-developed IT team, IT Infrastructure and application systems ➤ Adoption of cloud technology and e-Services systems for a higher service capacity and better service development are of the trend ➤ Continuous funding support and flexibility are needed for realising IT development plans

The Consultant Team has the following interpretation about the positions of S-NGO / M-NGO / L-NGO in facing the IT challenges ahead as depicted in below Figures:

4.15. S-NGO IT CHALLENGES

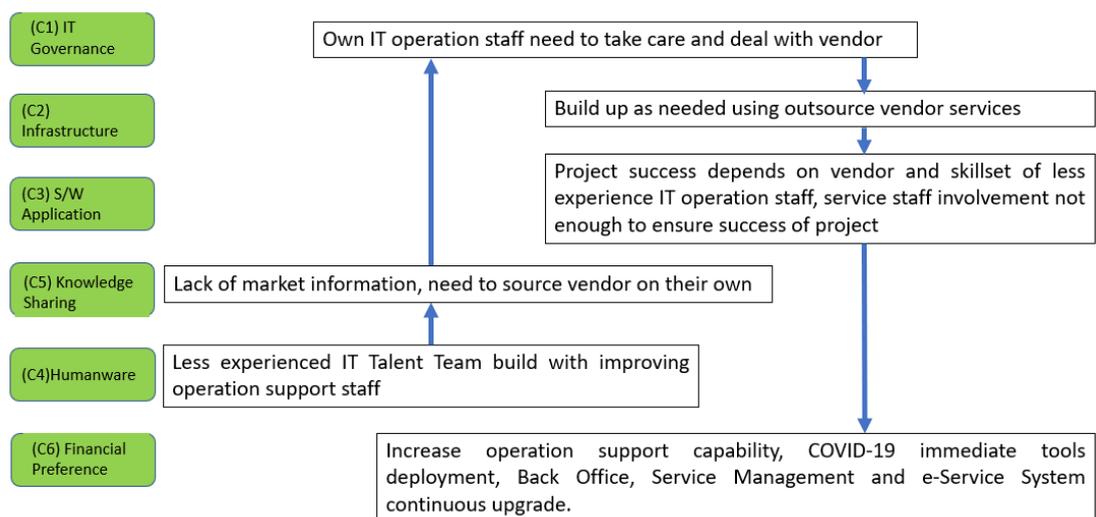
Figure 4.15 - S-NGO



S-NGOs generally do not consider investing in building their own humanware, and do not have the IT talents in the organisation but highly rely on the outside talent and expertise to build/deploy the IT application systems for them. Hence, the success of project implementation highly relies on the quality of the outsource vendors. The social media and future e-Services system will definitely help them improve their customer experience. By deploying market proven software solution and using Cloud Computing Technology options in the funding support scheme, it will certainly help them achieve the benefit in the most cost-effective way. Moreover, S-NGOs cannot afford to spend IT recurrent expenses under LSG, and heavily rely on SWDF on their IT capital expense projects.

4.16. M-NGO IT CHALLENGES

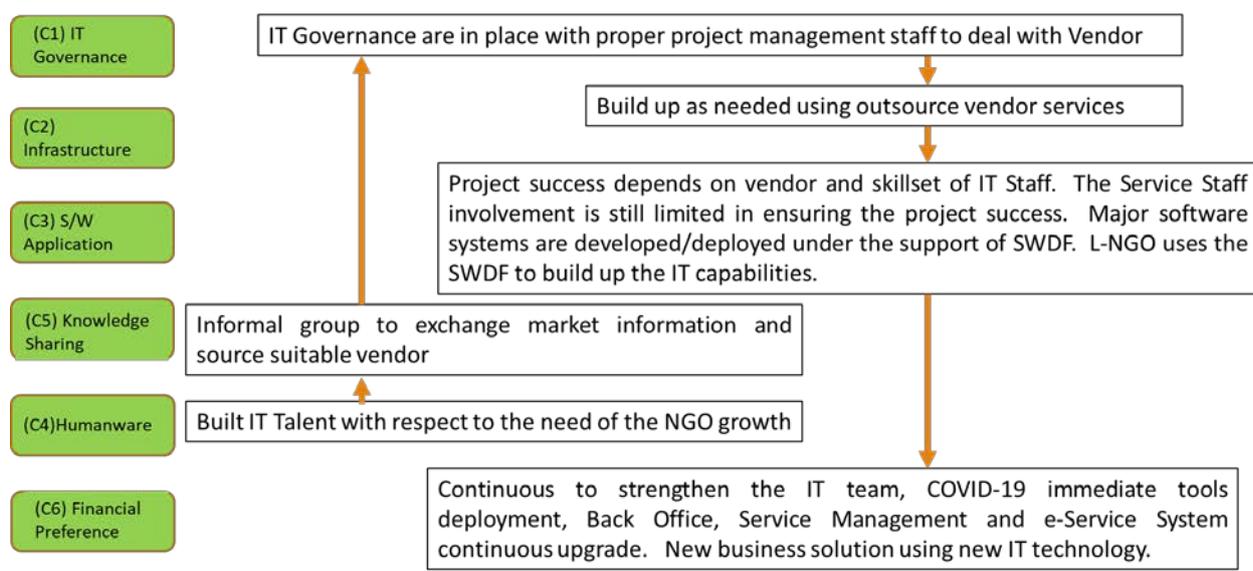
Figure 4.16 - M-NGO



M-NGOs have not built up their IT talents within the organisations but preferred to outsource their building/development/operation tasks to outside software vendors. They are in the flexi-point to grow and build up the IT team internally like those in L-NGOs. Nevertheless, an IT operation with minimal IT workforce is the key strategy of the M-NGOs. In meeting the operation challenges and crisis induced by COVID-19, customer service communication tools, back office supporting system, e-Services system are required to meet the demanding needs from service recipients and increasing workload. Moreover, Cloud Computing will favour their current mode of IT operation.

4.17. L-NGO IT CHALLENGES

Figure 4.17 - L-NGO



L-NGOs built their IT talent with respect to the need of the NGO growth and their IT governance is in place in general. They have built up good foundation with the help of the SWDF, in terms of IT infrastructure and IT application systems. L-NGOs are facing the upgrade of IT infrastructure and software as they have been built and deployed over the decade and somehow outdated over the years. Furthermore, they are encountering the technology investment stage in using the Cloud Computing and achieving better user experience in deploying e-Services and social media systems in coming years. L-NGOs formed informal group to share experience and source suitable vendors, as well as catch up the pace of IT investment with their counterparts.

5. STUDY OF SELECTED PLACES

5.1. LITERATURE REVIEW

The Consultant Team, other than studied the local context, has conducted a literature review on the IT policy of some selected places including the United Nations (UN). While the circumstances of the selected places are unique to each other, there are IT policy/programme in place that facilitate the promotion or execution of their service programmes and nation-wide policy. The quoted examples serve as good references for the social welfare sector in Hong Kong to move forward in IT development, setting IT strategies as a pertinent guide coupled with the government's strategic planning for the overall IT development. Some key best practices and initiatives are identified from the cited information in **Appendix 9**, which may be of good reference for the local social welfare sector.

The selected places are the followings:

- United Nations (UN)
- Australia
- Republic of Korea
- Singapore
- Taiwan
- United States of America (USA)

5.2. COVID-19 PANDEMIC IT INITIATIVES (UNITED NATIONS)

We identified some representing IT polices happening in the world such as the COVID-19 Pandemic IT initiatives from the United Nations. Amidst the global outbreak of the COVID-19 pandemic, everyday life is changing, with social distancing and quarantine measures underway to stop the spread of the virus, digital solutions have become vital to address isolation and keep people informed and engaged. The COVID-19 pandemic has presented policymakers at all levels of government with unprecedented challenges to respond to the critical needs of their countries, which shall be applicable to the social welfare sector as well.

5.3. GOVERNMENT/ NGO PROCUREMENT AS A TECHNOLOGY LEVER (AUSTRALIA)

The procurement as a technology lever may be applicable to general government departments as a whole. The local social welfare sector can explore the feasibility to encourage aggregate buying co-operation and build the corresponding application system to support such business initiatives.

5.4. AGEING POPULATION (REPUBLIC OF KOREA)

Republic of Korea (Korea) is facing the difficulty challenges such as low fertility, rapidly ageing population, and ever-increasing demand for social services. In 2017, the Korea government shifted its focus to promoting the formation of happy families through people-centred policies, rather than relying heavily on raising birth rates. In response to chronic diseases that come with a rapidly aging population, Korea offers home-visit health care services and health promotion services using ICT technology, such as mobile chronic disease care.

5.5. TECH-AND-GO PROGRAMME - A ONE-STOP TECH HUB GRANT AND SERVICE TO SOCIAL WELFARE AGENCIES (SINGAPORE)

The Tech-and-Go programme in Singapore aims to help social welfare agencies to apply for the grant by adopting pre-scoped software tools. The programme can be a good reference for Hong Kong in exploration of more simplified application procedures and project assessment criteria, especially for S-NGOs.

In addition, Singapore also provides pre-project consultancy services and project implementation consultancy services to social welfare agencies. The experience of Singapore in regard of the mode of subsidisation and availability of professional staff may be of good direction to explore in offering similar services to serve S-NGOs in Hong Kong.

On the other hand, adoption of new technology, open source applications and joint co-operation programme to explore the innovation technology deployment, such as voice recognition, sensor, AI based system, was found in Singapore. With respect to similar funding scheme in place in Hong Kong, we could do better with more promotional and proactive research activities.

5.6. FUNDING FOR E-PAYMENT PROJECTS AND DONATION PROJECTS (SINGAPORE)

e-Payment and donation projects shall receive the same high level of attention among NGOs in Hong Kong. By supporting some pioneering NGOs to deploy the e-payment solution, the practical operation needs in handling functional requirement of e-payment, financial control and auditing shall be mastered comprehensively and become a standard role model for all other NGOs by following the direction of open source solution. In addition, the enhancement of accounting/audit rules and policies shall match with the technology advancement.

5.7. NATIONAL FORUM FOR INFORMATION EXCHANGE, SHARING AND BOOSTING CO-OPERATION (USA)

USA is of more interested in facilitating information exchange in an efficient way among different counties which is necessary due to a wide area of coverage or multiple non-standard systems. Hong Kong may explore the information exchange or sharing of information among Government departments, NGOs, and social service providers with reference to the Electronic Health Record Sharing System.

5.8. OPEN SOURCE SOFTWARE ADOPTION (USA)

Open source software adoption is a voluntary-based initiative that NGOs have raised before. Some essential foundation applications such as voice recognition and artificial intelligence (AI) can be explored which can have multiple beneficiaries. Long-term investment is required to achieve a mature product. Joint effort and contribution from interested parties may be involved in the development process, and test-bed programmes can be deployed to support this continuing software development initiative.

5.9. **OVERALL OBSERVATIONS**

Among the selected countries, Republic of Korea and Singapore have IT programmes targeted for the human/social services. In the Republic of Korea, in response to chronic diseases that come with a rapidly aging population, using ICT in developing home-visit health care services and health promotion services is adopted. The experience may be well cited for wider development of mobile or online social service provision in Hong Kong in particular the impact brought about by COVID-19. In Singapore, the National Council of Social Service (NCSS) runs a TECH-and-Go Scheme which provides a one-stop tech hub offering grants for Social Service Agencies (SSAs), advisory on how SSAs can go digital, and listing of suitable solutions for SSA. In addition, NCSS also promotes productivity projects which are designed to help social service agencies improve organisational capabilities and productivity through technology and innovation. The experiences in Singapore are of government directed policy with SSA to follow.

For other countries, the IT policies so identified such as COVID-19 Pandemic IT initiatives of the UN, standard for information exchange and open source software adoption of the USA, the procurement as technology lever of the Australia, and e-Services application for government service of Taiwan are not specific for the social welfare sector. The situation is like the implementation of e-Services and open data policy of the Hong Kong SAR Government.

6. QUALITATIVE ANALYSIS

NGO IT Operation Challenges and Suggestions

During the in-depth individual interviews and focus group meetings, representatives of NGOs shared their views on the NGO IT operation challenges and suggestions. Their views are consolidated and presented in the following major categories.

6.1. E-SERVICES

NGOs are facing an increasing demand from clients and stakeholders in having a more convenient way in handling the non-service related administrative procedures such as the service registration, supporting information collection, payment and subsequent administrative processes. As such, most NGO representatives have expressed the need for the common or standard software components for them to develop the e-Services platform, so that a faster deployment time and less replicated effort is needed, such as the donation management system.

In general, they lack adequate knowledge in the market available IT products or solutions for immediate deployment under urgent situation, such as the COVID-19 pandemic, with limited assistance from external parties in assisting them to set up communication and service delivery platform with service users. Thus, some immediate support to NGOs for networking with external suppliers and consolidation of business requirements for sourcing appropriate products/solutions for different service types are needed.

6.2. IT GOVERNANCE

NGOs are facing a continuous challenge to improve their overall effectiveness in IT governance and management in terms of IT policy and plans, budget planning, project implementation, quality control and benefit realisation. In particular, S-NGOs generally lack adequate knowledge in setting up the policies and guidelines for the IT development. The consensus view for improvement, including the S-NGOs, is that it is instrumental to enhance the knowledge and training for senior management and executives of NGOs in the subject area. Another simpler way is to make available some standard IT governance policies and guidelines for NGOs' reference and adoption.

6.3. IT PROJECT MANAGEMENT

While M-NGOs and L-NGOs have established their IT project management skillset over the years, they are more focusing to enable their social welfare professional to have the necessary skillset in managing IT based solution projects. S-NGOs, on the other hand, lack of adequate knowledge on contract management, proper project scoping, setting clear functional and service requirements, and acceptance of software. The fastest way to help them will be to make available project management guidelines and working template for their reference.

6.4. IT SECURITY

It is common that NGOs have limited resources input in IT security, among some other more demanding IT implementation areas, as well as lack of necessary talent and knowledge to manage IT security. The continuous effort in increasing the awareness of the importance of IT security and provision of more training on IT security in a more efficient way is needed.

6.5. HUMANWARE

Most NGOs representatives expressed that they lack the IT manpower and talent for IT development when compared with other sectors and hence lack of knowledge and skill in managing external suppliers. S-NGOs do not have resources to increase their IT manpower, while M-NGO and L-NGO cannot attract the IT talent.

Yet, there is a consensus view that continuous based training can be arranged to social service professionals for enhancing their knowledge and skills in deploying IT solutions in meeting their business needs. Another practical way is to arrange NGO based project management training and devise working template on project management for NGO staff's reference.

6.6. FUNDING APPLICATIONS

NGO executives usually are not IT professionals and have difficulties in compiling a satisfactory proposal/application with regard to the rationales, benefits and functional features of the proposed system to the funders. Some NGO representatives wish that they can engage consultants/advisors with good knowledge in NGO and IT businesses to assist NGOs to handle funding applications and prepare proposals.

6.7. NEW TECHNOLOGY DEPLOYMENT

NGO business is somehow different from general business practices, NGO representatives claimed that it is not easy to find successful projects for reference. Furthermore, they do not have enough talent to develop, adopt and deploy new technology products and solutions. Hence, they would like to get more resources in strengthening the support to NGOs for adoption of new technologies. One of the suggestions is to develop a proven cloud-based solution for ease of deployment by NGOs. Some NGO representatives advocate that government supported project using open source solution shall definitely be a possible way to increase the adoption rate of new technologies. Besides, some form of supporting centre or platform can facilitate the integration of multiple new technology solutions with the back-office and e-Services systems.

6.8. APPLICATION DEVELOPMENT

S-NGOs generally expressed their dissatisfaction in getting the market information and knowledge on available software and implementation experiences from counterparts. One M-NGO who has been developing software applications over the years believes that open source

software sharing among NGOs should be encouraged, especially in those areas with mass scale deployment opportunity and need joint effort such as voice recognition, big data analytic.

The Consultant Team observes from the documentary study that the cases with failure in implementation and adoption largely resulted from the under-performance of vendors in delivering the right and quality solution to the S-NGOs. It is likely that some control measure would need to be in place to avoid such failure happen.

It is also noted that M-NGOs and L-NGOs prefer to outsource the software development process to outside vendors and concentrate on the deployment and training processes. With respect to their better project management experience and larger deployment scale, the success rate is much higher when compared with S-NGOs.

6.9. **FINANCIAL ARRANGEMENT**

While NGOs are facing different business challenges in the service, business development and training, they are having a great problem in deciding what financial resources should be allocated in supporting the development of IT including upgrading of the existing systems, implementing new IT projects, building infrastructure, etc. NGOs have a general desire in having some form of flexible funding schemes to meet their various IT needs, covering funding proposal consultant costs, IT security training, project management and business process training and consultancy service, open source solution deployment and support cost, recurrent cloud and software expenses.

7. IMPROVEMENT MEASURES

By considering all the above survey results, collected viewpoints, documentary study findings, benchmarked practices and users' suggestions, the Consultant Team derived the improvement measures to tackle the issues. The improvement measures are further amalgamated into strategies in improving the situation or facilitating NGOs to meet the future business challenges, and embed new suggestions.

7.1. SERVICES RELATED

Generally, all NGOs are facing the need to improve satisfaction level of the service recipients and stakeholders through the adoption of IT solutions. The IT applications are expected to meet service users' expectations, increase satisfaction level and attain higher efficiency in service provision through automated processes. The quick response to immediate service needs will require a good support and networking with internal IT staff and external suppliers. The adoption of e-Services is the natural move of the sector, and standardisation of common or standard software components will enable the NGOs to achieve it more smoothly.

7.2. IT GOVERNANCE

S-NGOs are particularly weak in IT Governance and IT project management, while M-NGOs and L-NGOs may not have put IT Governance with proper priority in order to fulfill their long-term development needs. Thus, fundamental training on IT governance and management should be strengthened. This training should be applied to different level of staff covering agency board, senior management to the middle management of staff.

It is found from the documentary study that some L-NGOs do exercise a very good practice of IT Governance via IT committee and contractual arrangement, etc., while on the contrary, some S-NGOs have encountered problems in similar aspects, such as supplier and project management. It is worth noted that there was an example in real life experience to reflect even when a subcontractor was liquidated, proper IT governance practice can prevent project failure and overcome the difficulties. Such kind of special case should be shared and make aware to all NGOs for putting in place preventive measures to protect their interest.

7.3. IT SECURITY

IT security is always a problem to all NGOs in the IT deployment processes with increasing complexity. The proper way to address the situation is to have continuous training to staff and provision of security guide for easier retrieval of information in the subject area. With respect to the wide coverage of all NGOs and the size of staff need to aware the IT security issues or master these skillsets, the e-learning approach is recommended.

7.4. **HUMANWARE**

All sectors in the business industries are having a high degree of IT literacy. The Consultant Team observes that most NGO senior management may not have formal IT fundamental training in their academic qualification. With increasing importance of IT in the overall management regime, all NGOs in the social welfare sector should aim for an appropriate level of IT literacy comparable to other business sectors and it is highly recommended to increase the IT knowledge base of social service professionals.

7.5. **FUNDING APPLICATION**

Both alternatives in strengthening the support to NGOs in IT proposal application preparation process and simplifying the application process should be considered. Currently, the Consultant Team observes that applicant and funder have different perspective and expectation in the process. NGOs think that the application form is too complicated and they have difficulties in meeting the assessment criteria while the funder considers that the applicants are not providing the right level of information. How to find a better way to facilitate both parties to produce a quality proposal and meet the assessment criteria should be discussed. Some reference to other funding scheme such as Technology Voucher Scheme, Dedicated Fund on Branding, Upgrading and Domestic Sales” (the BUD Fund), Retail Technology Adoption Assistance Scheme (ReTAAS) could be considered in making the application process simpler and straight forward. Typically, the application process for these schemes is simple and using a trusted system, but the audit and penalty will be high for malpractices.

7.6. **NEW TECHNOLOGY DEPLOYMENT**

S-NGOs are facing the financial resources constraint and incapable to build the right solutions to meet the business needs. Thus, it should be more economical and efficient in employing standard solutions and deploying technologies with multiplier effect. It is rational to choose technology with these essential elements such as standard software on cloud platforms.

M-NGOs and L-NGOs are enthusiastic to build up their knowledge and strength in using new technologies. Nevertheless, there is a blind spot to NGOs not having the knowledge of what is happening in other NGOs which indeed caused duplicated development effort and derived no standard for the industry. In turn, it makes the deployment process slower. Some kind of joint effort and collaboration among M-NGO and L-NGO should be encouraged to maximise the cost effectiveness of the solution and efficiency of deployment. Besides, standardisation of data set for further big data analytics should be under the blueprint planning.

On the other dimension of new technology deployment, it is observed from the documentary study that some L-NGOs utilise the IT strategy plan to integrate new technology, target performance measurement results and front-line service improvement expectation. This sheds light on improvement measures which could be inter-linked in achieving synergised effect in the formulation of IT strategies for NGOs.

7.7. **APPLICATION DEVELOPMENT**

M-NGO and L-NGO should note that the worldwide practical concept in using open source solution would definitely be considered and proliferated to the NGOs. Visionary NGO representatives and the Consultant Team believe that the overall social benefit will override the individual benefit, and make the whole industry improve faster than ever before. In addition, there is a case reference from the documentary study that an NGO would like to customise a software developed by another NGO for its own use, but hindered by the IP right issue. In such case, open source arrangement should help in the resolution.

Moreover, based on the findings from various means of this study, the sharing of application systems among NGOs is minimal. To achieve the economy of scale and effectiveness in application development and deployment in the social welfare sector, improvement measures in enhancing collaboration among NGOs in common application development, such as coordination/orchestration by experienced social welfare organisation and establishment of sharing platforms, should be formulated.

7.8. **FINANCIAL ARRANGEMENT**

In this review, while NGOs' view on financial support to IT development is collected and basically NGOs do want new resources to continue their IT development and meet their IT recurrent needs, a more flexible funding mode is desirable.

8. SOCIAL WELFARE IT STRATEGY

The Consultant Team, having summed up the findings from the questionnaire survey, in-depth individual NGO interviews and focus group meetings, considers the following areas namely IT governance and management, adoption of e-Services, data and system security, making use of common applications are of most concern. Hence, four strategies are proposed which indeed are all interlinked with each other for promoting the comprehensive development of IT in the social welfare sector.

8.1. STRATEGY 1: STRENGTHENING IT GOVERNANCE AND PLANNING

As reflected by the questionnaire survey, L-NGOs have set up their own IT policy through either their management board or IT committee. They have put in place measures to govern the agency's IT development and some even have consultant to conduct the agency's 5-year IT plan. Nevertheless, for S-/M-NGOs, the development of IT systems is often service driven and contingent. There is less incentive for small NGOs to devise a long-term IT plan in view of the relatively small scale business. However, for M-NGOs, they often fail to perceive IT development as an integral part of service development. An IT enabled service development strategy can often save the cost of running the services in the long run including manpower input, efficiency in service delivery, changed mode of service delivery, etc.

In addition, effective project management is also critical for NGOs to materialise the system implementation and harvest the benefits from developing the systems. The Consultant Team noticed from the review findings that NGOs have to some extent difficulties in managing their outsource project contractors. This often causes delay in project completion, mismatch of IT solutions to service needs, high conflict between NGOs and outsource contractors, in worst case failure to deliver the required systems, etc.

The above deficiencies call for the need to strengthen the IT governance of NGOs and continuous professional IT-related training to NGO management board and general social welfare staff which serves as a critical success factor for the sustainable IT development of the welfare sector.

8.2. STRATEGY 2: PROMOTING E-SERVICES THROUGH THE ADOPTION OF NEW TECHNOLOGY

E-Services and adoption of cloud services are definitely the future trend of IT implementation for the NGOs, covering various application areas from membership recruitment and registration, donation management, campaign promotion, service booking to e-payment, with the aim of increasing the ultimate satisfaction level of service recipients and stakeholders.

In response to business crises such as the COVID-19 pandemic, the natural move to the e-Services platform is inevitable, and becomes an industry norm and essential service delivery channel for different service spectrum of NGOs. Social Media, video conference and on-line training tools have become essential means to communicate with the service recipients.

Among which, the adoption of new technology such as cloud service, e-payment, voice recognition, chatbot, artificial intelligence, data analytics and high-speed network will be essential.

Adoption of new technology such as cloud services and e-Services indeed will have fundamental changes on the mode of service delivery of NGOs and also the mode of IT system development, i.e. from conventional individual IT system development to adoption of common data structure or share use of system features. The new technology likely requires infrastructural changes of NGOs which without sound IT governance and planning cannot be materialised.

8.3. **STRATEGY 3: ENHANCING DATA SECURITY AND IT SECURITY AWARENESS**

Based on NGOs' answers to the questionnaire concerning infrastructure issues, it was identified that areas such as IT security, data security, backup and disaster recovery still need improvement. The S-NGO group especially needs a lot of improvements in these areas.

The Consultant Team finds that frontline and social welfare staff always perceive that personal data privacy is the top-most concern regarding IT security, and are reluctant to put personal data and related case records into the system, which hinder the possible deployment of IT solutions in handling service recipients' records and reduce the overall operation efficiency. Thus, the proper application of data protection technologies and data access right control shall be further explored in the future cloud-based solutions, standard software components and database level encryption technologies.

While NGOs may not be able to spare much of their IT resources on this subject matter, learning tools with multiplier effect is essential and continuous IT security awareness and fundamental training are also required.

8.4. **STRATEGY 4: ENHANCING COLLABORATION AMONG NGOS IN COMMON APPLICATION DEVELOPMENT**

NGOs, in particular small ones, have difficulties in attracting the required talents for carrying out IT related tasks. An external resource pool for providing support to S/M NGOs is highly desirable. Among these NGOs, there is a high demand for consultancy services in remote office tools, tender preparation, software selection, supplier management, project management, software acceptance, IT security, training and experience sharing. Nevertheless, the cost of such services, if available in the open market, is often not affordable by majority of NGOs.

To address the concerns of small and medium size NGOs, it is worth piloting a cross-NGO collaboration support network to pull together expertise for knowledge and experience sharing. Combined work teams will better consolidate the business requirements to fit a particular group of NGOs operating similar services. Furthermore, common or standard software components for e-Services development or deployment will needed to be developed, such as the donation management system.

In addition, test-bed support programmes can be put into practice to facilitate new technology deployment, data exchange and interfacing with current IT infrastructure and software applications, as well as to fulfil IT security requirements.

9. RECOMMENDATIONS

The above IT strategies are augmented into a number of recommendations, each addressing a particular purpose, coupled with the conceptual ideas of possible programmes, mode of resources and activities with specific target beneficiaries.

9.1. STRATEGY 1: STRENGTHENING IT PLANNING AND GOVERNANCE

Recommendation
<p>Recommendation #1 – To provide IT strategic planning and governance training for NGO board and senior management</p> <p>The IT planning and governance shall start with the equipment of IT knowledge for the NGO board members (mostly volunteers from multiple disciplines who are not in the IT discipline) and senior management. Training courses may cover areas such as IT plan, new technology and IT tools for NGOs, funding a IT project, project proposal, IT project governance and management, etc.</p>
<p>Recommendation #2 – To offer IT Continuous Based Training (CBT) for social welfare professionals.</p> <p>The IT planning and governance execution usually rely on the social welfare professionals. Nevertheless, the interview meetings revealed that most of them did not receive any formal IT training in their university or college studies. In collaboration with University, College, ITRC/HKCSS or other professional training organisations such as Hong Kong Productivity Council (HKPC) or Vocational Training Council / Institute of Professional Education And Knowledge (PEAK), the training programmes will be set as a practical project implementation and execution level 3 framework under the HKCAAVQ qualification framework.</p> <p>The basic training programme may cover areas such as funding an IT project, project management, mobile and software tools for NGOs, search engines and reporting tools, e-Payment solutions, basic concept on IT system development, cloud computing and IT security, etc.</p>
<p>Recommendation #3 – To share best practices and training materials among NGOs through electronic channel.</p> <p>The best practices or practical documents used among NGOs in the IT governance areas can be shared for the immediate benefit of the NGOs. In future, the training content of the training courses can be shared via some form of e-channel. Practical documents can include:</p> <ol style="list-style-type: none"> 1) IT project management guideline 2) Data classification and handling guideline 3) Standard Tender specification 4) Standard Contract and schedule 5) IT project accounting management guide 6) Multi-Nature, Multi-Centre management accounting

<p>Recommendation #4 – To enhance support for providing project consultancy services through talent groups to strengthen NGOs’ IT project management capability.</p> <p>In regard to the scarce IT human resources in the market that both understand the needs of NGOs and master the IT knowledge, NGOs can try to search for and encourage the building of such a talent group who can provide quality service to the Hong Kong social welfare community. The current IT talent sources can be found in the following business entities:</p> <ol style="list-style-type: none"> 1) ITRC 2) Hong Kong Computer Society and Hong Kong Management Association Volunteers 3) Hong Kong Productivity Council 4) NGO(s) current software development teams who serve external NGOs 5) NGO IT committee members / retired IT professionals

9.2. **STRATEGY 2: PROMOTING E-SERVICES THROUGH THE ADOPTION OF NEW TECHNOLOGY**

Recommendation
<p>Recommendation #5 – To encourage NGOs to deploy new technology and R&D projects with the establishment of a joint league to gather internal and external talents for cross-NGO e-Services deployment projects.</p> <p>A joint effort is required for certain new technology development which requires a lot of resources and widely-accepted model instead of by individual NGOs. Examples can include blind application, voice-recognition, AI model, disease field study, etc.</p>
<p>Recommendation #6 – To develop a test-bed support programme to facilitate new technology deployment, data exchange and interfacing with current IT infrastructure and software application, as well as to fulfill IT security needs.</p> <p>Some new data capturing tools, devices and interfaces are needed to connect to the back-end systems. The integration test of all these elements will be required to enable a more effective way for its achievement.</p> <ol style="list-style-type: none"> (1) Support Information Technology Deployment Enablement <ul style="list-style-type: none"> - Cloud Computing - Remote Data Security Infrastructure - Innovation Technology Demonstration (2) Support Software Application Integration Information and Test-Bed <ul style="list-style-type: none"> - Software Application(s) e.g. e-Payment module, Face Recognition module - Standard Interface Integration Testing and Support

Recommendation #7 – To promote open source application software and cloud platform deployment that fulfils IT standards and governance requirements for use by NGOs

A standard application cloud environment that fulfils all IT standards and governance requirements will enable NGOs, especially S-NGOs, to achieve a high degree of IT governance via this shorter path. Encourage Micro-service Software Component and Standardised Interface for Ease of Integration should also be encouraged. Open source application software examples include:

- (1) Common Application:
 - Instant Message Type Solution
 - Donation (e-Payment)
 - Drug Management and Dispatching System
- (2) Service Specific Application
 - Fund Source and Project Control System
 - Membership and Stakeholder Network
 - Case Management System
 - Event/Activities Registration and e-Payment System
 - Petty Cash Manage-On-Behalf of Caretaker Management System
 - SIS Reporting System
 - Service User Privacy Secure Data Transfer Standard Format
 - Social Media Content Development Tools
 - Instant Message Communication Tools
 - e-Resources Library / Web Directory for service users Platform

Recommendation #8 – To establish an Information Portal for providing support to social work professionals to deploy appropriate IT tools, in particular for executing their daily work remotely at home or contacting their service recipients, rather than making face-to-face contact during the pandemic or other inconvenient situations.

In regard to the unexpected crisis that has a critical impact on the traditional service delivery mode, the e-Services will be extended to different form of e-channels covering multiple social media and e-platforms available in the market.

9.3. **STRATEGY 3: ENHANCING DATA SECURITY AND IT SECURITY AWARENESS**

Recommendation

Recommendation #9 – To enhance data security and IT security awareness through establishment of baseline IT security requirements for NGOs of different sizes and continuous training to NGOs on IT security

The continuous support to NGOs in handling the data security and IT security issues at affordable prices are essential. The initiatives include:

- 1) Establishment of Baseline IT Security requirements for NGOs of different sizes
- 2) Continuous training to NGOs on IT security and IT security appreciation via e-learning platform. Training programmes can include:
 - IT security fundamentals

- Phishing email awareness
 - Network security fundamentals
 - Data security classification and handling rules
 - Personal data privacy and common protection method
- 3) Promoting regular SRAA on IT systems developed

9.4. **STRATEGY 4: ENHANCING COLLABORATION AMONG NGOS IN COMMON APPLICATION DEVELOPMENT**

Recommendation

Recommendation #10 – To promote sharing of source code with other NGOs at no cost or affordable price for implementation of IT systems funded by Lotteries Fund.

The current independent working mode of NGOs in using funding or developing their own software is ineffective and has slow multiplier effect. Some new way of co-operation that leverages each other's knowledge or development of knowledge assets shall be encouraged. The best position to encourage co-operation among NGOs will be the ITRC. The original purpose of ITRC shall be reinstated and strengthened. Some kind of continuous based sharing mechanism or platform can be developed to facilitate sharing among NGOs.

10. CONCLUSION

Social welfare industry shall have a vision for sustainable IT development, drive research & innovation in meeting emerging needs, healthy environment for suppliers to provide the IT products/services, and apply these IT products/services in mass scale usage efficiently, and people in the industry can receive continuous education to deploy IT in their daily work and delivery of services, while at the same time meeting the industry standard on IT security and governance. The IT Strategy for the Social Welfare Sector should enable NGOs to keep pace with the IT development of the society for serving the public with IT enabled quality services and this becomes more contingent during the pandemic period.

10.1. IT VISION

The Consultant Team can see the social welfare sector shall leverage IT in meeting the service recipient needs and achieve higher stakeholder satisfaction. As such, the social welfare professional must possess the necessary foundation and new IT knowledge to lead their fellow social workers and multi-professional colleagues to deliver their services in a highly efficient way and achieve a higher user satisfaction. The traditional lack of foundation IT usage training must be rectified immediately for the colleagues and continuous based training are highly recommended for the experienced social welfare workers.

10.2. INNOVATION AND RESEARCH

The social welfare sector faced a number of business challenge in limited front-line manpower and slim administrative overhead in serving the increasing demands needs. The continuous research and development work for the sector need to be in place to improve the overall planning, enabling, execution, monitoring and controlling activities in delivering the social welfare services.

10.3. MASS SCALE APPLICATION DEPLOYMENT

It is essential to nurture the right level of entrepreneurs to invest in the social welfare sector. While the L-NGOs are going to develop the software on their own or spend good enough financial resources to outsource their development work to renowned IT software developers, the S-NGOs / M-NGOs highly rely on the outside IT software vendors to provide solutions to them.

With the highly differentiated mode of funding available, S-NGOs can hardly attract the IT software vendors to provide the right level of services and quality product to them. It is essential to explore another mode of funding support to S-NGOs such as cloud computing infrastructure, S-NGOs Software as a Service (SaaS) solution, joint financial funding for S-NGOs of the same nature to attract IT software vendors / renowned IT software developers to deliver more fully functional and quality products to the S-NGOs.

10.4. APPLICATION IMPLEMENTATION

The healthy mass adoption of new generation software such as social media, e-Services, e-payment, donation management, drug management, customer relationship management and management accounting software shall support multiple social welfare service types. The standard software components and microservices-based software modules shall be easily integrated with other legacy or developing modules. Also, remote office and social media tools are commonly deployed by social workers and staff to reach their service recipient conveniently.

Of course, the IT planning and governance capability of NGOs in appreciating the new generation software trends and social media tools are essential to enable the NGOs to deploy the IT tools wisely in their daily operations. In addition, the project management, business change management, training and maintenance support are the essential supporting elements in ensuring the success deployment of an IT application. More support services to NGOs in the above application implementation areas would need to be planned.

10.5. CONTINUOUS EDUCATION FRAMEWORK AND KNOWLEDGE SHARING

Besides the foundation training and continuous based training to the social welfare professionals, the continuous information sharing in industry IT application best practices, vision thinking IT deployment projects, innovative IT product/service, research and development work on analysing and handling common challenges in the social welfare context, cloud service, SaaS for the social welfare sector, joint IT project implementation and open source software adoption are all the essential knowledge spectrum among the industry. It is essential to have an organising body and implementation arm to facilitate and share the knowledge spectrum to the social welfare sector.

Appendix 1 - Questionnaire

社會福利界資訊科技策略檢討 - 問卷調查(中文版本) 下載連結:



社會福利界資訊科技策略檢討 - 問卷調查.pdf

Questionnaire for Review of IT Strategy (English version) download link:



Questionnaire for Review of IT Strategy.pdf

Appendix 2 - List of Questionnaire Respondents*Questionnaire Respondent(s) List*

Subvention Allocation (S = <= 10M, M > 10M & <= 100M, L > 100M)	Service Operator Name (Eng)	Service Operator Name (Chi)
L	Caritas - Hong Kong	香港明愛
L	Chinese Young Men's Christian Association of Hong Kong	香港中華基督教青年會
L	Christian Family Service Centre	基督教家庭服務中心
L	Hong Kong Sheng Kung Hui Welfare Council Limited	香港聖公會福利協會有限公司
L	ELCHK, Social Service Head Office	基督教香港信義會社會服務部總處
L	Heep Hong Society	協康會
L	Hong Chi Association	匡智會
L	Hong Kong Children and Youth Services	香港青少年服務處
L	Hong Kong Christian Service	香港基督教服務處
L	Hong Kong Family Welfare Society	香港家庭福利會
L	Hong Kong Federation of Youth Groups (The)	香港青年協會
L	Hong Kong Lutheran Social Service, the Lutheran Church - Hong Kong Synod Limited	香港路德會社會服務處
L	Hong Kong Society for the Aged (The)	香港耆康老人福利會
L	Hong Kong Society for the Blind (The)	香港盲人輔導會
L	Hong Kong Young Women's Christian Association	香港基督教女青年會
L	Wai Ji Christian Service	基督教懷智服務處
L	Neighbourhood Advice-Action Council (The)	鄰舍輔導會
L	New Life Psychiatric Rehabilitation Association	新生精神康復會
L	Po Leung Kuk	保良局
L	Pok Oi Hospital	博愛醫院
L	Salvation Army (The)	救世軍
L	Fu Hong Society	扶康會
L	St. James' Settlement	聖雅各福群會
L	Tung Wah Group of Hospitals	東華三院
L	Yan Chai Hospital	仁濟醫院
L	Yan Oi Tong	仁愛堂
L	Yang Memorial Methodist Social Service	循道衛理楊震社會服務處
L	Baptist Oi Kwan Social Service	浸信會愛羣社會服務處
L	Hong Kong Playground Association	香港遊樂場協會

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L	Boys' and Girls' Clubs Association of Hong Kong (The)	香港小童群益會
M	Aberdeen Kai-fong Welfare Association Social Service Centre	香港仔街坊福利會社會服務中心
M	Association for Engineering and Medical Volunteer Services	工程及醫療義務工作協會
M	Alice Ho Miu Ling Nethersole Charity Foundation	雅麗氏何妙齡那打素慈善基金會
M	Hong Kong ABWE Social Services	香港萬國宣道浸信會社會服務
M	Chi Lin Nunnery	志蓮淨苑
M	Chinese Rhenish Church Hong Kong Synod (The)	中華基督教禮賢會香港區會
M	Christian & Missionary Alliance Church Union Hong Kong Limited	基督教宣道會香港區聯會有限公司
M	Christian New Being Fellowship Limited (The)	基督教得生團契有限公司
M	Chung Shak Hei (Cheung Chau) Home for the Aged Limited	鐘錫熙(長洲)安老院有限公司
M	Mother Superior of the Congregation of Our Lady of Charity of the Good Shepherd of Angers at Hong Kong (The)	善牧會
M	Hong Kong and Macau Lutheran Church Social Service Limited	港澳信義會社會服務有限公司
M	Hong Kong Juvenile Care Centre	香港青少年培育會
M	Hong Kong Mutual Encouragement Association Limited	香港互勵會
M	Hong Kong PHAB Association	香港傷健協會
M	Hong Kong Society for Rehabilitation (The)	香港復康會
M	Hong Kong Society for the Protection of Children	香港保護兒童會
M	Hong Kong Student Aid Society Limited (The)	香港學生輔助會有限公司
M	Hong Kong-Macao Conference of Seventh - day Adventists	基督復臨安息日會港澳區會
M	Kiangsu Chekiang and Shanghai Residents (Hong Kong) Association	香港蘇浙滬同鄉會
M	Kwun Tong Methodist Social Service	循道衛理觀塘社會服務處
M	Methodist Epworth Village Community Centre, Social Welfare	循道愛華村服務中心社會福利部
M	Mongkok Kai-Fong Association Limited (The)	旺角街坊會
M	Mother's Choice	母親的抉擇
M	Superioress of the Sisters of the Precious Blood (The)	耶穌寶血女修會
M	Society of Boys' Centres	香港扶幼會

Review of the Information Technology Strategy for the Social Welfare Sector in Hong Kong

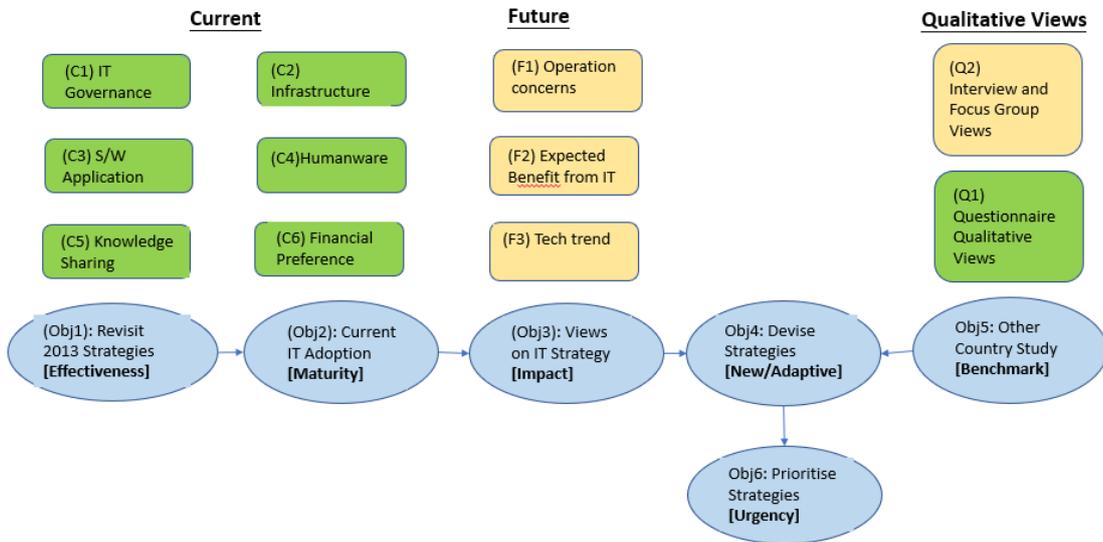
M	Sheng Kung Hui St. Christopher's Home Limited	聖公會聖基道兒童院有限公司
M	Church of United Brethren in Christ Hong Kong Limited (The)	香港基督教協基會
M	Methodist Centre	循道衛理中心
M	Tsung Tsin Mission of Hong Kong Social Service (The)	基督教香港崇真會社會服務部
M	Women's Welfare Club, Western District, Hong Kong	香港西區婦女福利會
M	Yuen Long Town Hall Management Committee Limited	元朗大會堂管理委員會有限公司
M	Yuen Yuen Institute (The)	圓玄學院
S	Asian Outreach Hong Kong Limited	香港亞洲歸主協會
S	Lok Chi Association Limited	樂智協會有限公司
S	Association for the Rights of Industrial Accident Victims Limited	工業傷亡權益會
S	Against Child Abuse Ltd	防止虐待兒童會有限公司
S	Agency for Volunteer Service	義務工作發展局
S	Boys' Brigade, Hong Kong (The)	香港基督少年軍
S	Cheung Sha Wan Kai Fong Welfare Association Lam Tam Yin Wah Day Nursery	長沙灣街坊福利會林譚燕華幼兒中心
S	Cheung Chau Rural Committee Integrated Youth Centre	長洲鄉事委員會青年綜合服務中心
S	Chinese Evangelical Zion Church Limited	中華錫安傳道會有限公司
S	Endeavourers Hong Kong (The)	香港勵志會
S	Hans Andersen Club	安徒生會
S	Hong Kong Blind Union	香港失明人協進會
S	Hong Kong Chiu Chow Po Hing Buddhism Association Limited	僑港潮洲普慶念佛社有限公司
S	Hong Kong Red Cross	香港紅十字會
S	Jordan Valley Kaifong Welfare Association	佐敦谷街坊福利會
S	Kowloon City Baptist Church	九龍城浸信會
S	Lutheran Philip House Limited	粵南信義會腓力堂有限公司
S	New Kowloon Women Association Limited	新九龍婦女會有限公司
S	Hong Kong Paralympic Committee & Sports Association for the Physically Disabled	香港殘疾人奧委會暨傷殘人士體育協會
S	SKH St. Matthias' Church Nursery School Limited	聖公會聖馬提亞堂幼兒學校有限公司
S	Tsim Sha Tsui District Kaifong Welfare Association	尖沙咀街坊福利會
S	Yuk Chi Resource Centre Limited	育智中心有限公司
S	Watchdog Limited	監護者

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S	Hong Kong West Point Baptist Church	香港西區浸信會
S	Fo Guang Shan International Buddhist Progress Society (Hong Kong) Limited	佛光山佛香講堂有限公司
S	Barnabas Charitable Service Association Limited (The)	基督教巴拿巴愛心服務團有限公司
S	S.K.H. St. Simon's Social Services	聖公會聖西門社會服務處
S	Society for Community Organization	香港社區組織協會
S	Zion Social Service Limited	錫安社會服務處有限公司
S	Hop Yat Church, the Church of Christ in China	中華基督教會合一堂
Total: 92		

Appendix 3 - Key Question Analysis

Analysis Framework of the Questionnaire Survey



NGO Profile, Service Nature and Number of Centres (Overall)

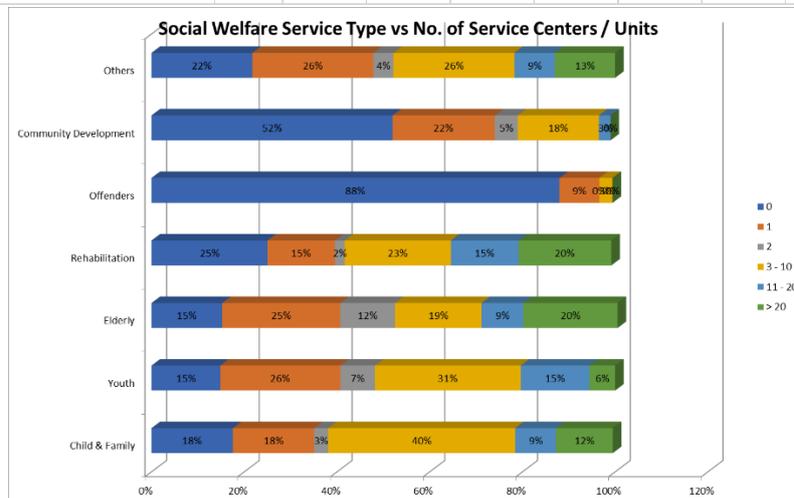
Part 2, Section 1, Q3

- Please indicate the type(s) and number of social welfare service that are being provided by your organisation.

Q3. Please indicate the type(s) and number of social welfare service that are being provided by your organisation in below table.

	0	1	2	3 - 10	11 - 20	> 20	Sum
Child & Family	10	10	2	23	5	7	57
Youth	8	14	4	17	8	3	54
Elderly	9	15	7	11	5	12	59
Rehabilitation	12	7	1	11	7	10	48
Offenders	31	3	0	1	0	0	35
Community Development	21	9	2	7	1	0	40
Others	5	6	1	6	2	3	23

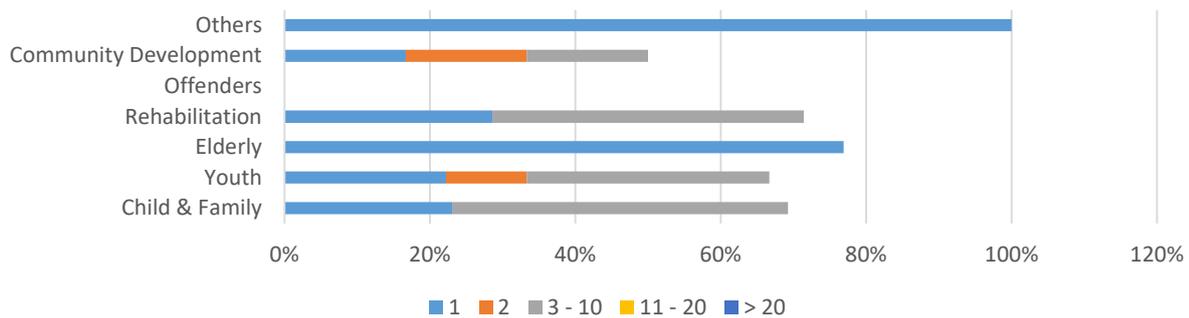
	0	1	2	3 - 10	11 - 20	> 20
Child & Family	18%	18%	3%	40%	9%	12%
Youth	15%	26%	7%	31%	15%	6%
Elderly	15%	25%	12%	19%	9%	20%
Rehabilitation	25%	15%	2%	23%	15%	20%
Offenders	88%	9%	0%	3%	0%	0%
Community Development	52%	22%	5%	18%	3%	0%
Others	22%	26%	4%	26%	9%	13%



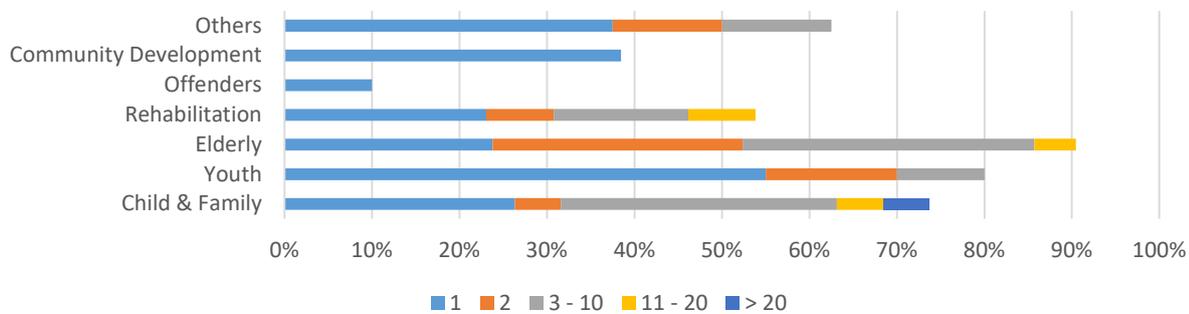
NGO Profile, Service Nature and Number of Centres (S-NGO/M-NGO/L-NGO)

	S-NGO							M-NGO							L-NGO						
	0	1	2	3-10	11-20	>20	Sum	0	1	2	3-10	11-20	>20	Sum	0	1	2	3-10	11-20	>20	Sum
Child & Family	4	3	0	6	0	0	13	5	5	1	6	1	1	19	1	2	1	11	4	6	25
Youth	3	2	1	3	0	0	9	4	11	3	2	0	0	20	1	1	0	12	8	3	25
Elderly	3	10	0	0	0	0	13	2	5	6	7	1	0	21	4	0	1	4	4	12	25
Rehabilitation	2	2	0	3	0	0	7	6	3	1	2	1	0	13	4	2	0	6	6	10	28
Offenders	4	0	0	0	0	0	4	9	1	0	0	0	0	10	18	2	0	1	0	0	21
Community Development	3	1	1	1	0	0	6	8	5	0	0	0	0	13	10	3	1	6	1	0	21
Others	0	2	0	0	0	0	2	3	3	1	1	0	0	8	2	1	0	5	2	3	13

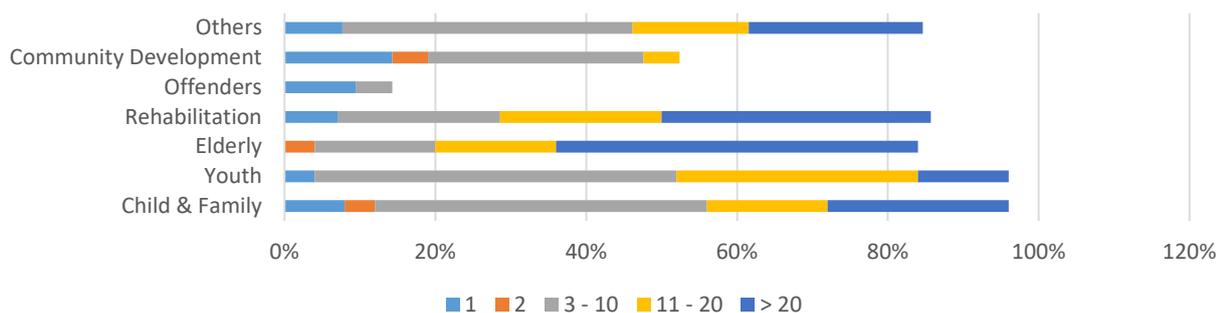
Social Welfare Service Type vs No. of Service Centres / Units (S-NGO)



Social Welfare Service Type vs No. of Service Centres / Units (M-NGO)



Social Welfare Service Type vs No. of Service Centres / Units (L-NGO)



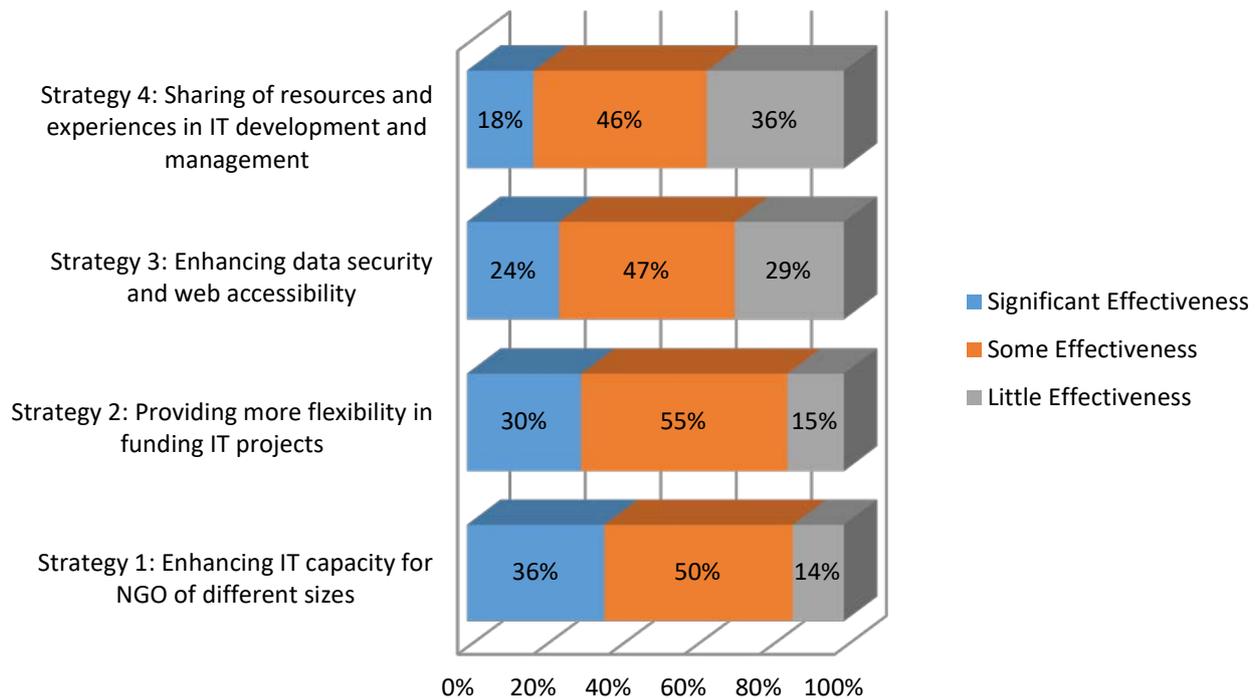
Effectiveness of 2013 Strategy (Overall)

Part 2, Section 3, Q8

- On the existing four IT strategies for the social welfare sector deriving from the 2013 IT Strategy Review, please indicate the effectiveness on their implementation through the funding support of the Social Welfare Development Fund (SWDF) in relation to the IT development of your organisation.

Effectiveness of the 2013 IT Strategy				
	Significant Effectiveness	Some Effectiveness	Little Effectiveness	Sum
Strategy 1: Enhancing IT capacity for NGO of different sizes	32	44	12	88
Strategy 2: Providing more flexibility in funding IT projects	26	47	13	86
Strategy 3: Enhancing data security and web accessibility	21	40	25	86
Strategy 4: Sharing of resources and experiences in IT development and management	15	39	31	85

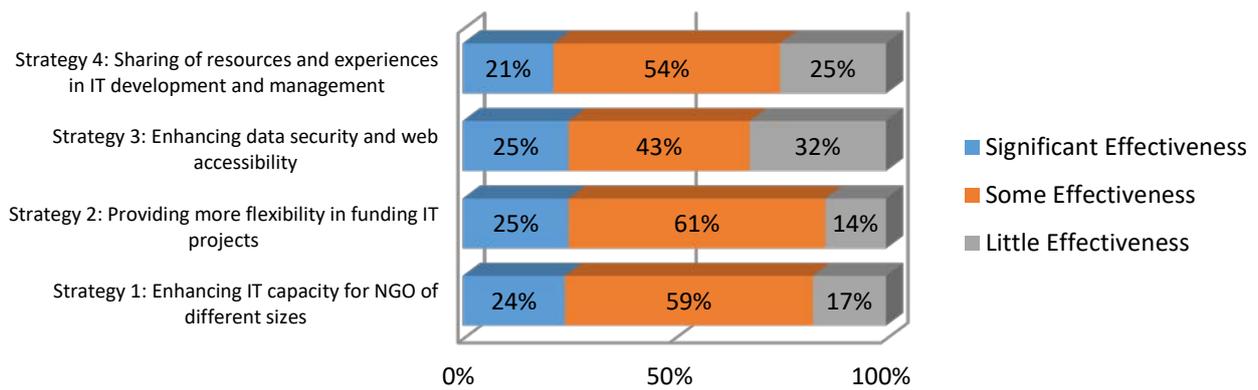
Effectiveness of the 2013 IT Strategy (Overall NGO)



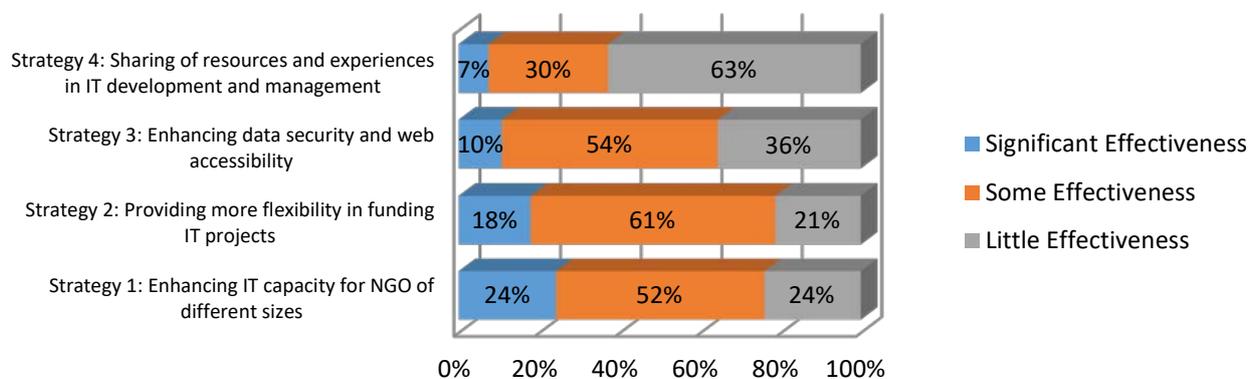
Effectiveness of 2013 Strategy (S-NGO/M-NGO/L-NGO)

Small + Medium + Large	S-NGO				M-NGO				L-NGO			
	Significant Effectiveness	Some Effectiveness	Little Effectiveness	Sum	Significant Effectiveness	Some Effectiveness	Little Effectiveness	Sum	Significant Effectiveness	Some Effectiveness	Little Effectiveness	Sum
Strategy 1: Enhancing IT capacity for NGO of different sizes	7	17	5	29	7	15	7	29	18	12	0	30
Strategy 2: Providing more flexibility in funding IT projects	7	17	4	28	5	17	6	28	14	13	3	30
Strategy 3: Enhancing data security and web accessibility	7	12	9	28	3	15	10	28	11	13	6	30
Strategy 4: Sharing of resources and experiences in IT development and management	6	15	7	28	2	8	17	27	7	16	7	30

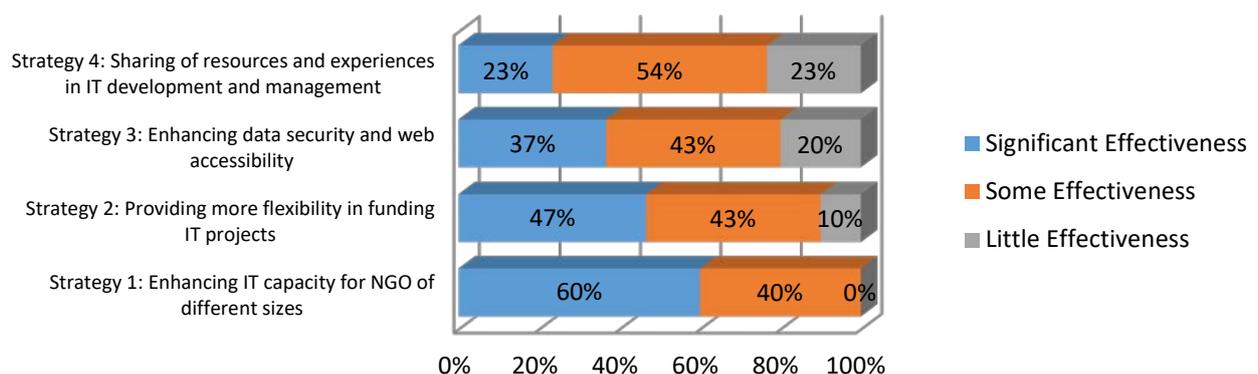
Effectiveness of the 2013 IT Strategy (S-NGO)



Effectiveness of the 2013 IT Strategy (M-NGO)



Effectiveness of the 2013 IT Strategy (L-NGO)



Analysis Dimensions - Current



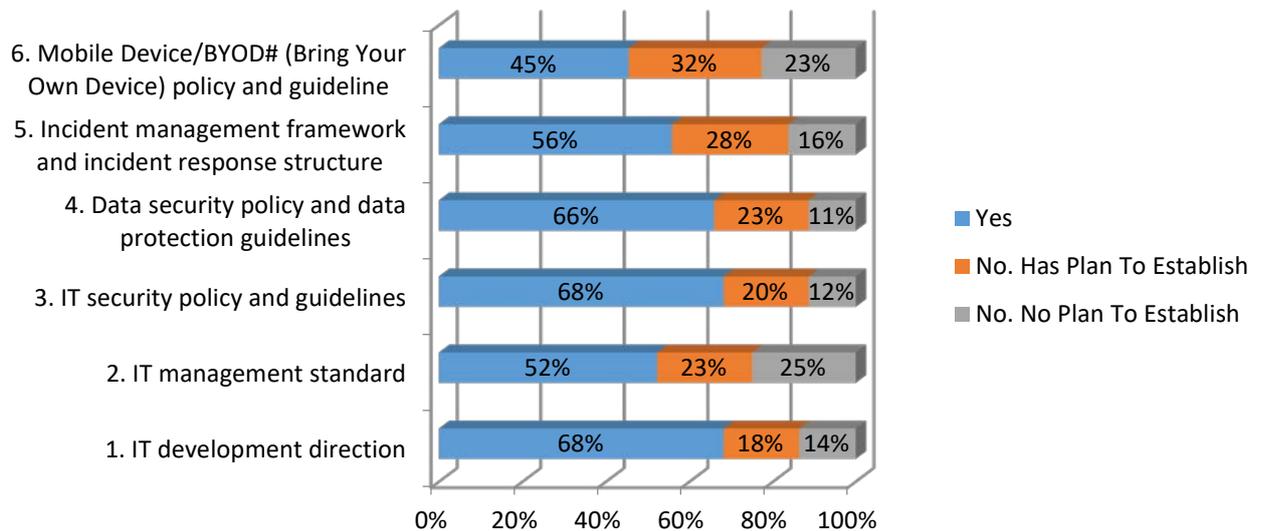
C1. IT Governance Policies and Guidelines (Overall)

Part 2, Section 2, Q7

- Has your organisation implemented any IT Governance Policies and Guidelines?

	Yes	No. Has Plan To Establish	No. No Plan To Establish	Sum
1. IT development direction	30	8	6	44
2. IT management standard	23	10	11	44
3. IT security policy and guidelines	30	9	5	44
4. Data security policy and data protection guidelines	29	10	5	44
5. Incident management framework and incident response structure	24	12	7	43
6. Mobile Device/BYOD (Bring Your Own Device) policy and guideline	20	14	10	44
	Yes	No. Has Plan To Establish	No. No Plan To Establish	
1. IT development direction	68%	18%	14%	
2. IT management standard	52%	23%	25%	
3. IT security policy and guidelines	68%	20%	12%	
4. Data security policy and data protection guidelines	66%	23%	11%	
5. Incident management framework and incident response structure	56%	28%	16%	
6. Mobile Device/BYOD (Bring Your Own Device) policy and guideline	45%	32%	23%	

IT Governance Policies and Guidelines vs Formation Stage



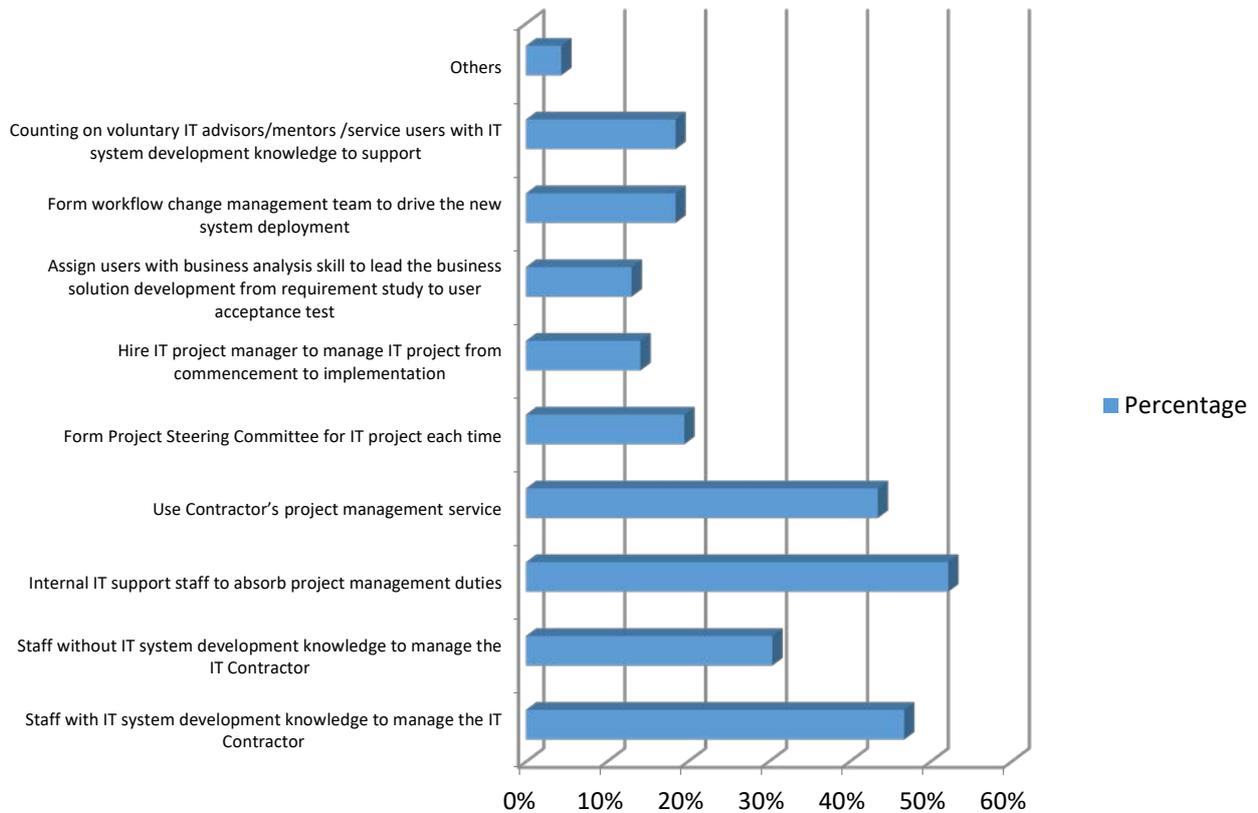
C1. IT Governance Project Management (Overall)

Part 2, Section 3, Q11

- How does your organisation handle project management in IT projects?

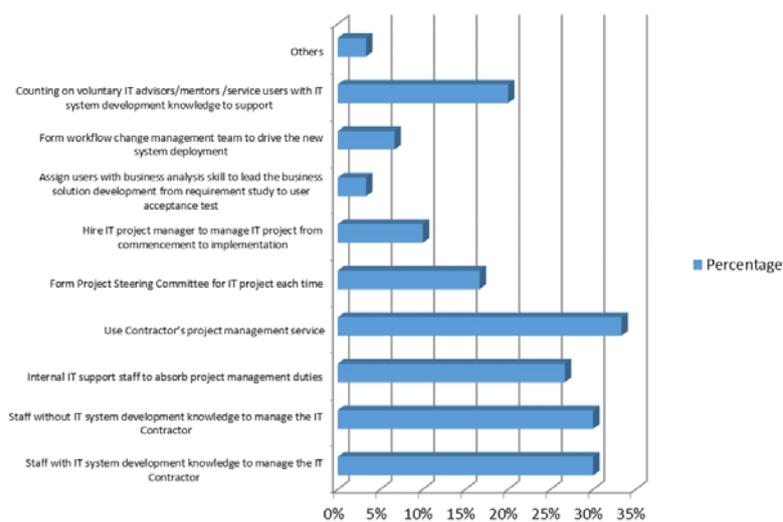
	Overall NGO	S-NGO	M-NGO	L-NGO
	Percentage	Percentage	Percentage	Percentage
Staff with IT system development knowledge to manage the IT Contractor	47%	30%	31%	80%
Staff without IT system development knowledge to manage the IT Contractor	30%	30%	44%	17%
Internal IT support staff to absorb project management duties	52%	27%	59%	70%
Use Contractor's project management service	43%	33%	41%	57%
Form Project Steering Committee for IT project each time	20%	17%	6%	37%
Hire IT project manager to manage IT project from commencement to implementation	14%	10%	9%	23%
Assign users with business analysis skill to lead the business solution development from requirement study to user acceptance test	13%	3%	3%	33%
Form workflow change management team to drive the new system deployment	18%	7%	6%	43%
Counting on voluntary IT advisors/mentors /service users with IT system development knowledge to support	18%	20%	19%	17%
Others	4%	3%	0%	10%

How does organisation handle project management in IT projects (Overall NGO)

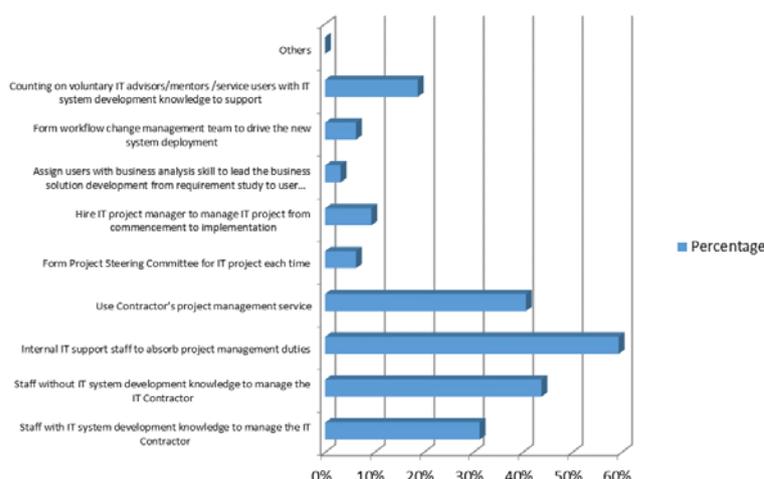


C1. IT Governance Project Management (S-NGO/M-NGO/L-NGO)

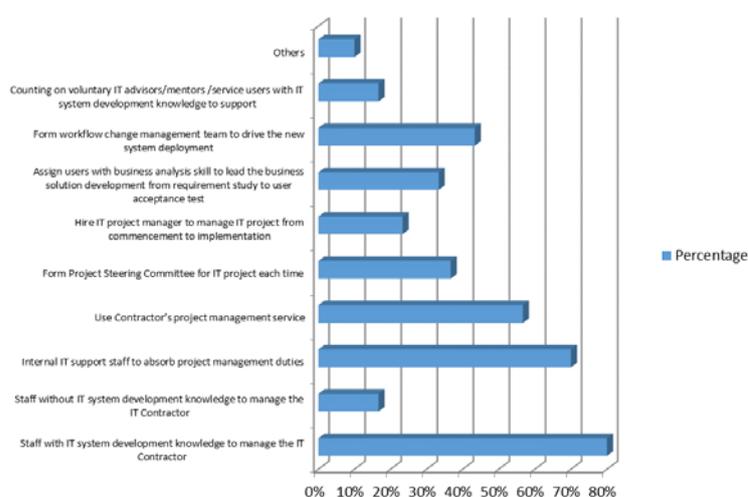
How does organisation handle project management in IT projects (S-NGO)



How does organisation handle project management in IT projects (M-NGO)



How does organisation handle project management in IT projects (L-NGO)



C2. Infrastructure & C3 Software - Organisation's satisfaction rate on IT implementation, ongoing and maintenance support work (Overall)

Part 2, Section 3, Q12

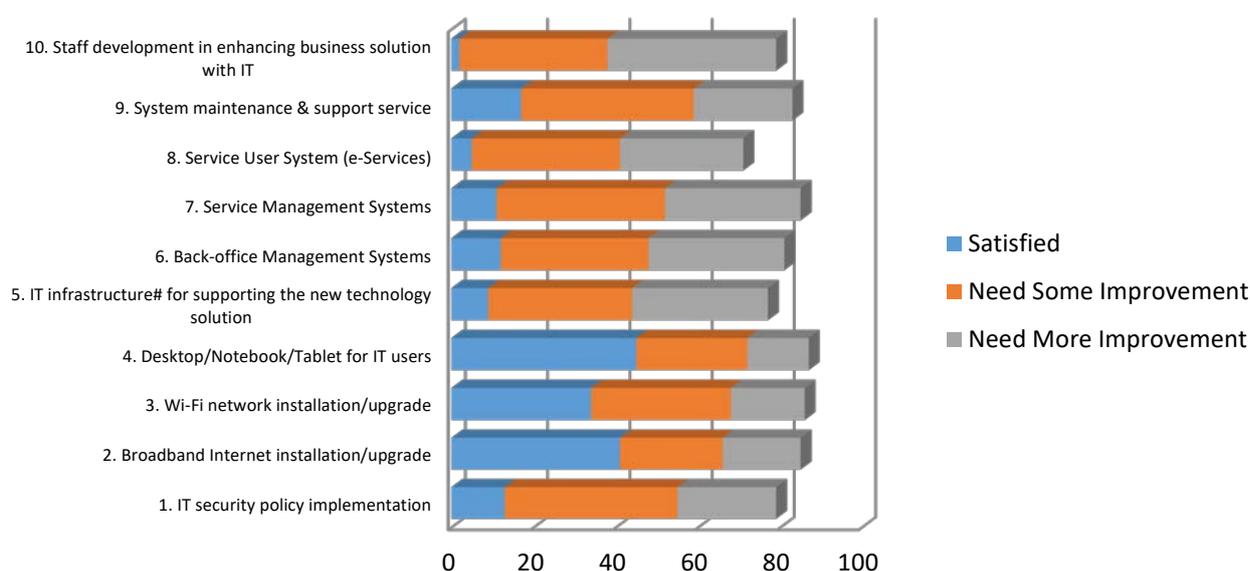
- In the past 6 years (since the last IT strategy review), what is your organisation's satisfaction level on the following areas of IT implementation, ongoing and maintenance support work?

	Satisfied	Need Some Improvement	Need More Improvement	Not Applicable	Sum
1. IT security policy implementation	13	42	24	8	87
2. Broadband Internet installation/upgrade	41	25	19	2	87
3. Wi-Fi network installation/upgrade	34	34	18	2	88
4. Desktop/Notebook/Tablet for IT users	45	27	15	1	88
5. IT infrastructure for supporting the new technology solution	9	35	33	10	87
6. Back-office Management Systems	12	36	33	6	87
7. Service Management Systems	11	41	33	3	88
8. Service User System (e-Services)	5	36	30	15	86
9. System maintenance & support service	17	42	24	2	85
10. Staff development in enhancing business solution with IT	2	36	41	7	86
	Satisfied	Need Some Improvement	Need More Improvement	Not Applicable	

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1. IT security policy implementation	15%	48%	28%	9%
2. Broadband Internet installation/upgrade	47%	29%	22%	2%
3. Wi-Fi network installation/upgrade	39%	39%	20%	2%
4. Desktop/Notebook/Tablet for IT users	51%	31%	17%	1%
5. IT infrastructure for supporting the new technology solution	10%	40%	38%	12%
6. Back-office Management Systems	14%	41%	38%	7%
7. Service Management Systems	13%	47%	38%	2%
8. Service User System (e-Services)	6%	42%	35%	17%
9. System maintenance & support service	20%	49%	28%	3%
10. Staff development in enhancing business solution with IT	2%	42%	48%	8%

Organisation's satisfaction rate on IT implementation, ongoing and maintenance support work (Overall NGO)



C2. Infrastructure + C3 Software (S-NGO/M-NGO/L-NGO)

	Overall NGO			S-NGO			M-NGO			L-NGO		
	Satisfied	Need Some Improvement	Need More Improvement	Satisfied	Need Some Improvement	Need More Improvement	Satisfied	Need Some Improvement	Need More Improvement	Satisfied	Need Some Improvement	Need More Improvement
1. IT security policy implementation	13	42	24	2	11	10	3	15	9	8	16	5
2. Broadband Internet installation/upgrade	41	25	19	7	10	11	15	7	6	19	8	2
3. Wi-Fi network installation/upgrade	34	34	18	8	13	6	14	10	6	12	11	6
4. Desktop/Notebook/Tablet for IT users	45	27	15	12	8	7	14	10	6	19	9	2
5. IT infrastructure for supporting the new technology solution	9	35	33	0	10	14	1	11	11	8	14	8
6. Back-office Management Systems	12	36	33	5	10	11	2	11	13	5	15	9
7. Service Management Systems	11	41	33	4	13	11	2	13	12	5	15	10
8. Service User System (e-Services)	5	36	30	3	8	11	1	12	8	1	16	11
9. System maintenance & support service	17	42	24	4	10	13	4	16	6	9	16	5
10. Staff development in enhancing business solution with IT	2	36	41	0	9	14	1	12	14	1	15	13

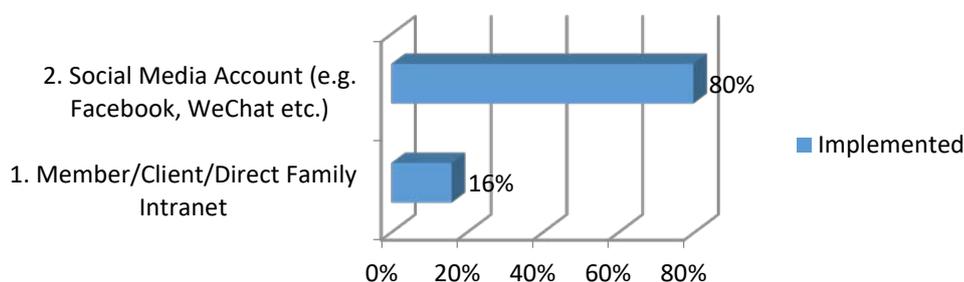
C3. Software (Social Communication)

Part 2, Section 5, Q20

- What are the kinds of e-Services that your organisation has considered or will consider implementing?

Social Communication	Overall NGO				S-NGO				M-NGO				L-NGO			
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	Implemented	Has Plan To Implement	Will Consider	Will Not Consider
1. Member/Client/Direct Family Intranet	16%	11%	54%	19%	22%	6%	55%	17%	11%	6%	50%	33%	15%	19%	55%	11%
2. Social Media Account (e.g. Facebook, WeChat etc.)	80%	1%	14%	5%	72%	0%	17%	11%	69%	0%	26%	5%	92%	4%	4%	0%

Implemented Social Communication Tool (Overall NGO)



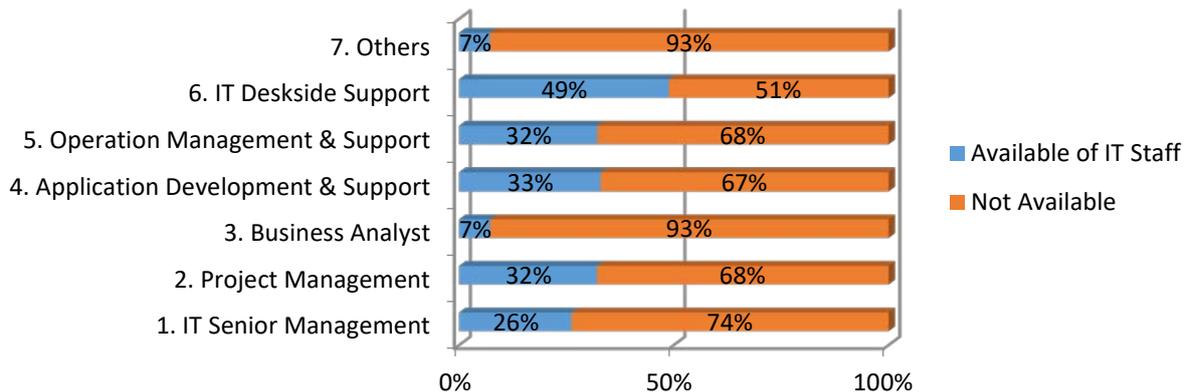
C4. Humanware - Year 2013

- Part 2, Section 6, Q25

What was the change of number of IT staff in your organisation in the past 6 years (since the last IT strategy review) and what will be your estimated change of it in the next 2 years (2020-2021)?

2013			
	Available of IT Staff	Not Available	Sum
1. IT Senior Management	22	62	84
2. Project Management	27	57	84
3. Business Analyst	6	77	83
4. Application Development & Support	29	59	88
5. Operation Management & Support	28	59	87
6. IT Deskside Support	43	45	88
7. Others	1	13	14
	Available of IT Staff	Not Available	
1. IT Senior Management	26%	74%	
2. Project Management	32%	68%	
3. Business Analyst	7%	93%	
4. Application Development & Support	33%	67%	
5. Operation Management & Support	32%	68%	
6. IT Deskside Support	49%	51%	
7. Others	7%	93%	

Available of IT Staff in 2013



C4. Humanware - Past 6 years Changes

Part 2, Section 6, Q25

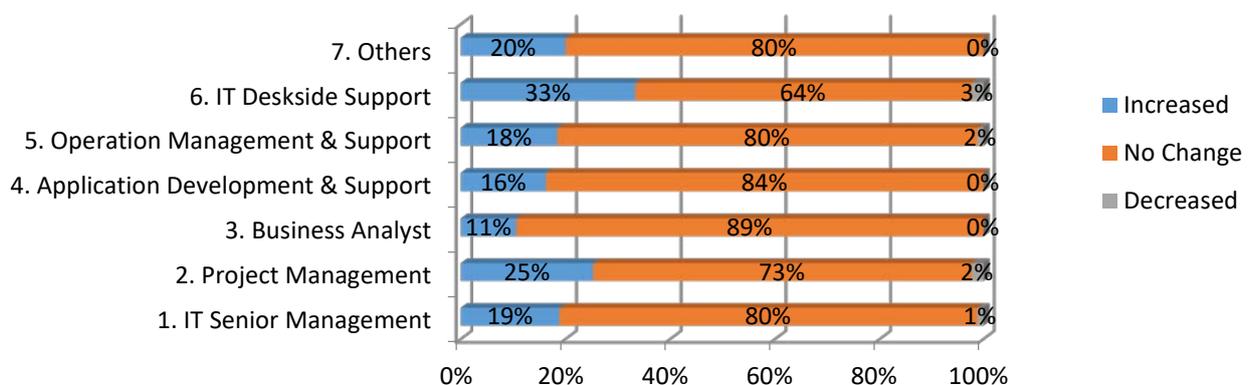
- What was the change of number of IT staff in your organisation in the past 6 years (since the last IT strategy review) and what will be your estimated change of it in the next 2 years (2020-2021)?

2014 - 2019

	Increased	No Change	Decreased	Sum
1. IT Senior Management	16	68	1	85
2. Project Management	22	63	2	87
3. Business Analyst	9	76	0	85
4. Application Development & Support	14	72	0	86
5. Operation Management & Support	16	70	1	87
6. IT Deskside Support	29	56	2	87
7. Others	3	12	0	15

	Increased	No Change	Decreased
1. IT Senior Management	19%	80%	1%
2. Project Management	25%	73%	2%
3. Business Analyst	11%	89%	0%
4. Application Development & Support	16%	84%	0%
5. Operation Management & Support	18%	80%	2%
6. IT Deskside Support	33%	64%	3%
7. Others	20%	80%	0%

Past Change in Staff Head Count in 2014 - 2019



C4. Humanware - next 2 years (overall)

Part 2, Section 6, Q25

- What was the change of number of IT staff in your organisation in the past 6 years (since the last IT strategy review) and what will be your estimated change of it in the next 2 years (2020-2021)?

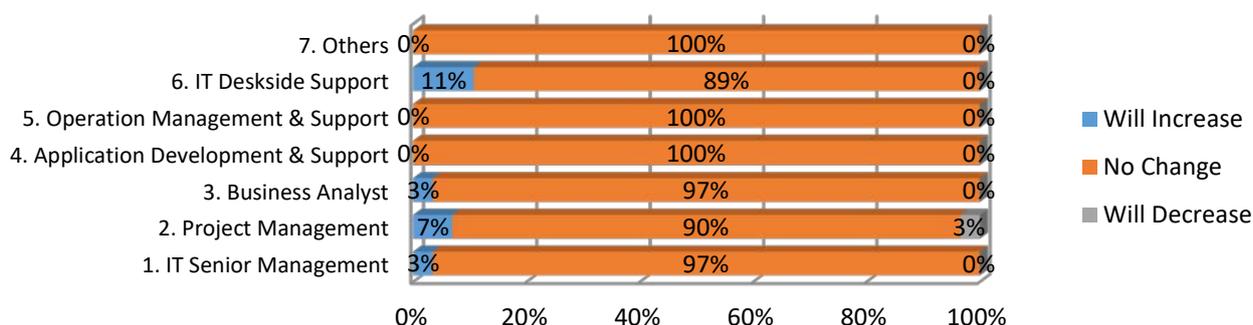
Review of the Information Technology Strategy for the Social Welfare Sector in Hong Kong

2020				
	Will Increase	No Change	Will Decrease	Sum
1. IT Senior Management	4	81	0	85
2. Project Management	10	75	1	86
3. Business Analyst	5	79	0	84
4. Application Development & Support	12	76	0	88
5. Operation Management & Support	9	76	1	86
6. IT Deskside Support	17	69	2	88
7. Others	2	14	0	16
	Will Increase	No Change	Will Decrease	
1. IT Senior Management	5%	95%	0%	
2. Project Management	12%	87%	1%	
3. Business Analyst	6%	94%	0%	
4. Application Development & Support	14%	86%	0%	
5. Operation Management & Support	10%	88%	2%	
6. IT Deskside Support	20%	78%	2%	
7. Others	12%	88%	0%	

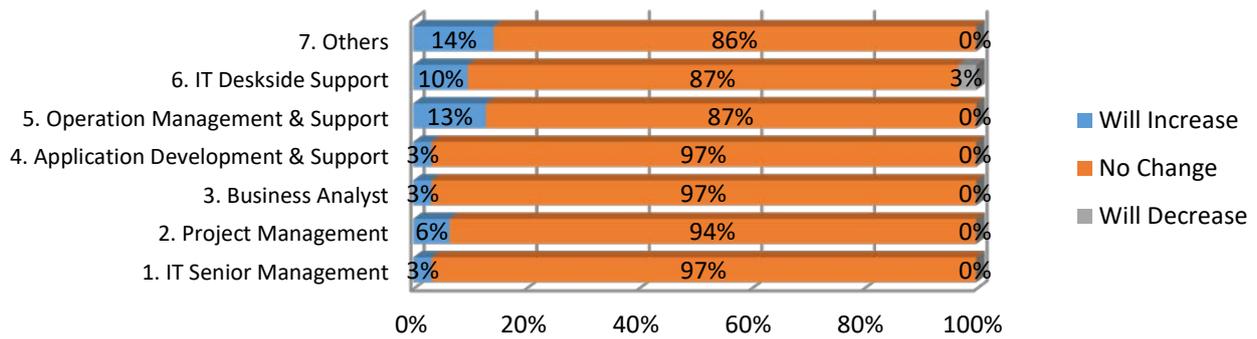
C4. Humanware - next 2 years (S-NGO/M-NGO/L-NGO)

2020	Overall NGO			S-NGO			M-NGO			L-NGO		
	Will Increase	No Change	Will Decrease	Will Increase	No Change	Will Decrease	Will Increase	No Change	Will Decrease	Will Increase	No Change	Will Decrease
1.IT Senior Management	5%	95%	0%	3%	97%	0%	3%	97%	0%	8%	92%	0%
2. Project Management	12%	87%	1%	7%	90%	3%	6%	94%	0%	23%	77%	0%
3. Business Analyst	6%	94%	0%	3%	97%	0%	3%	97%	0%	12%	88%	0%
4. Application Development & Support	14%	86%	0%	0%	100%	0%	3%	97%	0%	38%	62%	0%
5. Operation Management & Support	10%	88%	2%	0%	100%	0%	13%	87%	0%	19%	78%	3%
6. IT Deskside Support	19%	78%	3%	11%	89%	0%	10%	87%	3%	38%	59%	3%
7. Others	12%	88%	0%	0%	100%	0%	14%	86%	0%	20%	80%	0%

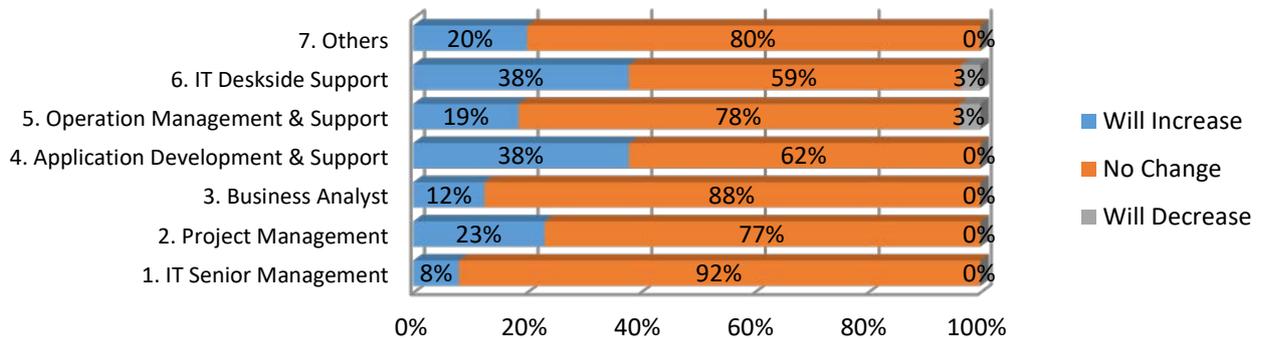
Expected change in IT staff headcount in 2020 (S-NGO)



Expected change in IT staff headcount in 2020 (M-NGO)



Expected change in IT staff headcount in 2020 (L-NGO)

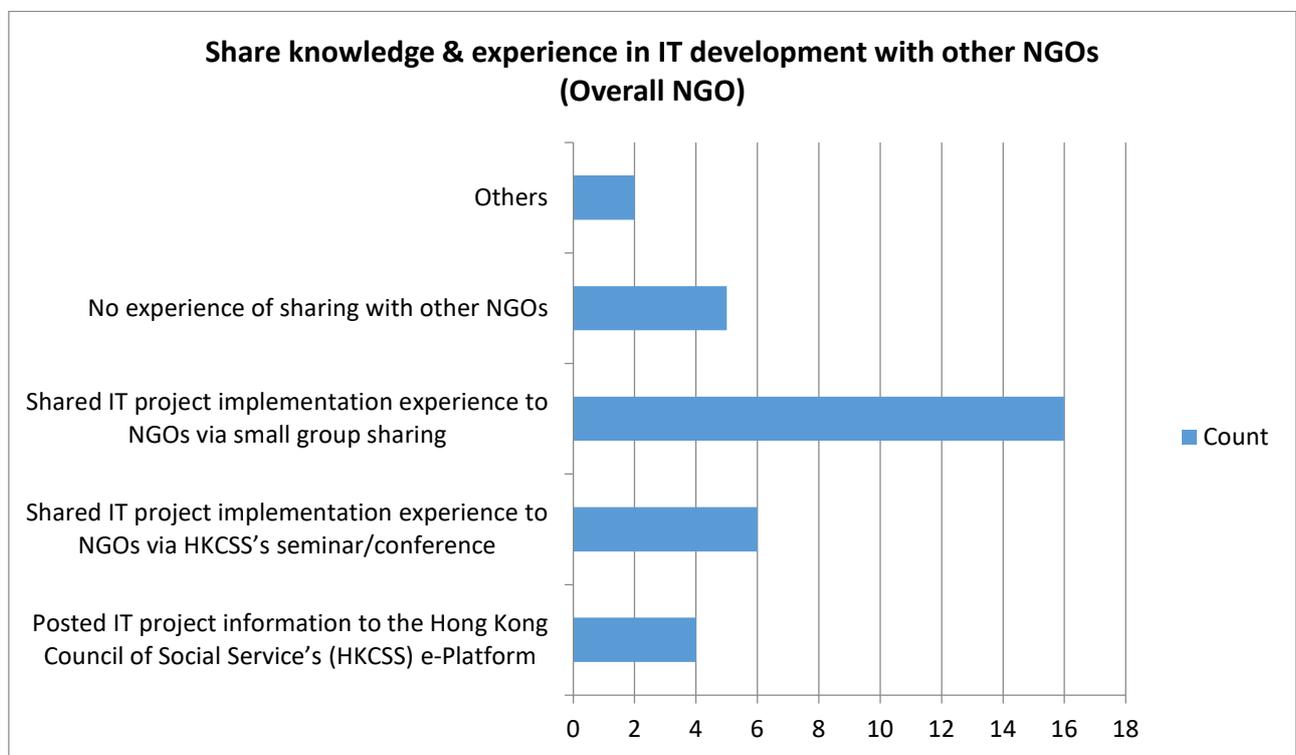


C5. Sharing knowledge and experience in IT development with other NGOs (S-NGO/M-NGO/L-NGO)

Part 2, Section 4, Q15

- How did your organisation share knowledge and experience in IT development with other NGOs?

	Overall NGO Count	S-NGO Count	M-NGO Count	L-NGO Count
Posted IT project information to the Hong Kong Council of Social Service's (HKCSS) e-Platform	4	0	1	3
Shared IT project implementation experience to NGOs via HKCSS's seminar/conference	6	0	1	5
Shared IT project implementation experience to NGOs via small group sharing	16	2	1	13
No experience of sharing with other NGOs	5	0	3	2
Others	2	1	0	1



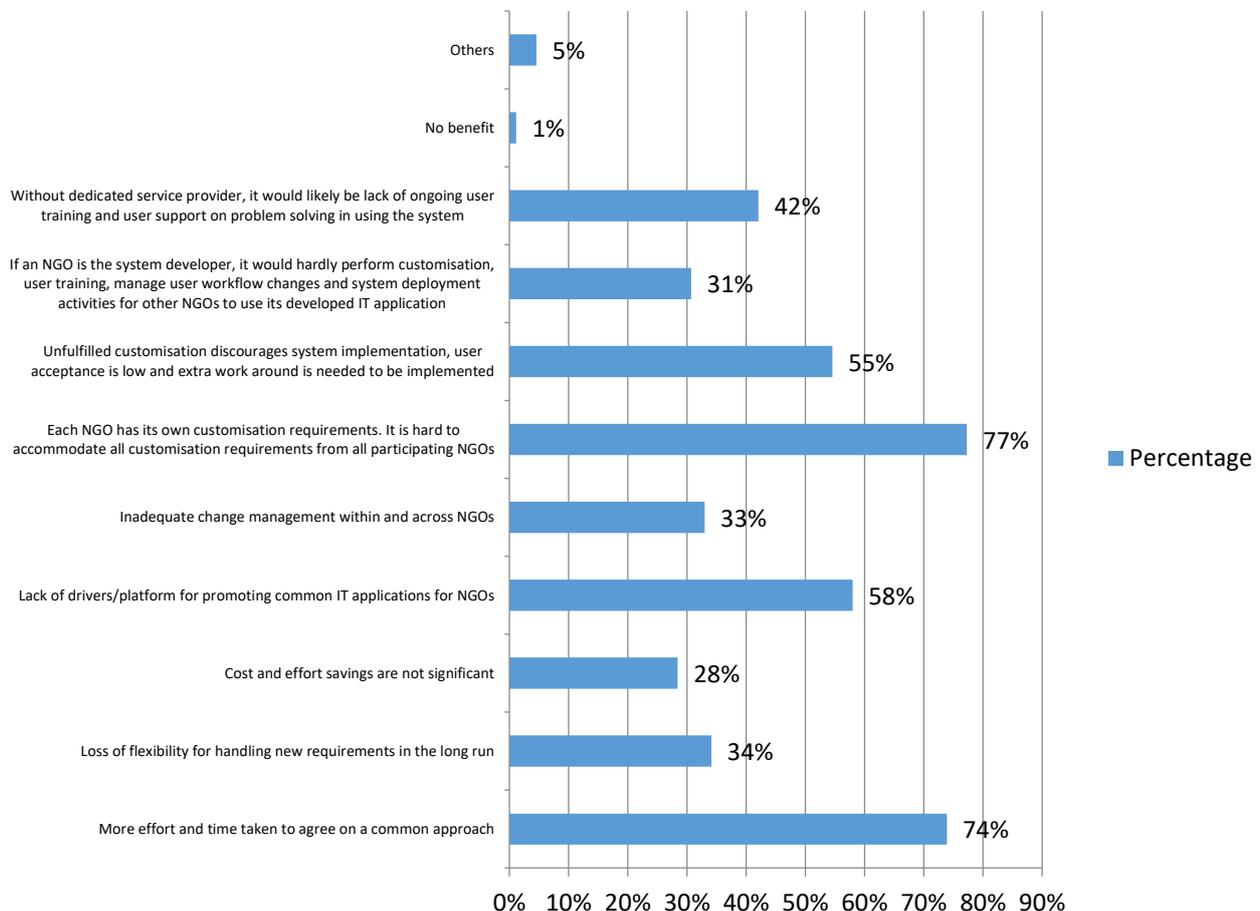
C5. Sharing knowledge - major reasons for causing the sharing use of common IT applications not widely adopted among NGOs?

Part 2, Section 4, Q17

- From your own understanding, what are the major reasons for causing the sharing use of common IT applications# not widely adopted among NGOs?

	Count
More effort and time taken to agree on a common approach	65
Loss of flexibility for handling new requirements in the long run	30
Cost and effort savings are not significant	25
Lack of drivers/platform for promoting common IT applications for NGOs	51
Inadequate change management within and across NGOs	29
Each NGO has its own customisation requirements. It is hard to accommodate all customisation requirements from all participating NGOs	68
Unfulfilled customisation discourages system implementation, user acceptance is low and extra work around is needed to be implemented	48
If an NGO is the system developer, it would hardly perform customisation, user training, manage user workflow changes and system deployment activities for other NGOs to use its developed IT application	27
Without dedicated service provider, it would likely be lack of ongoing user training and user support on problem solving in using the system	37
No benefit	1
Others	4

Major reasons for causing the sharing use of common IT applications not widely adopted among NGOs



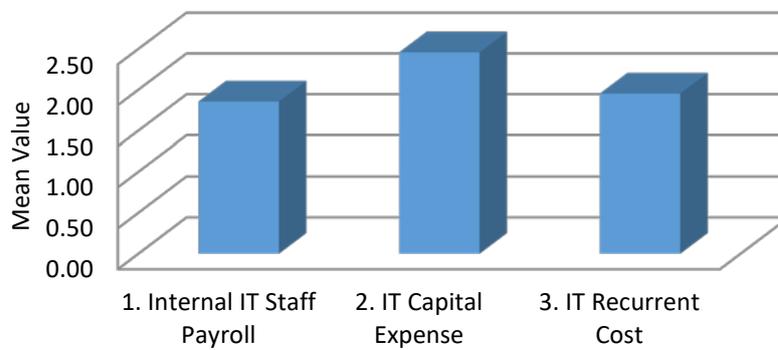
C6. Financial Preference - Estimated IT investment allocation by type in the coming year (1- Wholly, 2- Mainly, 3- Half&Half, 4- Small Percentage)

Part 2, Section 7, Q30

- Please indicate your estimated IT investment allocation by type in the coming year.

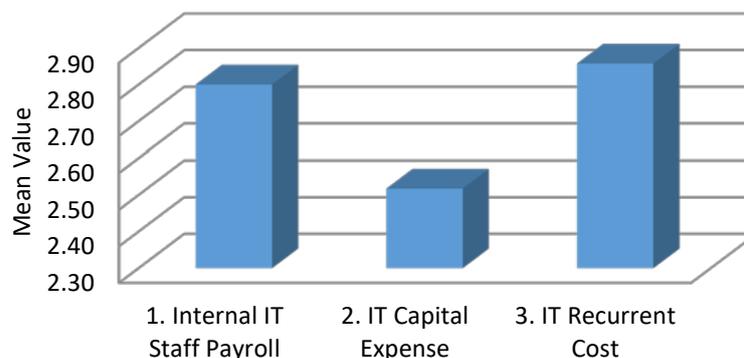
Lump Sum Grant (LSG)					
	Wholly	Mainly	Half-Half	Small Percentage	Sum
1. Internal IT Staff Payroll	22	16	5	5	48
2. IT Capital Expense	10	18	5	13	46
3. IT Recurrent Cost	24	22	9	6	61
	Wholly	Mainly	Half-Half	Small Percentage	
1. Internal IT Staff Payroll	46%	34%	10%	10%	
2. IT Capital Expense	22%	39%	11%	28%	
3. IT Recurrent Cost	40%	36%	15%	9%	

Lump Sum Grant

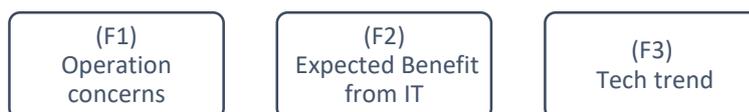


Social Welfare Development Fund					
	Wholly	Mainly	Half-Half	Small Percentage	Sum
1. Internal IT Staff Payroll	2	3	0	5	10
2. IT Capital Expense	3	14	6	6	29
3. IT Recurrent Cost	0	4	0	3	7
	Wholly	Mainly	Half-Half	Small Percentage	
1. Internal IT Staff Payroll	20%	30%	0%	50%	
2. IT Capital Expense	10%	48%	21%	21%	
3. IT Recurrent Cost	0%	57%	0%	43%	

Social Welfare Development Fund



Analysis Dimensions - Future

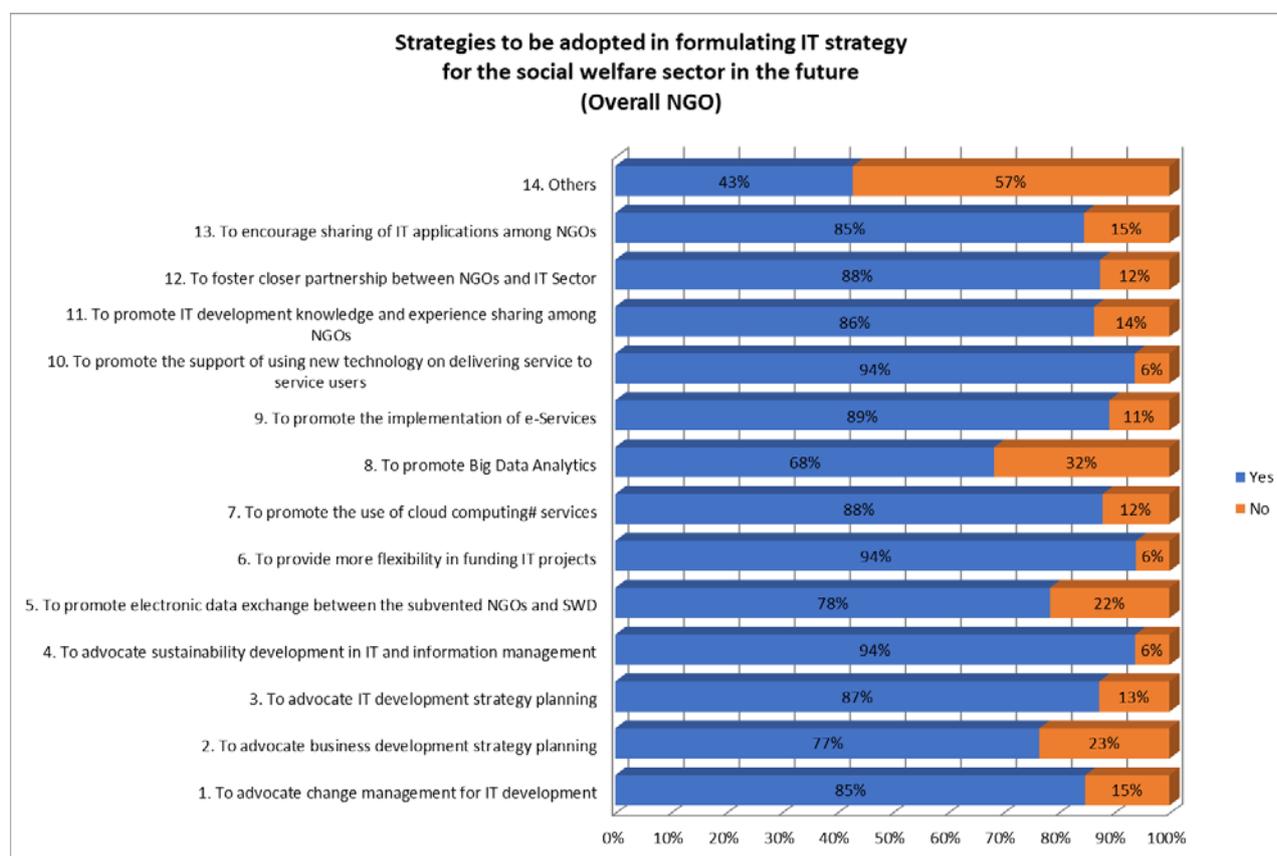


F1 - Operation Concern - Adoption of IT strategies for the social welfare sector in the future

Part 2, Section 7, Q34

- Which of the following strategies should be adopted in formulating IT strategy for the social welfare sector in the future?

	Yes (Percentage)	No (Percentage)
1. To advocate change management for IT development	85%	15%
2. To advocate business development strategy planning	77%	23%
3. To advocate IT development strategy planning	87%	13%
4. To advocate sustainability development in IT and information management	94%	6%
5. To promote electronic data exchange between the sub-vented NGOs and SWD	78%	22%
6. To provide more flexibility in funding IT projects	94%	6%
7. To promote the use of cloud computing services	88%	12%
8. To promote Big Data Analytics	68%	32%
9. To promote the implementation of e-Services	89%	11%
10. To promote the support of using new technology on delivering service to service users	94%	6%
11. To promote IT development knowledge and experience sharing among NGOs	86%	14%
12. To foster closer partnership between NGOs and IT Sector	88%	12%
13. To encourage sharing of IT applications among NGOs	85%	15%
14. Others	43%	57%



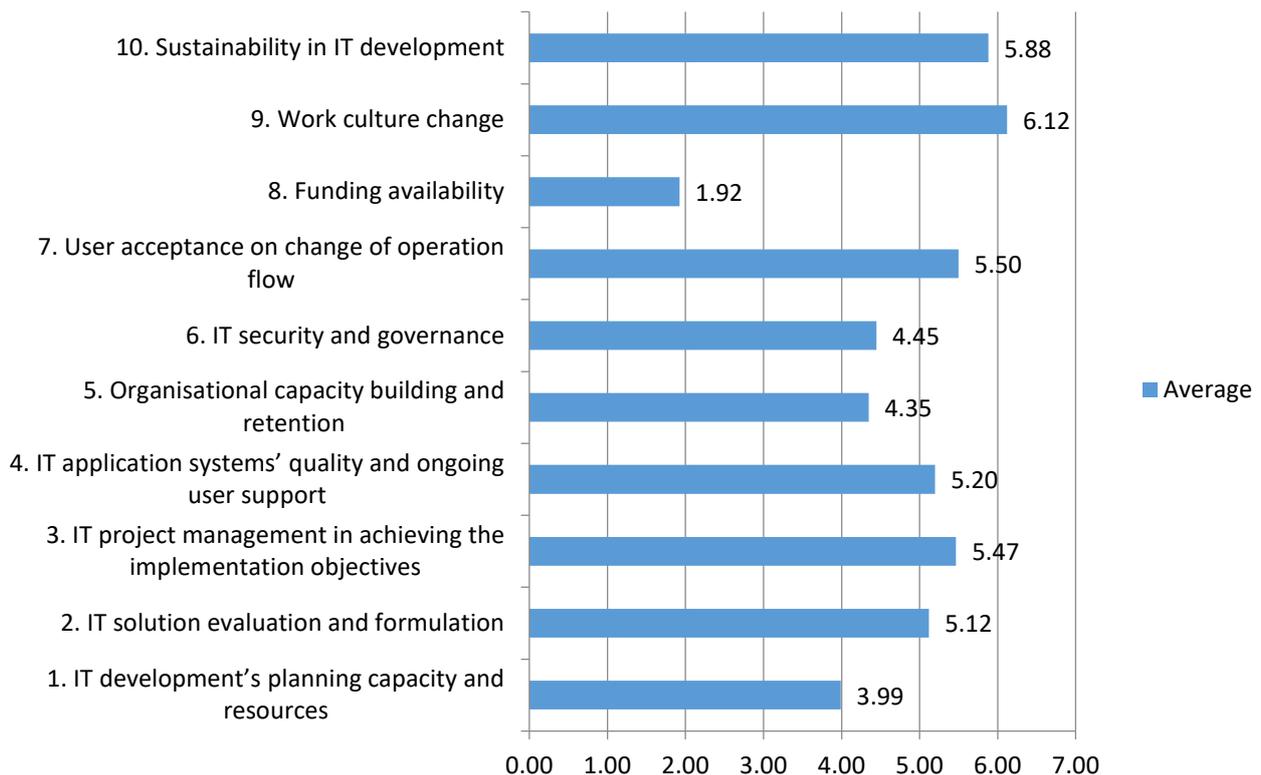
**F1 - Operation Concern - Priority in implementing IT development
(1 - highest concern, 10 - lowest concern)**

Part 2, Section 7, Q35

- Please rank below items in order of priority in implementing your organisation's IT development. (1 being highest concern and 10 being the lowest concern)

	Average
1. IT development's planning capacity and resources	3.99
2. IT solution evaluation and formulation	5.12
3. IT project management in achieving the implementation objectives	5.47
4. IT application systems' quality and ongoing user support	5.20
5. Organisational capacity building and retention	4.35
6. IT security and governance	4.45
7. User acceptance on change of operation flow	5.50
8. Funding availability	1.92
9. Work culture change	6.12
10. Sustainability in IT development	5.88

Priority in implementing organisation's IT development



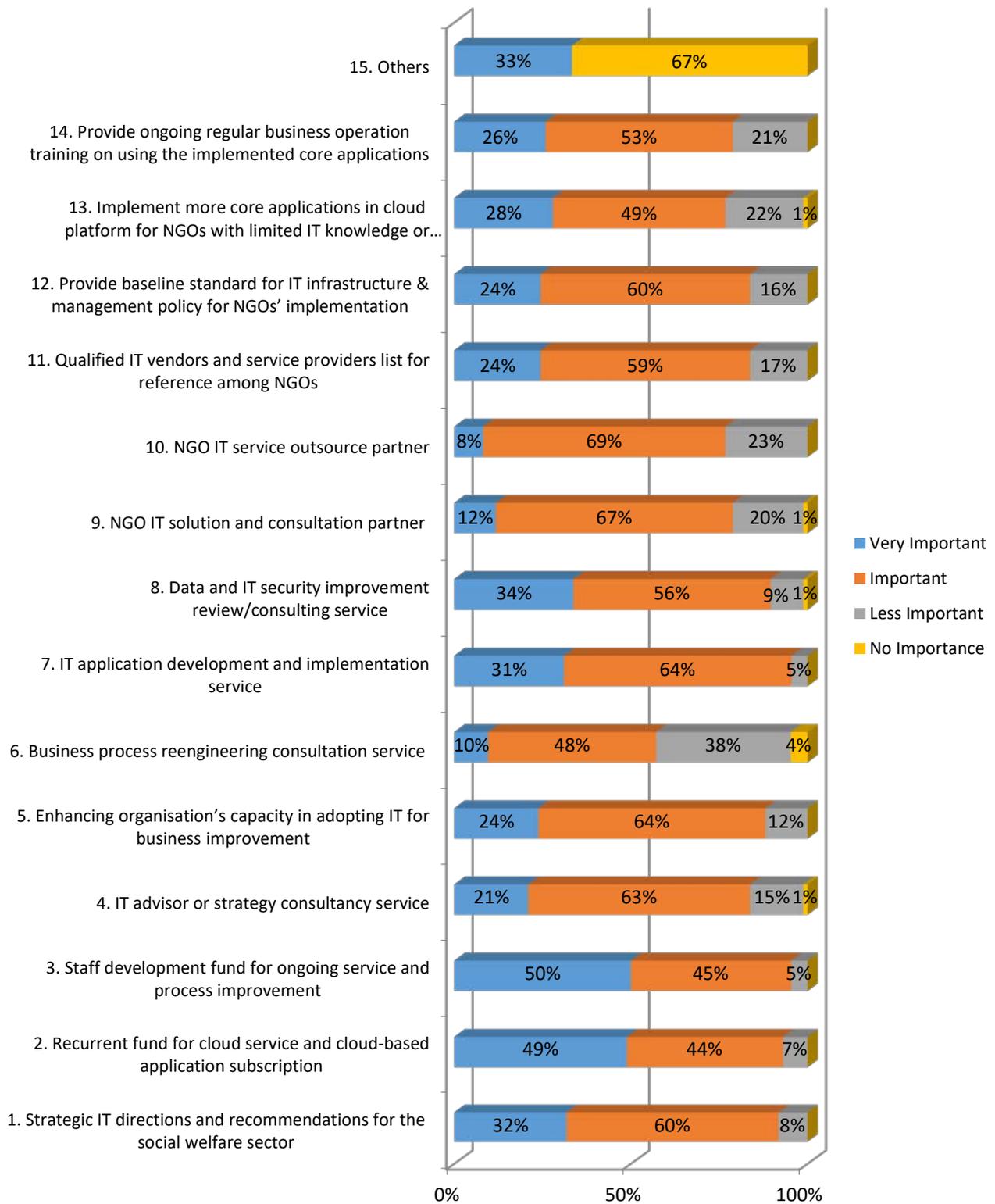
F2. Expected Benefit from IT - Level of importance on items in helping organisation's IT development in future

Part 2, Section 7, Q37

- Please indicate the level of importance of the below items in helping your organisation's IT development in future.

	Very Important	Important	Less Important	No Importance
1. Strategic IT directions and recommendations for the social welfare sector	32%	60%	8%	0%
2. Recurrent fund for cloud service and cloud-based application subscription	49%	44%	7%	0%
3. Staff development fund for ongoing service and process improvement	50%	45%	5%	0%
4. IT advisor or strategy consultancy service	21%	63%	15%	1%
5. Enhancing organisation's capacity in adopting IT for business improvement	24%	64%	12%	0%
6. Business process reengineering consultation service	10%	48%	38%	4%
7. IT application development and implementation service	31%	64%	5%	0%
8. Data and IT security improvement review/consulting service	34%	56%	9%	1%
9. NGO IT solution and consultation partner	12%	67%	20%	1%
10. NGO IT service outsource partner	8%	69%	23%	0%
11. Qualified IT vendors and service providers list for reference among NGOs	24%	59%	17%	0%
12. Provide baseline standard for IT infrastructure & management policy for NGOs' implementation	24%	60%	16%	0%
13. Implement more core applications in cloud platform for NGOs with limited IT knowledge or resources to manage their core business operation	28%	49%	22%	1%
14. Provide ongoing regular business operation training on using the implemented core applications	26%	53%	21%	0%
15. Others	33%	0%	0%	67%

Importance level in helping organisation's IT development in future



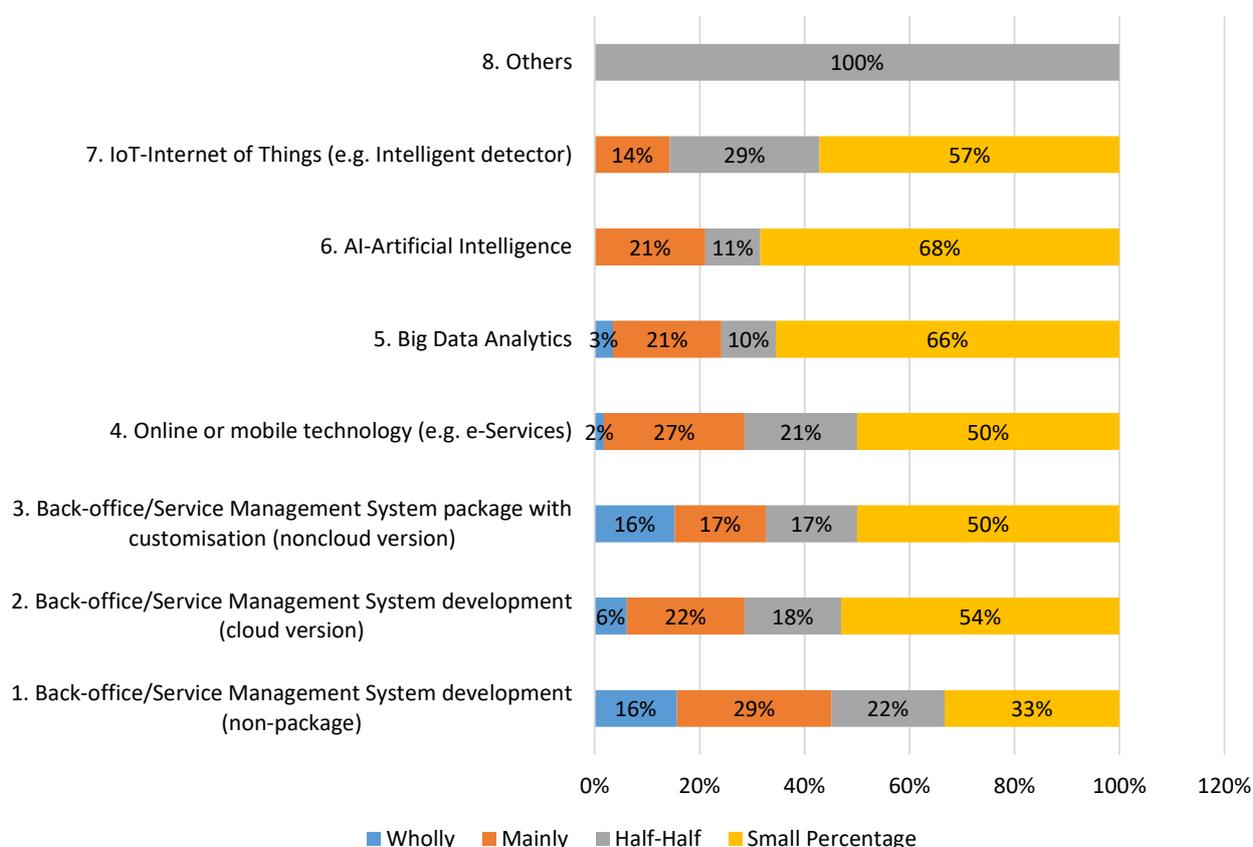
F3. Technology Trend - Types of IT solutions for adoption to improve business operations and meet the service pledge

Part 2, Section 7, Q33

- Please indicate the types of IT solutions your organisation would like to adopt to improve business operations and meet the service pledge. Approximately, in what proportion of the IT project budget will be allocated to these solution initiatives in the next 12 months (including hardware, software, services, staff resources, training, etc.)? (1- Wholly, 2-Mainly, 3-Half-Half, 4-Small Percentage.)

	Wholly	Mainly	Half-Half	Small Percentage	
1. Back-office/Service Management System development (non-package)	8	15	11	17	51
2. Back-office/Service Management System development (cloud version)	3	11	9	26	49
3. Back-office/Service Management System package with customisation (non-cloud version)	7	8	8	23	46
4. Online or mobile technology (e.g. e-Services)	1	15	12	28	56
5. Big Data Analytics	1	6	3	19	29
6. AI-Artificial Intelligence	0	4	2	13	19
7. IoT-Internet of Things (e.g. Intelligent detector)	0	3	6	12	21
8. Others	0	0	2	0	2

Approximate Budget Allocation Expectation



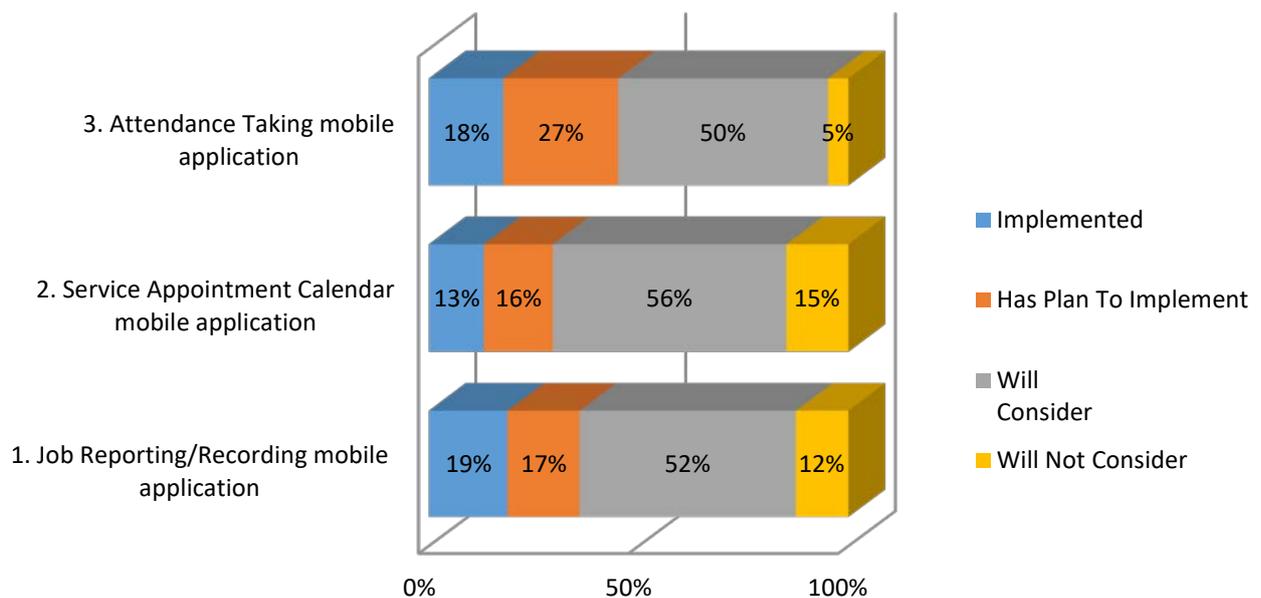
F3. Technology Trend - e-Services

Part 2, Section 5, Q20

- What are the kinds of e-Services that your organisation has considered or will consider implementing?

Job Management					
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	Sum
1. Job Reporting/Recording mobile application	12	11	33	8	64
2. Service Appointment Calendar mobile application	8	10	34	9	61
3. Attendance Taking mobile application	11	17	31	3	62
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	
1. Job Reporting/Recording mobile application	19%	17%	52%	12%	
2. Service Appointment Calendar mobile application	13%	16%	56%	15%	
P3. Attendance Taking mobile application	18%	27%	50%	5%	

Kinds of e-Services the organisation has considered or will consider implementing (Job Management)



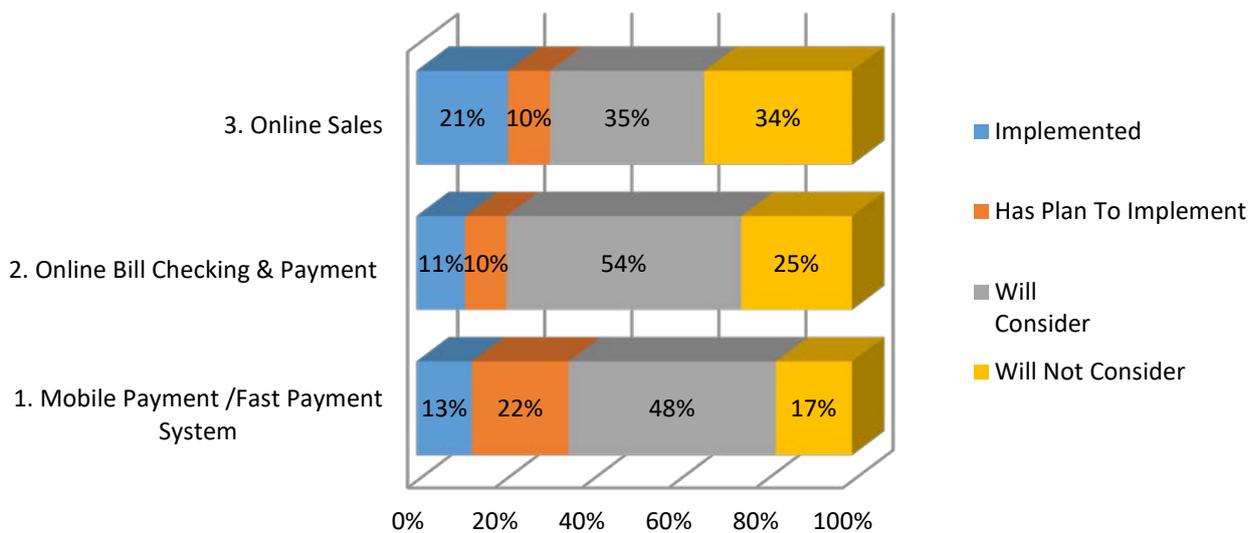
F3. Technology Trend - e-Services

Part 2, Section 5, Q20

- What are the kinds of e-Services that your organisation has considered or will consider implementing?

Sales & Payment Management					
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	Sum
1. Mobile Payment /Fast Payment System	8	14	30	11	63
2. Online Bill Checking & Payment	7	6	34	16	63
3. Online Sales	13	6	22	21	62
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	
1. Mobile Payment /Fast Payment System	13%	22%	48%	17%	
2. Online Bill Checking & Payment	11%	10%	54%	25%	
3. Online Sales	21%	10%	35%	34%	

Kinds of e-Services the organisation has considered or will consider implementing (Sales & Payment Management)



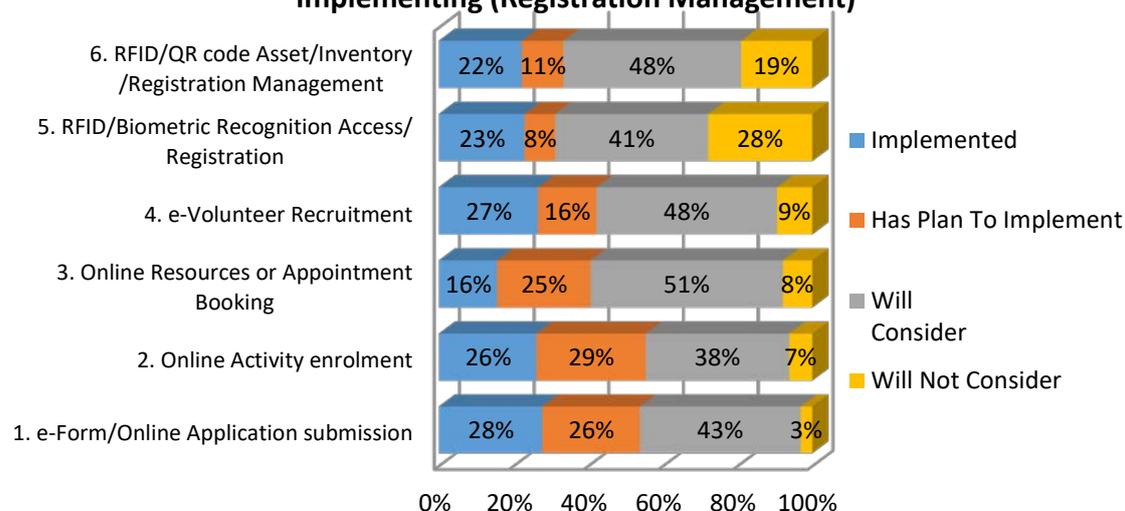
F3. Technology Trend - e-Services

Part 2, Section 5, Q20

- What are the kinds of e-Services that your organisation has considered or will consider implementing?

Registration Management					
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	Sum
1. e-Form/Online Application submission	18	17	28	2	65
2. Online Activity enrolment	17	19	25	4	65
3. Online Resources or Appointment Booking	10	16	33	5	64
4. e-Volunteer Recruitment	17	10	31	6	64
5. RFID/Biometric Recognition Access/Registration	14	5	25	17	61
6. RFID/QR code Asset/Inventory/Registration Management	14	7	30	12	63
	Implemented	Has Plan To Implement	Will Consider	Will Not Consider	
1. e-Form/Online Application submission	28%	26%	43%	3%	
2. Online Activity enrolment	26%	29%	38%	7%	
3. Online Resources or Appointment Booking	16%	25%	51%	8%	
4. e-Volunteer Recruitment	27%	16%	48%	9%	
5. RFID/Biometric Recognition Access/Registration	23%	8%	41%	28%	
6. RFID/QR code Asset/Inventory/Registration Management	22%	11%	48%	19%	

Kinds of e-Services the organisation has considered or will consider implementing (Registration Management)



Appendix 4 - NGO Interview List

Subvention Allocation (S = <= 10M, M > 10M & <= 100M, L > 100M)	Service Operator Name (Eng)	Service Operator Name (Chi)	Visited Date
L	Heep Hong Society	協康會	09 th June 2020
L	Hong Kong Federation of Youth Groups (The)	香港青年協會	11 th June 2020
L	Christian Family Service Centre	基督教家庭服務中心	15 th June 2020
L	Hong Kong Playground Association	香港遊樂場協會	17 th July 2020
L	Hong Chi Association	匡智會	17 th June 2020
L	Wai Ji Christian Service	基督教懷智服務處	17 th July 2020
L	Boys' and Girls' Clubs Association of Hong Kong (The)	香港女童群益會	17 th June 2020
L	Hong Kong Family Welfare Society	香港家庭福利會	23 rd June 2020
L	New Life Psychiatric Rehabilitation Association	新生精神康復會	24 th June 2020
L	Fu Hong Society	扶康會	24 th June 2020
Total (L size): 10			
M	The Hong Kong Student Aid Society Limited	香港學生輔助會有限公司	2 nd June 2020
M	Hong Kong and Macau Lutheran Church Social Service Limited	港澳信義會社會服務有限公司	3 rd June 2020
M	Superioress of the Sisters of the Precious Blood (The)	耶穌寶血女修會	4 th June 2020
M	Yuen Long Town Hall Management Committee Limited	元朗大會堂管理委員會有限公司	4 th June 2020
M	Sheng Kung Hui St. Christopher's Home Limited	聖公會聖基道兒童院有限公司	11 th June 2020
M	Lok Sin Tong Benevolent Society, Kowloon (The)	九龍樂善堂	16 th June 2020
M	Chi Lin Nunnery	志蓮淨苑	6 th July 2020
M	Hong Kong Bodhi Siksa Society Limited (The)	香港菩提學會	13 th July 2020
M	Society of Boys' Centres	香港扶幼會	15 th July 2020
M	Asia Women's League Limited	亞洲婦女協進會有限公司	15 th July 2020
M	Hong Kong Society for the Deaf (The)	香港聾人福利促進會	16 th July 2020
Total (M size): 11			
S	New Kowloon Women Association Limited	新九龍婦女會有限公司	2 nd June 2020

Review of the Information Technology Strategy for the Social Welfare Sector in Hong Kong

S	(CEZCL) Chinese Evangelical Zion Church Limited	中華錫安傳道會有限公司	2 nd June 2020
S	Jordan Valley Kaifong Welfare Association	佐敦谷街坊福利會	2 nd June 2020
S	SKH St. Matthias' Church Nursery School Limited	聖公會聖馬提亞堂幼兒學校有限公司	4 th June 2020
S	Asian Outreach Hong Kong Limited	香港亞洲歸主協會	9 th June 2020
S	Association for the Rights of Industrial Accident Victims Limited	工業傷亡權益會	9 th June 2020
S	Hans Andersen Club	安徒生會	10 th June 2020
S	Hong Kong Red Cross	香港紅十字會	10 th June 2020
S	International Women's League Limited	國際婦女會	15 th June 2020
S	Sisters of the Immaculate Heart of Mary	聖母潔心會	16 th June 2020
S	S.K.H. St. Simon's Social Services	聖公會聖西門社會服務處	17 th June 2020
S	Hong Kong Federation of Handicapped Youth	香港傷殘青年協會	18 th June 2020
S	Society for Community Organization	香港社區組織協會	19 th June 2020
S	Shamshuipo Kai Fong Welfare Advancement Association	深水埔街坊福利事務促進會	24 th June 2020
S	Hong Kong Sports Association for Persons with Intellectual Disability	香港智障人士體育協會	6 th July 2020
S	Hong Kong Blind Union	香港失明人協進會	6 th July 2020
S	Zion Social Service Limited	錫安社會服務處有限公司	6 th July 2020
S	Hong Kong Rehabilitation Power	香港復康力量	8 th July 2020
S	Fo Guang Shan International Buddhist Progress Society (Hong Kong) Limited	佛光山佛香講堂有限公司	8 th July 2020
S	Barnabas Charitable Service Association Limited (The)	基督教巴拿巴愛心服務團有限公司	9 th July 2020
S	Hong Kong Chiu Chow Po Hing Buddhism Association Limited	僑港潮州普慶念佛社有限公司	10 th July 2020
S	Light and Love Home Limited	光愛中心有限公司	13 th July 2020
S	Agency for Volunteer Service	義務工作發展局	16 th July 2020
S	Watchdog Limited	監護者	17 th July 2020

Total (S size): 24

Appendix 5 - Individual Interview NGO Viewpoints

The information collected from the in-depth interviews is summarised below:

Business Challenge / Needs and Wants from NGO	NGO Viewpoints
Service Orientation - Higher customer satisfaction - e-Services	By adopting e-Services, NGO can reach more clients and stakeholders and get higher satisfaction through the digital journey.
IT Management and Governance - S-NGO / M-NGO / L-NGO different tactics	NGO senior management need to entrust IT as an essential strategic enabling element to support their operation. Social Welfare Management shall consider IT as playing a more important strategic role.
IT Security - Resources, Awareness and Support	NGO generally has limited resources put in the IT security area, among some other more demanding IT implementation areas. NGO do not have the necessary talent and knowledge to manage the IT security by themselves. More training is needed.
NGO Business Requirement to Software Vendors - Orchestrated effort to communicate and attract software vendor investment	Market available standard software solution do not meet the full functional requirement of the NGO. Need to co-operate with other NGOs to attract vendor to invest and build up the full function software.
Humanware Orientation - IT manpower, talent, financial resources - IT management and deployment Capability - Supplier management	Lack of IT manpower resources to implement multiple projects at the same time. IT projects require end user participation or even acting as the project leader. However, our social welfare professional staff usually do not possess IT training background in their university training curriculum, and hence has the difficulty to master or lead the project.
Funding Application - Eliminate tedious application approval processes	Application process too complex for S-NGO, cannot afford time and resource and will not apply again.
IT Project Implementation - IT project development life cycle management capability and best practice reference - Roll Out Failure	NGO usually lacks IT project implementation experience and S-NGO do not have the necessary knowledge or skill to deal with software vendor. IT vendors do not have in-depth business knowledge of NGO operation, and cannot provide right solution to NGOs. Thus, there is high failure rate in the rollout process.

<p>New Technology Deployment</p> <ul style="list-style-type: none"> - Reduce failure / Multiplier effect - Talent worldwide co-operation 	<p>Reduce trial and error and multiplier effect will facilitate more complete solution for the NGO with same nature.</p> <p>Some form of joint project to develop an IT solution and deploy to multiple NGOs.</p> <p>These successful projects or developed IT solution can be further put into the pre-scoped IT solution which will have less complicated application and approval procedures.</p>
<p>Government Standard Application</p> <ul style="list-style-type: none"> - Identify and implement right standard applications 	<p>NGO proposes that Government can release the data exchange standard when it is applicable for certain SWD systems.</p>
<p>Best Practices Reference / Experience Learning</p> <ul style="list-style-type: none"> - Regular and informative channel 	<p>No market reference or information available, self-initiate with NGO counterpart.</p> <p>Informal group to share information which is not satisfactory.</p>
<p>New IT Project Financial Resources</p> <ul style="list-style-type: none"> - Fund Availability - Effective use of fund and asset sustainability 	<p>Need further funding for IT investment.</p> <p>Specific fund for IT equipment and regular services, without too much application and approval processes.</p> <p>Specific fund to cover recurrent IT expenses.</p> <p>Specific fund to encourage joint project by multiple NGOs.</p> <p>Funding application process shall be made simpler. Currently, it is very time consuming and the effort to make such application is not affordable by S-NGO without IT staff.</p>
<p>Recurrent IT Expenses</p> <ul style="list-style-type: none"> - Cloud based application adoption inevitable 	<p>Cloud-based solution in plan but no relevant funding support.</p>
<p>COVID-19 Pandemic Impact</p> <ul style="list-style-type: none"> - Resources centre and support 	<p>Deploy Facebook rather than website to communicate with service recipients, which is proved to be a more convenient way than using website. By using Facebook, staff can directly access and update the information materials to the social media, but not necessarily can do the same via website.</p>

Appendix 6 - Documentary Study

The ten representing cases of both with success and challenging experiences, and with factors that would be good for learning purpose, are tabled as follows:

No.	NGO Size	SWDF Project Nature / Software Application	Major Learning Points
1	L-NGO	Rehabilitation Service - Human Resources Management System	<p>The software subcontractor went to liquidity in the mid-way of the project. With a strong IT committee and management team of the NGO in exercising IT governance, contractual and management control, the main contractor was enforced and encouraged to fulfil the contractual obligation. The project is still proceeding with the implementation process and approaching the final stage.</p>
2	L-NGO	Rehabilitation - Disability Front-Line Service Delivery System	<p>The NGO's administration manager takes the IT manager role as well, and hence the user side implementation and roll out hurdles were tackled proficiently.</p> <p>In addition, the IT strategy plan to integrate new technology, target performance measurement results and front-line service improvement expectation are tactically managed.</p>
3	L-NGO	Integrated Home Care Service System	<p>NGO A adopts a proven solution from NGO B (Software Supplier) in delivering the home care service to their service recipients.</p> <p>Adequate solution review and user involvement in the selection and deployment process allow the adoption of the software to be carried out in an effective way.</p> <p>Nevertheless, NGO A is having some special needs in improving the software, while NGO B does not have the same priority setting with NGO A. Since NGO A does not have the IP right, it cannot improve the software and can only stick with the current usage pattern.</p> <p>The case does call for open source software arrangement or IP right arrangement to facilitate faster software redeployment and development of new generation useful software.</p>

4	S-NGO	Membership System	<p>NGO board members are the key users who know the exact requirements of the service recipients. Thus, proper functional fit software is developed.</p> <p>In addition, the NGO has a committed software development team that has served the NGO for a long period of time already.</p> <p>NGOs with a continuous IT investment plan help maintain a stable and committed IT team, which can support the business improvement initiatives with IT solutions.</p>
5	S-NGO	Neighbourhood Elderly Centre (NEC) Membership System (2 nd Time)	<p>The NGO failed in the first occasion and looked for another supplier. The selected supplier did provide a good quality software product and services to the NGO and implemented the system with satisfactory results.</p> <p>It was a success case finally though repeated investment was made. Nevertheless, the more detailed review of the functional requirements and multiple demonstration sessions before procurement decision making will get more functional fit software.</p>
6	S-NGO	Rehabilitation Human Resource	<p>The system was developed using Phase 1 SWDF but was later found out to be unfit for the organisation, e.g. it could not link up with the access card system and required manual input, which was quite time-consuming. This illustrated the difficulties in implementing IT projects in S-NGOs with thin IT manpower to study the case carefully before putting into action.</p> <p>Nevertheless, the organisation shared some experience in striving for fruitful enablement by IT for business operation albeit with very scarce IT manpower resource.</p>
7	L-NGO	Intellectual Disabilities - E-leave & Staff training system	<p>Apart from application systems for providing services to service users, the NGOs need internal systems to enhance the productivity and efficiency. This is a successful case in creating effective and user-friendly systems for a wide spectrum of staff, including front-line staff.</p>
8	S-NGO	Neighbourhood Elderly Centre (NEC) - Facebook	<p>The NGO needs to find a new way out to reach their service recipients under the COVID-19 pandemic situation. They migrate to the Facebook platform to communicate with elderly service recipients swiftly and maintain the service support to their members.</p>

9	S-NGO	Neighbourhood Elderly Centre (NEC) Membership System	<p>The S-NGO did not have the capability to exercise a proper contractual agreement, project management and acceptance of software from the supplier. The supplier could not deliver a quality product to the NGO and failed in meeting the operation requirements. The NGO did not have a complaint channel.</p> <p>Staff incapable of defining the functional requirements and handling supplier management were the major deficiencies for NGOs to implement the IT project successfully.</p>
10	S-NGO	Neighbourhood Elderly Centre (NEC) Membership System	<p>The S-NGO did not have IT staff to manage and oversee the project. The centre-in-charge can only exercise the essential contractual agreement and rely on the supplier to implement the system.</p> <p>Nevertheless, the deliverables of the software solution were controlled by the supplier and the S-NGO does not have the knowledge to ask and get a sound solution from the supplier. The delivered solution has a severe performance issue and the S-NGO did not have the bargaining power to negotiate and became helpless.</p>

Appendix 7 - Focus Group List

Session	Date and time	Related topic (Scope of services)	Major targeted NGO/Personnel	No. of Participating NGOs
1	18 August 2020 15:30-17:30pm	Handicapped & Rehabilitation services	Head of organisation (Principal / Chief Executive Officer), Personnel in charge of IT related matters	8 NGOs (12 Participants)
2	19 August 2020 15:30-17:30pm	IT Development & Management	Head of IT department, IT Project Manager / Officer, IT Planning Manager / Officer	13 NGOs (17 Participants)
3	20 August 2020 15:30-17:30pm	Small NGO (No limit on scope of services)	Head of organisation (Principal / Chief Executive Officer), Personnel in charge of IT related matters	3 NGOs (6 Participants)
4	21 August 2020 15:30-17:30pm	Child & Family services Youth services	Head of organisation (Principal / Chief Executive Officer), Personnel in charge of IT related matters	4 NGOs (6 Participants)
5	24 August 2020 15:30-17:30pm	Elderly services	Head of organisation (Principal / Chief Executive Officer), Personnel in charge of IT related matters	7 NGOs (14 Participants)
6	2 September 2020 15:30-17:30pm	Small NGO (No limit on scope of services)	Head of organisation (Principal / Chief Executive Officer), Personnel in charge of IT related matters	4 NGOs (6 Participants)
7	27 August 2020 15:30-17:30pm	Community Development / Offenders services & other services	Head of organisation (Principal / Chief Executive Officer), Personnel in charge of IT related matters	4 NGOs (5 Participants)
8	28 August 2020 15:30-17:30pm	IT Development & Management	Head of IT department, IT Project Manager / Officer, IT Planning Manager / Officer	12 NGOs (15 Participants)

Total count of participating NGOs = 55 (some have joined multiple sessions)

Focus Group Participant List

Subvention Allocation (S = <= 10M, M > 10M & <= 100M, L > 100M)	Service Operator Name (Eng)	Service Operator Name (Chi)
L	Heep Hong Society	協康會
L	Fu Hong Society	扶康會
L	Society of Rehabilitation and Crime Prevention, Hong Kong (The)	香港善導會
L	Hong Chi Association	匡智會
L	Wai Ji Christian Service	基督教懷智服務處
L	Tung Wah Group of Hospitals	東華三院
L	Christian Family Service Centre	基督教家庭服務中心
L	Salvation Army (The)	救世軍
L	Hong Kong Christian Service	香港基督教服務處
L	Caritas - Hong Kong	香港明愛
L	Yan Oi Tong	仁愛堂
L	Hong Kong Federation of Youth Groups (The)	香港青年協會
L	Hong Kong Family Welfare Society	香港家庭福利會
L	Po Leung Kuk	保良局
L	Hong Kong Sheng Kung Hui Welfare Council Limited	香港聖公會福利協會有限公司
Total L-NGO: 15		
M	Kwun Tong Methodist Social Service	循道衛理觀塘社會服務處
M	Stewards	香港神託會
M	Aberdeen Kai-fong Welfare Association Social Service Centre	香港仔街坊福利會社會服務中心
M	Hong Kong Christian Mutual Improvement Society	香港基督教培道聯愛會
M	Hong Kong Student Aid Society Limited (The)	香港學生輔助會有限公司
M	Association for Engineering and Medical Volunteer Services	工程及醫療義務工作協會
M	Society of Boys' Centres	香港扶幼會
M	Kiangsu Chekiang and Shanghai Residents (Hong Kong) Association	香港蘇浙滬同鄉會
M	Chung Shak Hei (Cheung Chau) Home for the Aged Limited	鍾錫熙(長洲)安老院有限公司
M	Hong Kong Society for the Deaf (The)	香港聾人福利促進會
M	Samaritan Befrienders Hong Kong (The)	香港撒瑪利亞防止自殺會
Total M-NGO: 11		
S	Hong Kong Blind Union	香港失明人協進會
S	Hong Kong Sports Association for Persons with Intellectual Disability	香港智障人士體育協會
S	Hong Kong Rehabilitation Power	香港復康力量
S	Agency for Volunteer Service	義務工作發展局
S	Watchdog Limited	監護者
S	Asian Outreach Hong Kong Limited	香港亞洲歸主協會
S	Barnabas Charitable Service Association Limited (The)	基督教巴拿巴愛心服務團有限公司
S	Sisters of the Immaculate Heart of Mary	聖母潔心會

S

Shamshuipo Kai Fong Welfare
Advancement Association

深水埔街坊福利事務促進會

Total S-NGO: 9

Appendix 8 - Focus Group NGO Viewpoints

APP 8.1 S-NGO View

Two focus group sessions were held addressing the S-NGOs' concerns and needs, their viewpoints are summarised as below:

S-NGO Business Challenge and New Suggestions	NGO Particular Viewpoint
IT Management and Governance - S-NGO / M-NGO / L-NGO different tactics	Formulation of IT governance and strategies is headache to S-NGOs, participants concurred that not too many organisation could handle that by themselves, and SWD should provide guidelines in this respect.
IT Security - Resources, Awareness and Support	NGO pinpointed that they do not have relevant soft skill in handling security. Their organisation did not have a comprehensive checklist yet and react only when problems occurred. Some form of checklist or working guideline or training will be helpful. Consultant expressed that according to survey responses, some NGOs had not prepared for cold backup or planned for disaster recovery. Participants concurred that some small NGOs were lacking the resources or manpower for doing so.
NGO Business Requirement to Software Vendors - Orchestrated effort to communicate and attract software vendor investment	S-NGO found difficulty in compiling comprehensive technical specification and vendor will not protect their interest. S-NGO need professional consultancy to help in preparing these specifications and ensure the requirements are included in the contractual agreement and is delivered by vendor under a formal user acceptance process. Many of them had experiences of being cheated by the vendors.
Human ware Orientation - IT manpower, talent, financial resources - IT management and deployment Capability - Supplier management	Lump Sum Grant (LSG) could not be used for recruiting IT personnel, which actually is essential for NGOs. A call for setting up a guideline to indicate the number of IT personnel that could be recruited based on the total number of employees.

	<p>Similar to other professions, NGO colleagues should attend IT training courses (Continuous Base Training, CBT) every year.</p>
<p>IT Project Implementation</p> <ul style="list-style-type: none"> - IT project development life cycle management capability and best practice reference - Roll Out Failure 	<p>A basic IT requirement list to be prepared by consultants and financed by SWD.</p> <p>Sample of service contracts for NGOs' references, including details such as privacy issues, termination terms and government laws.</p> <p>Related trainings in the form of say short videos.</p> <p>A white list and blacklist for IT vendors, etc.</p> <p>Additional money for NGOs to prepare the required reports to be submitted to the SWD.</p>
<p>Government Standard Application</p> <ul style="list-style-type: none"> - Identify and implement right standard applications 	<p>Long Term Care Service Delivery System (LDS) was a great success for NGOs to the system in providing information to the Government.</p> <p>SWD should take the lead to designate an organisation to develop such common systems as SWD itself oversees more than 100 elderly centres.</p> <p>Participant suggested to develop a common system for all NGOs to facilitate common annual reporting to the SWD and Security Bureau.</p> <p>Participants had some discussion about Business Intelligent (BI) reports but agreed that it needed money for implementation.</p>
<p>Best Practices Reference / Experience Learning</p> <ul style="list-style-type: none"> - Regular and informative channel - Open Source Software 	<p>It was suggested that as the SWDF was launched on a 3-year cycle, so at the beginning of a new cycle, SWD could release a list of successful projects and good performing vendors for NGOs' references.</p> <p>Open Source Software Solution shall be considered. Individual NGOs could then make tailored changes / additions to the open source systems from SWD. Sustainability should be a key factor for such arrangement.</p> <p>For knowledge sharing, participants proposed that the YouTube could be an ideal platform.</p> <p>Resources Centre shall be presented for all the time, but it was not function over years. Participant raised that there could be a neutral organisation to help in promoting IT development among NGOs, and the silver age services could possibly be the first attempt.</p>

New IT Project Financial Resources <ul style="list-style-type: none"> - Fund Availability - Effective use of fund and asset sustainability 	<p>Need further funding for IT investment.</p> <p>SWD support should also cover aspects such as common resources, purchasing, and training, etc., in order not to waste the money given to the NGOs.</p>
Recurrent IT Expenses <ul style="list-style-type: none"> - Cloud based application adoption inevitable 	<p>Cloud-based solution in plan but no funding support.</p> <p>S-NGO requested that SWD coverage should also include the payment for cloud services, and relevant software should be subscribed instead of buying.</p>
COVID-19 Pandemic Impact <ul style="list-style-type: none"> - Resources centre and support 	<p>NGOs are more focus on cloud and mobile device services. Some of them target to upload everything onto the cloud in 2 to 3 years' time. They also wanted to enable colleagues working from home to access data stored in the file servers.</p> <p>Coming 5G network could solve the bandwidth and remote access problems currently facing by many organisations.</p>

APP 8.2 IT Manager Views

Two focus group sessions were held addressing the IT management, project management and implementation needs. The viewpoints are generally applicable to the whole social welfare sector in the IT management areas, their viewpoints are summarised as below:

Business Challenge and New Suggestions from NGO IT Manager	NGO IT Manager Viewpoint
Service Orientation <ul style="list-style-type: none"> - Higher customer satisfaction - e-Services 	<p>E-payment was favoured as it could reduce the storage of cash and the money handling process. It was also noted that SWD had conducted e-payment seminars before and many banks provided assistance for setting up e-payment arrangement also. Some follow up common standard software components or guidelines can be provided.</p>
IT Management and Governance <ul style="list-style-type: none"> - S-NGO / M-NGO / L-NGO different tactics 	<p>To make the strategies implementable, NGOs should reinforce the IT planning. One of the participating NGOs in the meeting hired IT consultant to propose a 5-year IT strategy and found it very useful.</p>
IT Security <ul style="list-style-type: none"> - Resources, Awareness and Support 	<p>Common support by SWD to be enhanced included IT security, infrastructure, and cloud service. For example, these services requirements could be clustered to form a good deal with the vendors, or would it be possible for building an NGO Cloud?</p>

<p>Funding Application</p>	<p>For SWDF applications, the application form was not hard to complete, but the follow-up questions by SWD was quite challenging and not easy to address as there would be many hard-to-control variables anticipated in the implementation.</p> <p>The complex application process violates the original purpose to help S-NGO, which put S-NGO in a difficult position while L-NGO has the capability to fulfill most of the requirements during the whole application processes and the audit control afterwards.</p> <p>SWDF was very useful for development of internal systems but not for integrated and more sophisticated ones such as ERP system. Also, the funding mode was not fit for cloud-based solutions.</p> <p>As IT expenditure formed the essential regular expenditure for enabling services and operations (e.g. server, website, email, VPN, etc.), there should be similar concept of setting-aside budget item for IT expenditure in the Block Grant.</p> <p>SWD's vetting on SWDF application did not put enough emphasis on project management concept and the vetting staff was not so familiar with relevant IT concepts and technology trend. The domain knowledge in IT had to be strengthened for the SWDF vetting staff.</p>
<p>NGO Business Requirement to Software Vendors</p> <ul style="list-style-type: none"> - Orchestrated effort to communicate and attract software vendor investment 	<p>Both implementation approach by NGO self-development and joint co-operation (e.g. HKJC, HKU or jointly by NGOs) could be considered.</p> <p>Participants suggested the exploration of extending some relatively mature systems such as eCare to be extended and shared to other services like rehabilitation with suitable customisation. Through the support by IT proficient colleagues, some internal systems can also be developed, e.g. eLearning System.</p>
<p>Humanware Orientation</p> <ul style="list-style-type: none"> - IT manpower, talent, financial resources - IT management and deployment Capability - Supplier management 	<p>IT capability was not limited to IT staffing but include other aspects such as change management. SWD was may provide more training for mind-set changing.</p> <p>Participants also shared their difficulties in recruiting IT staff, which were due to:</p> <ul style="list-style-type: none"> - Traditionally NGOs inclined to employ people for conducting their specific services first. - IT budget usually constituted at least 10% of an organisation's total budget, which was the minimum expenditure for attracting IT staff. However, such ratio was difficult for NGOs which may be far below a single digit percentage.

	<p>Even with money, they had the difficulty in deciding what type of IT staff to recruit. Should they work under the social workers, or let them manage the entire IT department?</p> <p>Most participants supported to ask SWD's support to provide more training for service owners, build up knowledge, build up IT team and resources, and build up a suitable IT development for the NGOs.</p> <p>SWD and/or HKCSS should consider providing resource pool which was well-experienced and knew IT industry well.</p>
<p>IT Project Implementation</p> <ul style="list-style-type: none"> - IT project development life cycle management capability and best practice reference - Roll Out Failure 	<p>NGO lack money for maintenance and would like to train the trainers within their NGO and save the maintenance costs.</p> <p>It is common that there were a lot of problems in the systems after they were bought. Vendors however were reluctant to fix the problems but asked for additional money. They had difficulties in pushing the vendors but at the same time received no assistance from SWD.</p>
<p>New Technology Deployment</p> <ul style="list-style-type: none"> - Reduce failure / Multiplier effect - Talent worldwide co-operation 	<p>The application of big data analytics had actually been considered by some of the participants' organisations. For example, in taking care of and tracing those elderly / mentally disabled persons. As data might come from different NGOs, it would be great if all were willing to share or some business initiative or facilitation measures can be explored.</p>
<p>Government Standard Application</p> <ul style="list-style-type: none"> - Identify and implement right standard applications 	<p>With so many years of IT development in the social welfare sector, if centralised systems were to be launched, it could consider newer services such as OPRS for piloting, or mature open standards related to infrastructure such as payment gateway/e-payment.</p>
<p>Best Practices Reference / Experience Learning</p> <ul style="list-style-type: none"> - Regular and informative channel - Open Source Software 	<p>SWDF was limited to helping a NGO's administration work such as reporting system. However, if several organisations attempted to work together, it might be difficult to handle the concurrent operation of different brands of systems. Participants also pointed out the problems encountered: -</p> <ul style="list-style-type: none"> ■ They were facing security problems while working from home due to COVID-19 situation. ■ They had heard a lot about IT knowledge sharing and attended seminars such as HKCSS's e-payment seminar, but do not have follow up assistance but need to explore on their own.

	<p>Participants have strong view that experience sharing was an important issue and felt unhappy to see that the current mechanism or role is unclear. NGOs should re-visit IT matters and maintained communication about by themselves in small group base.</p> <p>Some L-NGO has problems with vendors as well but not S-NGO, for example projects were being intentionally delayed after signing the contract. Participants generally concurred with the publishing of a blacklist of vendors.</p> <p>It would also be helpful if SWD could provide a “white-list” for IT vendors for reference.</p> <p>It would be very helpful if experience could be shared by other NGOs and SWD for reference, including experience in tender preparation.</p> <p>It was encouraged that the sharing platform setup after the 2013 review could be utilised more.</p> <p>It was noticed that there was an informal IT Network formed by around 20 NGOs for sharing of experience and information such as MS365, government Wi-Fi project and tendering. This should be further developed and promoted.</p>
<p>New IT Project Financial Resources</p> <ul style="list-style-type: none"> - Fund Availability - Effective use of fund and asset sustainability 	<p>NGOs had problems in selecting IT vendors. Some of them do not have enough funding, many vendors might even not respond to their invitations after say failure for being awarded 1 to 2 times. Thus, they had to pay extra effort in getting their systems available.</p> <p>Regarding the issues of cloud computing and e-Services, participants had the intention to go for cloud but the SWDF was insufficient for that. SWD was urged to give serious consideration for it.</p> <p>It was raised whether the phase IV SWDF funding would be available for social innovation projects such as those for elderly services.</p> <p>Concerning future SWD support, it was commonly agreed that both financial and manpower support were very essential and should be strengthened. What came next were the provision of training, channels for mutual communication and recurrent costs handling.</p> <p>Some NGOs had their own project management methods and did not need SWD’s support in micro-management. Nevertheless, it would be beneficial to NGOs if SWD could offer more flexibility in terms of manpower funding support,</p>

	<p>e.g. project-based and/or recurrent, and funding support for in-house development (in totality or partially).</p> <p>SWDF funded for 3 years but IT planning by NGOs might span over 5 years, then it was difficult to plan for the years after the third year. It was suggested that the support cycle for the next SWDF, if any, could consider among 3 or 5 years.</p>
<p>Recurrent IT Expenses</p> <ul style="list-style-type: none"> - Cloud based application adoption inevitable 	<p>Participants expressed their worry about the 10-15% recurrent expenses after current one-off system implementation and would like to seek for the funding.</p>
<p>COVID-19 Pandemic Impact</p> <ul style="list-style-type: none"> - Resources centre and support 	<p>Would there be a social welfare version of D-biz specially targeted for NGOs?</p> <p>Would there be subsidies of software license for NGOs covering this Social Welfare NGO D-Biz program?</p> <p>There were requests for a platform to enable NGOs to conduct remote meetings, voting, polling, etc., such as AGM, Board Meetings, Committee Meetings, etc.</p> <p>For the strategic direction, on-line services were important as inspired by the tackling of the recent COVID-19 situation. There should be common services among NGOs to lead the whole implementation process and motivate the participation of NGOs, e.g. on-line payment.</p>

APP 8.3 Front Line Staff Views

Four focus group sessions were held each address the child & family, elderly, rehabilitation and others social welfare service sector respectively. The viewpoints are generally applicable to the whole social welfare sector; thus, their viewpoints are summarised as below:

Business Challenge and New Suggestions from NGO Front Line Staff	NGO Front Line Staff Viewpoint
<p>Service Orientation</p> <ul style="list-style-type: none"> - Higher customer satisfaction - e-Services 	<p>Some participants have developed their services systems successfully. Thereafter, a lot of statistics would need to be gathered and manipulated and looking for statistical analysis or business intelligence tools from the market.</p> <p>While some participants are working on interfacing with different systems, and developed their own system using data warehousing technique.</p>

	<p>The Consultant Team concluded that the whole industry should think about system integration. Also, analytical capability should be included in their IT strategy.</p> <p>NGOs are doing the investigation and working on e-payment already. However, SWD had imposed some controls on e-payment, so e-payment was implemented on some non-subservent systems initially. SWD must have an improvement in the audit control system in parallel with the advancement of technology. Most NGO commented that SWD still accept or ask for hardcopy of invoice/payment/receipt evidence only.</p> <p>NGOs have explored methods to tackle the unforeseeable circumstances such as e-Services platform or technology (Social media, Video call, Electronic Device) which may maintain their service to be carried out and monitor the client needs more closely.</p> <p>Some NGO offering elderly services suggested that the user acceptance of technology will increase if the government and network providers coordinated to improve the network service, but also need to explore different methods to gain volunteer assistance. They have also reached out and updated clients by phone, outreach services, and social platforms, and kept close social contact with their elderly clients.</p>
<p>IT Management and Governance - S-NGO / M-NGO / L-NGO different tactics</p>	<p>Social workers by themselves were very difficult in dealing with IT vendors. There should be IT people in between to bridge the two parties. Besides, SWD could lead the promotion of IT governance and security models.</p>
<p>IT Security - Resources, Awareness and Support</p>	<p>Regarding security, participants considered that staff's alertness towards the subject was as importance as the security system itself.</p>
<p>Funding Application / SWD Role and Responsibilities</p>	<p>Many staff members usually had difficulties in filling out the SWD application form for projects, such as on how to specify the outcomes and KPIs. Thus, time was required for staff members to get acquainted.</p> <p>SWD were commented for lacking sufficient knowledge in IT systems. Training should be considered in service management of those social workers.</p>

	<p>SWD could take up a more active role in following up the success or failure of NGO's IT projects. It was observed that many such projects might just roll out 1 to 2 modules and then were being cut-off due to some problems.</p> <p>It is very common that kindergarten or neighborhood elderly centre or youth centre do not have spare manpower or time in handling IT matters, and money was not a sufficient incentive to attract people in joining. They would appreciate very much if SWD could send people/service staff to help at their sites.</p>
<p>NGO Business Requirement to Software Vendors</p> <ul style="list-style-type: none"> - Orchestrated effort to communicate and attract software vendor investment 	<p>The feasibility for several NGOs to share common funding for a specific project was raised. Also raised was the availability of open sources for such common project. Anyway, the chance should be rare as these were properties of the vendors. The intellectual property right issue shall be solved at the same before it can be realised.</p> <p>Individual NGOs could not afford to cater for IT development researching but could do so if there was a common platform for experience sharing. Many NGOs joined together could form a strong bargaining power to deal with the vendors.</p> <p>With similar operation processes, representatives from NGOs offering elderly services suggested that a communal e-platform can be created to share the information for all NGOs' in non-confidential daily working processes. Some may focus on the daily operation (workload) efficiency, therefore decrease paper workload by creating a central online system to input data and generate reports automatically.</p>
<p>Humanware Orientation</p> <ul style="list-style-type: none"> - IT manpower, talent, financial resources - IT management and deployment Capability - Supplier management 	<p>According to previous experience staff training could be improved by means of technology.</p> <p>Allocation of resources for IT consultation fees, so as to advise frontline staff regarding IT matters will be a good initiative.</p> <p>Some participants proposed offering credits bearing continuing and professional development (CPD) training to the social workers. Project management technique and knowledge were considered very important for them.</p> <p>Although SWD supported NGO IT operations by means of say the block grant, actually small NGOs had recruitment difficulties even with money on hand. NGOs were not</p>

	<p>attractive to IT personnel in term of prospect, so at the end the small NGOs had to seek assistance from vendors. Therefore, money from SWD should be allowed to either spend on recruitment or purchase of services. At the end, finding a suitable vendor was equally difficult.</p>
<p>IT Project Implementation</p> <ul style="list-style-type: none"> - IT project development life cycle management capability and best practice reference - Roll Out Failure 	<p>Some participants commented that majority of the NGO projects would be failed due to budget consideration. Other reasons were due to the fact that staff members tended to resist to new tasks or new working habits resulting from the implementation of new IT systems.</p>
<p>New Technology Deployment</p> <ul style="list-style-type: none"> - Reduce failure / Multiplier effect - Talent worldwide co-operation 	<p>There was proposal to set up an IT testbed platform to facilitate all parties and participants were positive to the idea.</p> <p>Experienced NGO representative pointed out that open source software can be explored and expressed the needs of proper long-term planning of software development for the social welfare service sub-sectors are critical.</p>
<p>Government Standard Application</p> <ul style="list-style-type: none"> - Identify and implement right standard applications 	<p>NGO pinpointed that SWD has an urged need to create a system to collect SIS forms and data for all NGOs, and SWD has already developed a system based on the SIS form submission and the training is already imposed but yet to be launched due to COVID-19.</p>
<p>Best Practices Reference / Experience Learning</p> <ul style="list-style-type: none"> - Regular and informative channel - Open Source Software 	<p>Most NGOs tended to agree with experience sharing such that all can be benefited.</p> <p>It could be observed that except for some large NGOs, many other NGOs seemed to have difficulties in using systems of someone else, and encountered problems in say support, common platform, customisation, etc.</p> <p>There was a common consensus towards a qualified vendor list, many NGOs still had to look for vendors in the market by themselves, and whether success or not relied heavily on the quality of the vendors.</p> <p>For experience sharing among NGOs, it was considered that HKCSS could do something more. It was said that IT vendors did not have much interest in the tiny business with NGOs especially those small ones, so several NGOs joined together to use a larger system would be a good choice and worth further exploration.</p>

<p>New IT Project Financial Resources</p> <ul style="list-style-type: none"> - Fund Availability - Effective use of fund and asset sustainability 	<p>For major tasks such as adopting the cloud approach, it was suggested that someone should take up the leader’s role and majority of the NGOs would attempt to cooperate with. Some NGOs had reservation towards cloud in that the monthly expenses were difficult to control. Some others were reluctant to use cloud also due to security consideration.</p>
<p>Recurrent IT Expenses</p> <ul style="list-style-type: none"> - Cloud based application adoption inevitable 	<p>Most NGOs looked for more financial resources for cloud services, security and systems development.</p>
<p>COVID-19 Pandemic Impact</p> <ul style="list-style-type: none"> - Resources centre and support 	<p>The coverage of IT was quite diversified, and NGOs are paying more attention to IT accessibility to customer and staff and how IT could help under the COVID-19 situation.</p> <p>In view of the current COVID-19 situation, remote learning was considered a convenient mode of study. Corresponding IT and communication H/W and S/W must be available.</p> <p>In view of the COVID-19 situation, organisations inclined to explore web-based systems to handle tasks such as online payment, online refund, and delivering messages to users, etc. Anyway, the hindrance again was the limited resources.</p>

Appendix 9 - Overseas Country/Region Study

Key information on the country/region study and country/region wide strategy papers are collected in below:

Country	Literature Review Paper and Report
United Nations - Department of Economic and Social Affairs	<p>e-Government Survey 2020 Digital Government in the Decade of Action for Sustainable Development with Addendum on COVID-19 Response</p> <p>“The 2020 Survey finds significant uptakes in digital services in different geographic regions, countries and cities. E-participation and data-centric approaches have been enhanced, and the focus in building digital capacities has increased. Yet, the progress is confronted with existing and new challenges and risks, such as cybersecurity and data privacy. Some considerations are especially urgent or important in developing countries including countries in special situations. These include lack of digital infrastructures, sustainable e-government platforms and limited resources for implementing digital government policies. While e-government has reached sophistication in leading countries, going digital remains relatively new on national agendas of some countries.</p> <p>Amidst the global outbreak of the COVID-19 pandemic, everyday life is changing in unimaginable ways. With social distancing and quarantine measures underway to stop the spread of the virus, digital solutions have become vital to address isolation and keep people informed and engaged. Governments around the world are exploring new ways to engage and to provide clear, up-to-date information to the public and to health workers, while working alongside and with stakeholders to reduce the spike in misinformation and disinformation. However, with rapid and assertive digital efforts to manage the effects of the pandemic at community levels, concerns over data privacy and digital divides have re-emerged. This has immediately put to test the e-government national visions, tools and applications that countries have invested in the past years. The COVID-19 pandemic has presented policymakers at all levels of government with unprecedented challenges to respond to the critical needs of their countries.”</p> <p>LIU Zhenmin Under-Secretary-General for Economic and Social Affairs United Nations</p>
Australia	<p>Australia 2030 Prosperity through Innovation</p> <p>Recognising the importance of innovation for Australia’s future, the Australian Government established the Innovation and Science Australia (ISA) Board in 2016, The ISA board propose the strategic plan to advise policy makers on how to accelerate innovation and optimise Australia’s innovation system out to 2030.</p> <p>ISA’s 2030 plan identifies five imperatives for action where governments can catalyse more investment and activity and strategic opportunities covering education, Industry, Government, Research and Development, Culture and Ambition. In particular, the imperative for Government is listed in here: -</p>

	<p>Imperative for Government</p> <ul style="list-style-type: none"> - Become a <u>catalyst for innovation</u> and be recognised as a global leader in innovative service delivery <p>Strategic Opportunities for Government</p> <ul style="list-style-type: none"> - A flexible regulatory environment that supports innovation could be achieved through <u>collaboration between Australian governments</u> - <u>Investors</u> can be encouraged to pursue opportunities that generate both financial and social returns - The use of <u>open data</u> would be accelerated by improving access and usefulness - National innovation can be stimulated by using <u>government procurement as a strategic lever</u> - Australia’s innovation investment and talent can be strengthened by improving <u>access to global talent pools</u> and fostering greater gender and ethnic diversity. <p>Source: Innovation and Science Australia 2017</p>
<p>Republic of Korea</p>	<p>Korea Ageing Population</p> <p>Korea is facing the difficulty challenges such as low fertility, <u>rapidly ageing population</u>, and ever <u>increasing demand for social services</u>, while proactively taking on huge tasks such as <u>health promotion</u>, <u>health industry growth</u>, <u>modernisation of traditional Korean medicine</u> and <u>infectious disease prevention and control</u>.</p> <p>In 2017, addressing demographic challenges was chosen as one of the top policy priorities under President Moon Jae-in’s administration. The administration has shifted its focus to promoting the <u>formation of happy families through people-centred policies</u>, rather than relying heavily on raising birth rates. To further accelerate these efforts, the Presidential Committee on <u>Ageing Society and Population Policy</u> has increased the number of its civilian members and established a Secretariat. The reform has been carried out to ensure that the Committee provides innovative and practical solutions from the citizens’ perspective with a view to avoiding the looming “demographic cliff.”</p> <p>In response to chronic diseases that come with a rapidly aging population, Korea also offer home-visit health care services and health promotion services using ICT technology, such as <u>mobile chronic disease care</u>. Korea supports nation-wide health check-ups and vaccinations throughout an individual’s major life stages, while effectively connecting health and welfare services at the community level and further expanding mental health services. While taking this comprehensive approach to health, Korea plans to continuously increase their investment towards <u>preventative healthcare</u>.</p> <p>Source: Republic of Korea, Ministry of Health and Welfare, https://mohw.go.kr/eng/</p>

	<p>Korea E-Government Development Index</p> <p>With the strategic <u>public-private partnerships</u> and an <u>aggressive technology policy</u>, Korea has been one of the most advanced countries in terms of digital governance for many years. In the 2020 E-Government Development Index (EGDI), the United Nations ranked it as the second, after Denmark. Its <u>telecommunication infrastructures development rate</u>, <u>online services</u>, and <u>citizens participation online</u> are high. In addition, the UN e-Government Survey 2020 also found that Korea is the global leader in online services provision (OSI).</p> <p>We can see the vision of Korea in deploying information technology for their business recovery plan as stated in President Moon Jae-in’s speech in May 2020.</p> <p>“In history, human beings have expanded welfare and strengthened safety nets in times of crisis. The USA laid the foundation for its social security system while going through the Great Depression, and our country introduced a national basic living security system earlier than planned while striving to overcome the 1997 foreign exchange crisis. The current COVID-19 crisis calls for further strengthening our still-vulnerable employment safety net push ahead with a Korean version of the New Deal as a national project to create jobs. The Government will present new opportunities for the people by creating new jobs.</p> <p>The Korean version of the New Deal is a preemptive investment for the future, designed to establish digital infrastructure. The early establishment of 5G infrastructure and the building of infrastructure to collect, accumulate and use data will be pursued as national projects. Non-face-to-face industries related to medical services, education and retail distribution will be intensively fostered. The large-scale job creation project will be actively pursued: Cities and industrial complexes, roads and transportation networks, and aging national infrastructure will be combined with artificial intelligence and digital technology in order to make them smart. We will harmonise the process to fully uphold the important value of not only protecting personal information but also securing a public service role for medical services and education.”</p> <p>Source: Special Address by President Moon Jae-in to Mark Three Years in Office, 10 May 2020</p>
<p>Singapore</p>	<p>National Council of Social Service (NCSS)</p> <p>NCSS runs a TECH-and-Go Scheme, a one-stop tech hub offering grants for Social Service Agencies (SSAs), advisory on how SSAs can go digital, listing of suitable solutions for SSA.</p> <p>Source : https://www.ncss.gov.sg/Our-Initiatives/Tech-and-Go</p> <p>Some improved measures include: -</p> <p>1) Funding - Supports adoption of pre-scope IT solutions, without needing three quotations</p>

- 2) Workshops - Brings technology closer to SSAs
- 3) IT Solutions - Simplifies technology
- 4) Consultancy - Provide advisory and consultancy throughout digitising journey
- 5) Capability Building - Develop digital knowledge and skills via training, tech, demo videos and articles.

Singapore advocated objective for SSA to adopt technology

- 1) Engage clients and keep up with stakeholders
 - more clients and stakeholders are becoming more active digitally
- 2) Manage governance risks
 - going digital can make it easier for your agency to control user access rights to data and detect unauthorised access
- 3) Attract and retain local talent
 - with more competition for local manpower, it is important to digitise data automate workflows to attract and retain local employees.

NCSS implemented services: -

- 1) 80% - 100% funding - attractive funding is available
- 2) No need for 3 quotes
- 3) Pre-scoped IT Solutions (Corporate Functions and Other Solutions, Client Facing Solutions)
- 4) Fully funded advisory
- 5) Pre-scoped professional help

NCSS Productivity Projects

Productivity projects are initiatives designed to help social service agencies improve organisational capabilities and productivity, through technology and innovation. Two new initiatives, Tech Booster and Back-to-Basics, were announced at the 2019 Social Service Summit. With funding of close to SGD20 million from National Productivity Fund, Tech Booster and Back-to-Basics will offer ready technologies and innovative solutions at attractive subsidies to alleviate manpower challenges in the sector.

Back-to-Basics aims to support professionals currently in the sector to serve clients better and faster, through targeted funding for Speech Therapists, Physiotherapists and Occupational Therapists, Social Workers (SW) and Youth Workers (YW)*. This will comprise a fully funded consultancy, and technology adoption subsidies of up to 95% capped at SGD100,000 for therapists and \$80,000 for Social Workers and Youth Workers.

The multi-year project will be implemented by March 2023. It aims to increase existing professionals' capacity and capability by streamlining processes, redesigning jobs and technology adoption, to free up time for serving more clients instead of handling administrative tasks. The professionals can have higher job satisfaction and perform upgraded functions that better use their professional skills and knowledge.

Tech Booster aims to ramp up adoption of ready technologies for manpower-intensive programmes at Adult Disability Homes, Day Activity Centres, Welfare Homes and Voluntary Children's Homes. The initiative enables existing care workers to provide better service to more clients in shorter time, raise staff morale and retention, and increase client centricity. Care worker's roles can also be upgraded to attract more Singaporeans to take up these jobs. Attractively tiered subsidies of up to 98% funding on ready technologies, along with Project and Change Management support, would be provided through the Tech Booster.

Ready technologies include products and services, such as video analytics solutions that can predict behaviour, intelligent monitoring sensors, robotic technology with human-like cleaning robots, and an AI-enabled assistant with voice recognition technology. These innovative solutions can reduce up to 30% time spent by care workers.

Bite-size Project

Bite-size Project aims to improve the productivity of social service agencies with the help of appointed consultants. Six pre-determined categories were made available for agencies to apply, namely:

- Client Empowerment,
- Community Resources,
- Device or Technology Enabler,
- Financial Processes,
- Process Improvement and
- Utilisation of Space

In particular, the Device Enabler generally refer to some form of devices connection to systems such as the Internet of Things, functions include:

- 1) Automatic recognition of supporting device to a system.
- 2) Use of multiple devices simultaneously for a system; and
- 3) Simultaneous recording of data to a system

In particular, Technology Enabler can be defined as equipment and/or methodology that, alone or in combination with related technologies, provides a way to generate giant leaps in performance and capabilities of the user.

DonateNOW! & Ka-Ching Project

DonateNOW! is a fully funded initiative by NCSS to help social service agencies automate their donation collection process through cashless payment technologies. The project allowed the agencies to harness the power and convenience of technology to increase productivity.

Agencies went through consultancy workshops to learn about cashless payment technologies (such as NETs QR Code, PayWave, Masterpass, Apple Pay, Samsung Pay, Google Pay, Android Pay, GrabPay, FavePay, LiquidPay, QKR by Mastercard, etc.) and implement them at their fundraising events. This is in

	<p>line with Singapore Government’s move towards Smart Nation initiative and cashless society.</p> <p><u>Ka-Ching! A donation tracking tool that automates and streamlines back-end donation tracking processes to reduce duplication of work.</u> Through Ka-Ching, agencies can better track and process donations thanks to the smart tool that reduces duplicate data entries and generates more accurate donation reports. Agencies can also offer that special touch to their donors by creating customisable receipts and thank you letters.</p> <p>Source: National Council of Social Service</p>
Taiwan	<p>臺北市政府市民服務大平台</p> <p>Taipei Government generally supports <u>on-line social welfare service application and e-payment</u>, e-form in <u>doc / odt / pdf</u> format available for download, which is not an optional item but usually one of the major communication channels with the Government. In addition, citizen can submit request to understand the progress of their applications.</p> <p>Source: https://service.gov.taipei</p>
United States of America (USA)	<p>Open Government</p> <p>On January 21, 2009, US President Obama in his Memorandum on Transparency and Open Government, called upon all executive departments and agencies to achieve unprecedented levels of openness in government by increasing transparency, public participation and collaboration.</p> <p>In accordance with the President’s memorandum, the Office of Management and Budget issued an Open Government Directive, which required all agencies to develop Open Government Plans, which must be published on agencies’ websites and updated every two years.</p> <p>Social Security Administration Department Open Government Plan 4.1</p> <p>Open Government Plan 4.1 was updated on February 17, 2017, the plan reflects SSA continuing effort to become more transparent to the American public. SSA invited <u>greater public participation in the policies and decisions of the agency and foster expanded collaboration with the people we serve.</u> SSA stakeholders include advocates and many government and non-government groups.</p> <p>Open Government Plan 4.1 includes the flagship initiative, National Disability Forum, and five major initiatives which strive to deliver superior customer service, develop exceptional employees, and let SSA operate as an innovative organisation.</p> <p>Flagship initiative - <u>National Disability Forum</u> Open Innovation Methods - <u>Customer Engagement Tools</u> Data Exchange - <u>Plans for Improvement and Expansion</u> Analytics - <u>Centre of Excellence (ACE)</u> Work Incentives Planning and Assistance Program (WIPA)</p>

	<p><u>Health Information Technology</u></p> <p>Source: United States Department of Social Security Administration</p> <p>Open Source Software (Department of State)</p> <p>Consistent with the federal government's policy of following technology neutral principles and practices in procuring software, the Department of State selects suitable IT on a case-by-case basis to meet its particular operational needs, <u>considering factors such as performance, cost, security, interoperability, ability to share or re-use, and availability of quality support.</u> Recognising the benefits of using and contributing back to open source software, the Department of State is an active participant in <u>GitHub, a social code sharing service that allows teams to collaborate among themselves or with the general public and has quickly become the go-to social network for the open source community.</u> In addition, the Department's internal use of Open Source software, such as "Wordpress," "<u>Wikimedia,</u>" "Drupal" and "Buddypress" has facilitated internal collaboration efforts. The Department also uses Wordpress for its numerous external blog sites at blogs.usembassy.gov.</p> <p>Source: United States Department of State</p>
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