# Computer Recycling and Education Project-Social Impact 2015-2016 Social Return on Investment (SROI) Report

2016 November

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Awarded 24 January 2017

Jeremy Nicholls
Chief Executive Officer
Social Value International

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# Acknowledgements

We would like to show our gratitude to PricewaterhouseCoopers Taiwan (PwC Taiwan) for sharing their knowledge with us during the course of the SROI analysis and giving valuable feedbacks for this SROI report.

We would like to extend our thanks to all of the stakeholders who provided information to support the SROI analysis.

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# Report Summary

Building on its strengths in digital products, ASUSTeK Computer Inc., Ltd. (“ASUSTeK” or ”ASUS” ) has run the ASUS Computer Recycling and Education Project (“the project”, “project”, “Digital Education Project”) since 2008. The purpose of the project is to recycle discarded ICT products and appoint a refurbish factory to refurbish computers for donation to non-profit organizations. Under the project, ASUS volunteers assist in the creation of courses and of basic digital environments to help build an ideal environment of Digital Inclusion.

Through the Digital Education Project, ASUS aims to create real change. Thus we have established a Social Return on Investment (SROI) performance management mechanism (“SROI mechanism”, “this mechanism”, or “this report”) since 2016. This performance mechanism and information feedback help manage the project and improve efficient allocation of resources.

Using the SROI calculation process and principles from the guide[1]published in 2009 by the Office of the Third Sector (OTS), Cabinet Office, UK, we analyzed our Digital Education Project and its impacts during the period from 1 January 2015 through 30 June 2016, and we found that every New Taiwan Dollar (NTD) invested generated NTD 3.61 in social value.

Through the process of calculation, we discovered that several factors could further increase the social returns on our investment: 1. Establish a user management system; 2. Promote the use efficiency rates of refurbished computers; 3. Promote the proper use of refurbished computers; 4. Design courses from users’ perspectives; and 5. Strengthen linkage with non-profit organizations.

[1] A Guide to Social Return on Investment, Cabinet Office, UK, 2009.

At the end of the report, we also look at the dilemmas faced by stakeholders and public services in Taiwan. We hope that this report could provide suggestions to the non-profit organizations in the improvement in performance management and in effective resource allocation.

# Chapter I. SROI Project Background

## 1.1 Foreword - No Measurement, No Management

### 1.1.1 The Origin of SROI Project

In 2008, ASUSTeK establishes the ASUS Foundation ("Foundation", or in conjunction with ASUSTeK: "ASUS" or "we") to leverage ASUS' resources to care for mankind, cherish the Earth, create opportunities for learning, nurture skills for employment, and close the Digital Divide. ASUS began The ASUS Computer Recycling and Education Project to facilitate the sustainable development of public services, seeking to alleviate the deepening impact on social and wealth divides and the environment through the rise of digital technology. We recycle discarded Information and Communication Technology (ICT) products and refurbish recycled computers for donation to non-governmental organizations (NGOs) and non-profit organizations(NPOs), and invest volunteer manpower to develop digital courses. The short-term goal is to assist digitally disadvantaged groups to enhance their digital capabilities and eliminate the Digital Divide. The medium-term goal is to enable everyone to have an equal Digital Opportunity. The long-term goal is to foster an ideal environment of Digital Inclusion. At every stage we aim to reduce environmental impact through the recycling of computers.

To date, the Digital Education Project has run for eight years with positive feedback from society and non-profit organizations. However, we still ask ourselves: Does the project achieve its intended goals of reducing the Digital Divide to enable Digital Inclusion? Does it bring changes to society? Is there room for further

improvement and better management? This report seeks to assist in responding to the above issues through an internationally used objective methodology – Social Return on Investment (SROI) – as a way to effectively manage the Digital Education Project and to allocate limited resources to maximize the social value of the project, so that our activities can have greater impacts.

## 1.1.2 Analytical Methodology

Among a number of methodologies for measuring social impact and social value, "A Guide to Social Return on Investment" ("SROI guide "), published by the British Government[2], measures the Theory of change among inputs, outputs, and outcomes through a comprehensive six-step approach, and is expressed in monetary units. SROI is an internationally recognized valuation tool as the cost and benefit methodology of the project because it can describe the changes in inputs, outputs, and outcomes of public services in concrete terms. In other words, through SROI we can assign meaning and monetary value to abstract and untradeable things we traditionally think cannot be "priced", such as self-confidence, independence, and contentment. SROI takes stakeholders' involvement into consideration and weighs all the values important to them, rather than merely taking into account the purely economic payoff. Thus the conclusions of the analysis can be more complete and objective.

Based on the above factors, the analytical methodology adopted in this report is based on the guide, published by the UK government in 2009. As the information in this report is the actual information available from 1 January 2015 to 30 June 2016, the changes and impacts of the stakeholders are based on the changes in this period.

[2] See Note 1.

Therefore, this report is classified[3] as an Evaluative SROI analysis report.

### 1.1.3 Limitations of the Study

Under the SROI methodology, it is necessary to price abstract or narrative non-quantitative indicators such as confidence, happiness, family relationships, etc., and hypothetical factors must be used as adjusting factors (such as Deadweight, Attribution, etc.). Therefore, the figures for SROI calculated in this report are not representative per se and should not be used to compare SROI values of other projects. Through this SROI self-review process, we developed a follow-up management approach for the Digital Education Project. To avoid the pitfall of becoming the comparisons in numbers, this SROI report narrates our deductive process and lists the assumptions and sensitivity analyses rather than just presenting the final calculations.

## 1.2 ASUS Computer Recycling and Education Project

### 1.2.1 Sustainable Public Service - Digital Divide Project

The predecessor of the Digital Education Project was ASUS' efforts and collaboration with Taiwan's Executive Yuan (government) for the agenda of Second Phase of the APEC Digital Opportunity Center (ADOC 2.0) in 2009, which aimed at reducing disparities between urban and rural areas, tackling poverty, and creating jobs in the Asia-Pacific region. ASUS intended to help reduce the Digital Divide through offering opportunities to learn skills for using computers and other ICT

[3] A Guide to Social Return on Investment, Cabinet Office, UK, 2009, p. 8.

products to children, women, and elderly in Taiwan, Myanmar, the Philippines, Malaysia, Indonesia, and China.

The concept of the Digital Divide first emerged in the United States, and has been used in reports on the issue by the US' National Telecommunications and Information Administration (NTIA), United States Department of Commerce, since 1995. It was found that lower educational levels and poverty among Hispanics and African Americans correlated strongly with lower usage of ICT. As a result, inequality in access to social resources has widened the gap between America's social classes[4]. Taiwan is ranked 19th in the Networked Readiness Index (NRI) 2016 of the World Economic Forum.[5] The NRI measures ICT usage and the ways it enhances innovation, competitiveness and economic well-being. Although Taiwan has a better network infrastructure than other developing countries, people in rural areas or from disadvantaged groups may still lack the ability to use hardware such as computers or digital products – a contemporary instance of the Digital Divide.

However, simply softening the extremes of the Digital Divide is not enough to solve the problem of uneven resources. The ASUS Computer Recycling and Education Project therefore aims to proactively create Digital Opportunity[6], helps build such digital environments that vulnerable groups can easily access and use digital products. Ultimately, we hope to build an ideal Digitally Inclusive[7] society by building a positive digital environment and investing in people.

ASUS began to incorporate the Digital Education Project into the Reverse Logistics Recycling project in 2013 with the intent of making more NGOs and NPOs

[4] Wu Qingshan, Building a Digitally Inclusive Society, 2010.10, p. 1.
[5] The Global Information Technology Report 2016, World Economic Forum
[6] Lin Fengzheng, Research on the Relationship between Digital Divide, Digital Opportunity and Digital Inclusion, Library and Information Science Research, February 2015, p. 4.
[7] The EU further proposed the concept of Digital Inclusion, which refers to all policies and activities promoting a non-discriminatory information society. Same source as Note 3.

benefit from the spirit of the circular economy. At the same time we also committed to volunteer work and designed learning materials to teach classes, so that disadvantage groups can learn digital skills and enhance the basic computer skills for NGOs/NPOs administrative works. The project included three subprojects:

1、Computer Recycling Project: Reduce pollution to achieve environmental protection.

2、Refurbished Computer Donation Project: Give computers a new lease of life, and promote digital learning through donation of refurbished computers.

3、ASUS Digital Education Project: Assist in the development of digital capabilities, invest volunteer manpower, and provide computer learning materials.

The main operational model of the project is illustrated below:

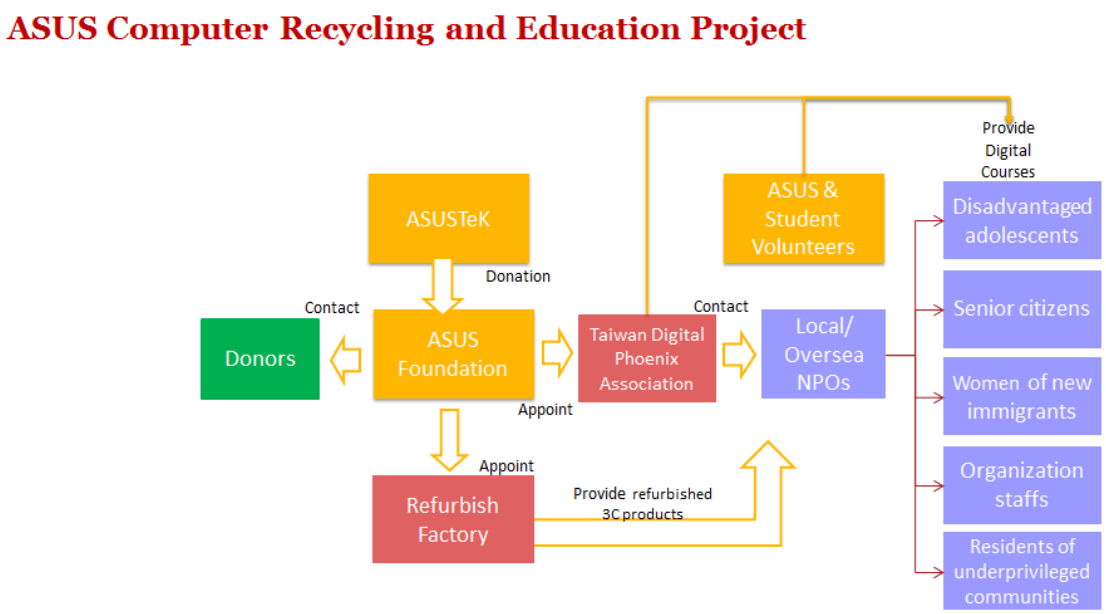


***Figure 1-1 ASUS Computer Recycling and Education Project***

Since the inception of the Digital Education Project, a number of digital products have been donated to NPOs and schools in Taiwan and abroad each year. Computer classrooms, digital learning centers and after-school counseling have been set up to assist disadvantaged children, young students, women, elderly and

physically handicapped students learn computer courses, providing them with digital learning opportunities and enhancing their digital capabilities to improve their lives.

# 1.2.2 Analysis Scope of this Report

This report focuses on the donation of recycled computers in 2015 and 21 NGOs/NPOs that have implemented a number of education projects between 1 January 2015 and 30 June 2016.

During this period, ASUS Foundation assisted a total of 527 public and private own units in reclaiming 16,419 desktops, 9,544 LCDs, 3,847 laptops, and 189 All-In-One (AIO) units. Through these refurbishments and repairs in 2015, we donated 650 desktops and 280 notebooks, and 332 AIOs to 83 domestic and 13 overseas NGOs/NPOs.

However, for reasons of data collectability, this first SROI report on the Digital Education Project will only analyze the activities involving domestic NGOs/NPOs. In the interest of stakeholders and the integrity of data collection, we focused on 21 domestic NGOs/NPOs[8] to which we have donated refurbished computers and digital learning courses. Statistics compiled with support from the Taiwan Digital Phoenix Association showed that 977 hours of various types of digital courses were given (see Annex I), reaching 649 beneficiaries during this period.

In order not to impact the final calculation result by the range selected, we also adjusted the calculation range of the input in the sensitivity analysis, and publish these results simultaneously as the reference.

[8] These 21 NGOs/NPOS received 320 desktops, 48 notebooks, and 25 AIOs in 2015.

# Chapter II. Stakeholder Involvement

## 2.1 Stakeholder Involvement

### 2.1.1 Stakeholder Engagement

Stakeholder involvement is a necessary step in the SROI guide to obtain the most solid feedback and results. The generation of social value and impact is derived from the inputs, outputs, and outcomes from the changes (Theory of Change).

Because of the large number of stakeholders in this case, this project is divided into four stakeholder engagement stages in order to fully understand stakeholder responses. Each stage was characterized by a different approach.

**Phase 1. NPO day Communication through a Workshop:**

In the initial stage of the project, we convened a conference (NPO day) for NPOs involved in the Digital Education Project, and we employed the workshop method to share experience with and among them. During the first stage of discussions with the NPOs, we held discussions with the stakeholders in the following ways:

1. Inquire about the process, use, and preservation of refurbished computers obtained through the ASUS Foundation, Digital Phoenix, and other NPOs.
2. Inquire about the ways in which the NPOs use the refurbished computers to help the ultimate beneficiaries.
3. Ask Digital Phoenix and NPOs to describe the impact of the refurbished computers on the ultimate beneficiaries.
4. Ask the NPOs whether they have similar resources or opportunities other than the Digital Education Project.
5. Ask the NPOs whether the activities of the Digital Education Project has created a crowding-out effect or any negative impacts for their students, communities, or society.
6. Ask the NPOs whether the outcomes of the Digital Education Project will decrease over time.
7. Ask the NPOs whether, in the absence of the Digital Education Project, similar impacts would occur for the NPOs or their students in other ways.

From the above questions and interactions with the NPOs, we achieved the following objectives and feedback:

1. Understand the scope and implementation process of the Digital Education Project and identify possible stakeholder groups, such as: ASUSTek Computer Corporation, ASUS Foundation, the ultimate beneficiaries and students of the Digital Education Project, the NPOs participating in the Digital Education Project, project volunteers, Digital Phoenix Association, computer donors, and the computer refurbishment factory.
2. Understand the resource inputs of the Digital Education Project, such as there are: budget of ASUS, funds of the ASUS Foundation, resources and manpower of the Digital Phoenix Association, time of the volunteer instructors, time of the NPOs, time of the ultimate beneficiaries, and the resources of the computer refurbishment factory.
3. From the perspectives of the NPOs, understand the changes and impacts of the project on their ultimate beneficiaries.
4. From discussions with the NPOs, understand the possible deadweight, attribution, drop-off, and displacement effects of the Digital Education Project.

## Phase 2. Interviews with the stakeholder groups

After the first phase of developing an understanding and conducting a public information search, we confirmed the scope of the Digital Education Project and identified the range of probably affected stakeholder groups. To ensure that the interviewees of Phase 2 were representative, we took reference from such information as the outcomes of Phase 1, public information, geographical, urban-rural gap, the work of NPOs, the identities of service recipients and students, and other factors provided by external consultants, who randomly selected a certain number of interviewees for us. Through the ASUS Foundation, Digital Phoenix, and the external consultants, we set up face-to-face interviews to understand the changes and impacts of the project on the various stakeholders.

1. After the face-to-face interviews, we found that the following potential stakeholders, for different reasons, had to be excluded from the analysis of this project. Among these, we found little benefit or change among the computer donors. The computer refurbishment factory, which has direct contact with computer donors, confirmed our conclusion. While these interview outcomes had not been anticipated, we chose to exclude computer donors from the analysis of this project on the basis of the principles of stakeholder engagement, materiality, and non-exaggeration. We also communicated this conclusion to these excluded stakeholders.

***Table 2-1 Stakeholder Engagement: exclusion***

| Potential stakeholders | Engagement method | Number of interviews | Inclusion in analysis | Reason for exclusion from the analysis |
|---|---|---|---|---|
| AUSTek | Workshops and interviews | 1 | No | ASUSTek is the actual initiator, implementer, and donor of the Digital Education Project. To avoid duplication of input and exaggerated outcomes, this stakeholder is not included in the analysis of this report. |
| Computer donors | Interviews | 2 | No | Interviews with donors of ICT products indicated that these were either governmental or private entities and relatively unaffected by their participation in the project. These stakeholders were therefore excluded from the analysis. |

2. The following stakeholder categories each consist of only one single party. Therefore face-to-face interviews and observation of their operations were our main method of engagement. The interviews enabled us to understand their roles in the project and the impacts they experienced.

***Table 2-2 Stakeholder Engagement: inclusion***

| Stakeholders | Roles in the project | Impacts and changes created by the project |
|---|---|---|
| ASUS Foundation | The ASUS Foundation is the major financial donor and implementer of the Digital Education Project. | The ASUS Foundation's change in the project may be an increase in name recognition and receiving gratitude from donors. But because such changes cannot easily be confirmed from other perspectives, and in consideration of the principle of non-exaggeration, we decided to exclude these changes at the ASUS Foundation from the analysis of the project, and only include their inputted |

| Stakeholders | Roles in the project | Impacts and changes created by the project |
|---|---|---|
| | | budget in the analysis of the project. This conclusion was communicated to and confirmed with the ASUS Foundation, Digital Phoenix, and the NPOs through the preparation of a report. |
| Digital Phoenix | Digital Phoenix Association was engaged by the ASUS Foundation as the implementing organization for the project. Its main task is to liaise with NPOs in need and their ultimate beneficiaries, and track the actual use of the refurbished computers and collect feedback from the ultimate beneficiaries. | The major role of the Digital Phoenix Association is to act as a bridge between ASUSTek and NPOs. Through the cooperation with ASUSTek, Digital Phoenix has become a communication platform for a number of NPOs. After our interviews with Digital Phoenix and the NPOs, we concluded that in addition to the financial benefits, the main benefit for Digital Phoenix was its increase of name recognition. |
| Computer refurbishment factory | The computer refurbishment factory is a social enterprise established for the project. Engaged by the ASUS Foundation, the factory refurbishes discarded and donated computers to functional computers that can be used by the recipient organizations and their end-users. | The computer refurbishment factory is a social enterprise established for the project. During the interview and the observation of its operations, we found that the main outcomes of the project were the number of refurbished computers and the employees' opportunities to gain work experience in computer repair. |

3. We requested the ASUS Foundation to help identify volunteers involved in the project and in interviews we asked the following questions:
   a. How did you learn of the possibility to participate in this project? If you would not have participated in this project would you have participated in other volunteer projects?
   b. Why did you want to participate in the project?
   c. For how long have you participated in this project, and what do you do in the project?
   d. What are the benefits and changes before and after participating in the

project? Does it have any negative impacts?

e. Has your participation in the project had an impact on your mental statues, your relationships with friends and relatives, your behavior or physical condition?

f. How long do you expect these changes to last?

From the above interview questions, we received the following feedback from the volunteers:

a. Volunteers participating in this project reported a number of changes in behavior and mood. The volunteers are explicit and unanimous about this.

b. Volunteers indicated if they couldn't participate in this project, they would be willing to involve with other volunteer projects. However, we verified this result later on through the questionnaire which showed no real increase in volunteering time. That might be because the Digital Education Project offers the incentive of paid leaves for volunteers from ASUSTek as well as the resources for the student volunteers, therefore, the others are objectively more difficult to attend in terms of time and spirit besides this project. Thus, we exclude this outcome (increasing involvement in other volunteer project).

4. There were 104 recipient NPOs and their end-users that received refurbished computers during the period covered by the project. We commissioned external consultants to survey and consider the geographical, urban-rural gap, target recipients and other factors to determine which NPOs to visit. We used the following principles to filter them:

After our first phase (the NPO Day Communication), we found that each NPOs has a main beneficiary group. Based on differences among these beneficiary groups, we classified the NPOs into five categories: Disadvantaged adolescents, Women of new immigrants, Residents of underprivileged communities, Senior citizens, and people with physical and/or mental disabled. We classified these groups into different target groups, from which we randomly selected NPOs and end-users/students for face-to-face interviews. We also conducted face-to-face interviews[9] with the ASUS Foundation, Digital Phoenix, and selected NPOs to ensure that NPOs and end-users that likely experienced different impacts would be interviewed with our commissioned external consultants. During these interviews, the following questions with regard to the changes and impacts of the project were asked:

[9] In the case that someone would not agree to give an interview, we would conduct that part of the survey by questionnaire in order to safeguard the completeness of data.

a. Briefly describe the services provided by your NPO
b. How did you learn about this project, and did you have other opportunities to obtain similar resources?
c. How do you use the refurbished computers?
d. What are the benefits and negative impacts of the refurbished computers on your NPO and its end-users?
e. How long do you think the impact of the refurbished computers in your organization is likely to last?

In interviews with end-users/students, we asked the following questions:

a. How did you learn about this opportunity to use these refurbished computers? Did you have any other opportunity to use computers?
b. How do you use the refurbished computers?
c. What is the difference between before and after learning to use computers? Are there any specific benefits?
d. Has your mood, your relationships with friends and relatives, your physical condition changed after learning to use a computer?
e. What is the difference between the periods before and after using a computer?
f. Are there any significant negative impacts? Do you have suggestions for improving the project?
g. If you would not have been part of this project, do you think these changes would have occurred?

In the above interviews with NPOs and end-users/students, we found that many NPOs had not yet had time to implement specific plans for using the computers during the implementation of the project, as they had received the refurbished computers continuously during 2015. NPOs that had only just received the refurbished computers had not yet begun to use them and thus could not yet report on any changes. During the interviews we also found that many staff members of the NPOs were also participating in the digital education courses, and thus they were also included in the analysis of the project. In sum, during the Phase 2 interviews with NPOs and end-users/students, we collected the following feedback:

a. We excluded from the scope of this project those that were unable to implement the project due to time factors. With regard to both resource inputs and outcomes analysis, we included in the analysis of 21 NPOs and 649 ultimate beneficiaries (called “students” in the following sections) during the project. With a view to the principles of materiality and non-exaggeration, recipients of refurbished computers that had not yet started implementing a plan are still included as an input in the sensitivity analysis in Chapter 3 of this report.

b. We included the staff of the organizations as one part of the end-users/students after interviewing.
c. Through the interviews we captured changes in the NPOs and the students, and we created a chain of events. We applied the principle of materiality when designing our questionnaire, and when determining project outcomes, we also included negative impacts. (For a detailed analysis, please refer to the analysis in section 2.2)
d. Through interviews, we were able to estimate the appropriateness of indicators and financial proxies for each outcome.
e. We understood more about the deadweight, attribution, displacement and drop-off of NPOs and students. The proportion of responses to the questionnaire was used to determine the four Adjusting Factors

## Phase 3. Distribution of questionnaires

After the Phase 1 and Phase 2 interviews, and analysis of the feedback, the chain of events, the deadweight, attribution, displacement and drop-off factors, we designed the questionnaires for the volunteers, the NPOs, and the students. We used the above classification of students as the basis for issuing the questionnaires. Through the distribution of these questionnaires, we hoped to achieve the following objectives:

1. Confirming the reported outcomes.
2. With a view to the non-exaggeration principle, we distributed the questionnaires to randomly selected stakeholders, and used these results as the basis for calculating the outcomes.
3. Take the results as references for the deadweight, attribution, displacement and drop-off.
4. Confirm whether the indicators designed in the questionnaire are sufficiently representative to measure the outcomes.

During the distribution of questionnaire phase, we identified the outcomes of Phase 1 and Phase 2, and then eliminated the less significant outcomes of the questionnaire responses. For example, interviewed volunteers indicated that they spent more time on public welfare activities each week. However, through the returned questionnaires we found that volunteers would not increase their volunteer work by more than 3 hours per week. To avoid overestimation of outcomes, we therefore decided to exclude these verbally reported outcomes from the analysis.

## Phase 4. Discussion of conclusions

In this phase, we determined the appropriate financial proxies based on the outcomes and indicators found in the previous three phases. We also discussed the

outcomes with the previously interviewed various categories of stakeholders to confirm that there are no deviations or significant differences in the outcomes, indicators and financial proxies that we had identified. Finally, we discussed the conclusions of the report with the stakeholders and the NPOs, and referenced their opinions to design the subsequent sensitivity analysis:

1. In the opinion of some participants and NPOs, the financial proxies we have chosen somewhat underestimate computer learning course fees. Therefore, following their views, we designed a sensitivity analysis for higher course fees.
2. In discussions with stakeholders, we felt that the direct assistance received by the students and outcome of the computer refurbishment factory were rather obvious, while the outcomes of volunteers, the benefits of NPOs are relatively subjective. Therefore, we designed a sensitivity analysis for the later.

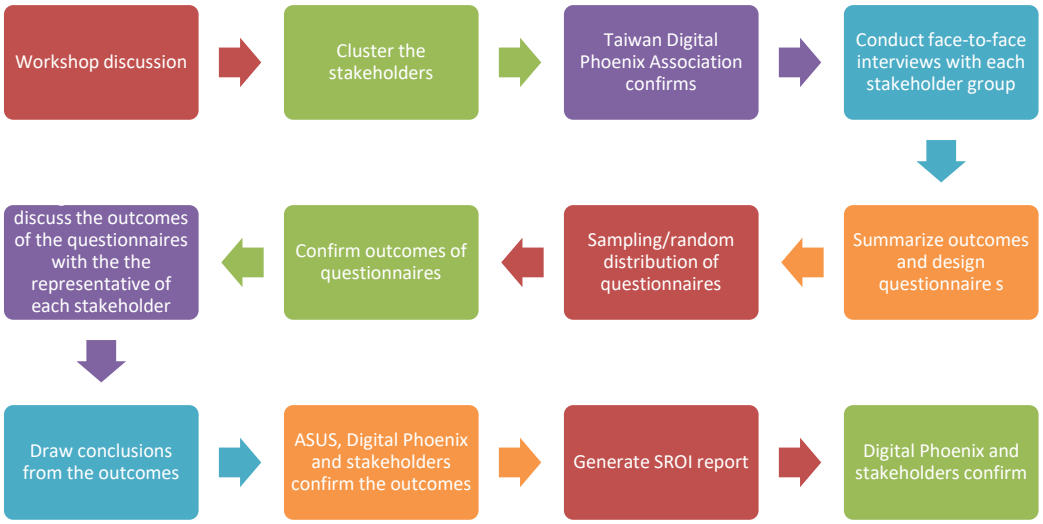


***Figure 2-1 Flow of Stakeholder Engagement***

The number of engagements with volunteers and students at each stage is as follows:

***Table 2-3 Number of Stakeholder Engagement***

| Stakeholders | Numbers of interviewees in Phase 2 | Numbers of questionnaires distributed in Phase 3 | Numbers of interviewees in Phase 4 | Total numbers of persons of each category within the scope of this report |
|---|---|---|---|---|
| ASUSTek volunteers | 3 | 5 | 3 | 202 |
| Student volunteers | 2 | 3 | 3 | 100 |

| | | | | |
|---|---|---|---|---|
| Disadvantaged adolescents | 8 | 60 | 7 | 170 |
| Women of new immigrants | 4 | 10 | 4 | 48 |
| Residents of underprivileged communities | 4 | 17 | 6 | 91 |
| Senior citizens | 5 | 15 | 4 | 86 |
| Organization staff | 7 | 13 | 5 | 191 |
| People with physical and/or mental disabled | 6 | 27 | 6 | 63 |
| Total | 39 | 150 | 38 | 951 |

# 2.2 Inputs, outputs and outcomes

## 2.2.1 Chain of Events

Through the above discussions with stakeholders, we have developed an understanding of the changes for stakeholders. We will use the Chain of Events to describe the causal relationships among inputs, outputs and outcomes, and to describe the outcome

***Table 2-4 Chain of Event***

| Stakeholders | Inputs | Outputs | All outcomes placed in a chain of events | Well defined outcomes | Excluded outcomes |
|---|---|---|---|---|---|
| Students of the computer courses (disadvantaged adolescents, women of new immigrants, Residents of underprivileged communities, senior citizens, people with physical and/or mental disabled, organization staff) | Time | Participation in computer course and using the refurbished computers | Participate in computer course → learn to use computers and digital skills → generate interest in using the Internet and buying a computer→ more extensive use of digital products and skills in everyday life | Improved quality of life through digital products and digital skills | Increased interest in buying a computer |
| | | | Participate in computer course → learn computer skills → share information and one's own works with friends → get appreciation from friends and relatives → increase self-affirmation and self-confidence | Increased self-confidence | - |
| | | | Participate in computer course → learn to use social media/communication apps → use the refurbished computers and social media/communication softwares with friends and relatives → more frequent and timely contact with friends and relatives → reduce isolation | Reduced isolation | - |
| | | | Disadvantaged adolescents use refurbished computers and participate in computer courses → use computer/software for | Improved school performance, increased interest in | Reduced student drop-out rate |

| | | | | | |
|---|---|---|---|---|---|
| | | | homework → catch up with school curriculum → improve school performance and enhance learning interest | study | |
| | | | NPOs staff participates in computer courses → learn computer skills → use computer skills at work → improve skills and efficiency→ increase competitiveness in the workplace | Increased competitiveness in the workplace | - |
| | | | After the computer course, start using digital products → increase the daily time spent on ICT products→ feel eye fatigue/body aches | Impacted physical well-being | - |
| Company volunteers of ASUSTek | Time | Provide computer course instruction and assist with the implementation of the project | Participate in volunteer activities → contact with more vulnerable groups than one's own → compare to their lives, treasure one's work and life more → reduce unnecessary entertainment and expenses →focus more on work → improve work efficiency and reduce unnecessary living expenses | Improved work efficiency | - |
| | | | | Reduced unnecessary living expenses | - |
| | | | Participate in volunteer activities → interact with students and volunteers of the computer course → meet more friends → keep in touch after the course → enhance friendships | Improved interpersonal relations | - |
| | | | Participate in volunteer activities → interact | | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | with groups more vulnerable than one's own → compare to their lives, cherish one's own work and life more → increase frequency of contact with family → enhance family relations | | |
| | | | Participate in volunteer activities → achieve a sense of accomplishment from the activities → increase time spent on public welfare activities | - | Increased sense of achievement and increased number of hours spent on public welfare activities |
| Student volunteers | Time | Provide computer course instruction and assist with the implementation of the project | Participate in volunteer activities →interact with students and volunteers in the course→ meet more friends, keep in touch after the course → enhance friendships. | Improved interpersonal relations | - |
| | | | Participate in volunteer activities → interact with groups more vulnerable than one's own → compare to their lives , cherish one's own life more → increase contact with family→ enhance family relations | | - |
| | | | Participate in volunteer activities interact with | | Reduced living |

| | | | | | |
|---|---|---|---|---|---|
| | | | groups more vulnerable than one's own → compare to their lives , cherish one's own life more → reduce unnecessary living expenses | | expenses |
| NPOs | Manpower, land | | Receive ASUS refurbished computers → provide to staff to use for organization work → digitize organizational work environment → improve organizational efficiency | | Increased organizational efficiency |
| | Manpower, land | | Receive ASUS refurbished computer → plan and provide computer course for target group→ use the computer course as publicity to recruit more students→ more members of target community participate in the organization's activities → raise name recognition | Increased visibility | - |
| | | | Students participate in computer course, response is good → word of mouth supports promotion→ increases visibility and reputation in the community → obtain more recognition from the community and easier access to resources | | - |
| Digital Phoenix | Manpower | | Participate in the ASUS Refurbished Computer Project, become a window to the project → | Increased visibility | - |

| | | | | | |
|---|---|---|---|---|---|
| | | | receive applications from many NPOs→ filter out NPOs that need donated refurbished computers → centralize communication and coordination → become a communication platform for these NPOs | | |
| Computer refurbishment factory | Capital, manpower, land | | Participate in this project→ collect 1262 second –handed computers →repaired these into 393 refurbished computers | 393 refurbished computers donated | - |
| | | | Participate in this project → collect 1262 computers → staff have opportunities to practice computer repair skills → improve computer repair skills | Improved computer repair skills | - |
| | | | Participate in this project → have regular contact with donors and recipients of the refurbished computers → assist in solving their problems → improve communication skills | Improved communication skills | - |

We have excluded many outcomes from the above chain of events for different reasons which can be summarized as follows:

***Table 2-5 Excluded Outocmes***

| Stakeholders | Excluded outcomes | Reason |
|---|---|---|
| Students of the computer courses (disadvantaged adolescents, women of new immigrants, Residents of underprivileged communities, senior citizens, people with physical and/or mental disabled, organization staff) | Increase desire to buy computer products | Many participating students indicated that, due to being exposed to digital products, they developed a heightened interest in buying digital products. Most students, however, do not have ability to realize this. Therefore this outcome was excluded. |
| Disadvantaged adolescent students | Reduced student drop-out rate | Although a reduced student drop-out rate is a clear positive result for the society, but because these are only a few cases, this outcome was excluded with a view to the materiality principle. |
| Company volunteers from ASUSTek | Increased sense of achievement and increased number of hours spent on public welfare activities | During the interviews, volunteers described their increased sense of achievement and increased number of hours spent on public welfare activities. Yet, in their questionnaire responses, most volunteers reported that their volunteering time had increased by less than three hours per week. Therefore, with a view to the materiality principle, this outcome was excluded from the analysis. |

| | | |
|---|---|---|
| Student volunteers | Reduced unnecessary living expenses | While student volunteers reduced unnecessary living expenses, the responses to the questionnaires indicated that the reduction amounted to less than TWD 1,000. Therefore, with a view to the materiality principle, this outcome was excluded from the outcomes of the student volunteers. |
| NPOs | Improved organizational work efficiency | The increases in organizational work efficiency and organizational staff efficiency raised concerns of double-counting between these outcomes. Therefore, in our analysis, we have excluded the outcome of increased organizational efficiency. |

# 2.2.2 Analyze of Chain of Events

1. Participants：

Participants in the digital training courses are those who directly benefit from the project. Most participants belong to a population lacking digital resources in the society, and they become relatively underprivileged in such a highly digitalized modern society. In our interviews with and surveys among the participants, we found that many behavior changes occurred with the participants of the project. These behavior changes can be summed up in the outcomes participants have from the project.

After analyzing the chain of events through interviews and a survey, we concluded that the participants in this project enjoy the following positive outcomes: improved digital skills, increased self-confidence, and a reduced sense of isolation. As for disadvantaged adolescents, digital training courses were designed to offer them supplementary education courses as a complement to classroom study in school, and online supplementary education courses were provided by NPOs as well. In our interviews with the NPOs and the school children, it was widely recognized that the supplementary education courses effectively improved the problem of lagging behind in academic performance among disadvantaged school children, enhancing their willingness to learn and motivation to attend school. Also, in our interviews with organization staff members, we found that the NPOs staff members are also among the service recipients of the “Multi-Hiring Development Project” introduced by the Ministry of Labor, and were hired in accordance with the government subsidy plan. These staff members, though in their young adulthood, have difficulties finding jobs due to their lack of digital working skills. The digital training courses, along with the use of the refurbished computers, enable these staff members to learn and be equipped with digital working skills. In our interviews, nearly all of the organization staff members responded positively that improved digital skills enhance their workplace competitiveness. Such outcomes were also confirmed by the NPOs for which they work.

2. Volunteers

We understand that bridging the digital divide cannot be achieved by the donation of digital products alone. It must go with programs comprising software tutorials and the setup of digital infrastructure in order to make the best use of such

donated refurbished computers. For this, ASUSTek mobilized from inside the company and invest a great amount of voluntary manpower, and recruited volunteers from service clubs in universities and colleges. Volunteers served as instructors of the project, and assisted NPOs in setting up the refurbished computers to be ready for use. Through the interviews, we learned that the volunteers experienced an obvious change in their frame of mind and lifestyle after interacting with the NPOs and their target groups.

Considering the differences between office workers and students in their roles, we summarize the outcomes separately to distinguish them.

3. NPOs

A NPO is an entity that applies for refurbished computers and acts as an administrator for ASUS' refurbished computer donations and as an implementation partner for digital skill courses. In actual contact with NPOs, we found that most of them applying for donations were vulnerable and lacked resources. As a result, refurbished computers used for the courses often became office equipment that helped digitize the administration of the organization. Thus, besides empowering their disadvantaged target groups, improving the administrative efficiency of the NPOs emerged as an extra outcome. In addition to the increase in administrative efficiency, we found that NPOs that received refurbished computers and provided usage of the targeted groups could call for more participants of their targeted groups. Such behavioral changes resulted in more successful outreach to their targeted groups and the increase in visibility of the NPO in their communities.

The increase in administrative efficiency and visibility do not have correspondent indicators as supports. Therefore, based on interviews with NPOs, we included an inclination of the hiring with digital skills and improved advertising effectiveness as representative indicators in the questionnaire:

4. Digital Phoenix Association

The Taiwan Digital Phoenix Association (“Digital Phoenix” or “Digital Phoenix

Association” ) was founded in 2005 to close the Digital Divide for women and improve their ICT skills. As the ASUS Computer Recycling and Education Project matched with the founding purpose of Digital Phoenix, the ASUS Computer Recycling and Education Project spawned a sub-project called ASUS Digital Education Project in 2013, which was implemented by Digital Phoenix, while ASUS tracked the effectiveness of the project. We talked to several Digital Phoenix staffs during the NPO Day (phase 1), which we observed and which had been organized by them as part of the ASUS Computer Recycling and Education. During these talks we found that after these volunteers had taken up the ASUS Digital Education Project, Digital Phoenix had become better known and had become the contact platform for many NPOs. Also, between these organizations, resources were being pooled and utilized more effectively. Also, the Digital Phoenix volunteers have made the implementation of the ASUS Digital Education Project more efficient.

Digital Phoenix was a major platform for recipients of donated computers and for the Digital Education Project. We made an independent analysis on the benefits of the platform. The changes in receiving computer from donation and offering courses were analyzed together with the NPOs to avoid duplication of results.

5. Computer refurbishment factory,

The computer refurbishment factory, located in Kaohsiung, is a social enterprise designated for and established to support the ASUS Digital Education Project. After a donor organization contacts ASUS or the refurbishment factory, the factory will collect the ICT products and use their components to reconstitute computers. Remaining unusable components are separated in accordance with the law and disposed of for subsequent recycling and treatment. Following instruction from the ASUS Foundation, the factory delivers the refurbished computers to designated NPOs. The factory also provides warranty maintenance whenever a NPO reports

issues with the donated computers. Computers will be directly replaced to ensure uninterrupted operation of the recipient organization if the refurbished computers are unusable anymore.

From our interviews, it appeared that the refurbish factory was established for the ASUS Digital Education Project and thus was the outcome and change of itself. Its very existence and operation are its main outcome, and its employees significantly enhance their skills through their refurbishment and repair work at the factory. The contact windows in the factory need to take care with both the donors and NPOs, thus the communication skills of the factory staffs improved.

## Negative and Unexpected Outcomes

Besides the aforementioned positive effects, probably due to the unfamiliarity with the usage of digital products, a small number of participants reported in the interviews experiencing physical discomfort and increased frequency of medical treatment after using 3C digital products, which was mainly caused by use of the refurbished computers for too long and poor posture while using them. To know the precise negative effects, we also used the questionnaire to compute the expected number of people thus affected and the number of times they sought medical treatment.

## Completeness of Information

The project is conducted based on sampling and stakeholder engagement. Thus, whether the content of our engagement is sufficient to ensure the Completeness of information will be an important issue. As a result, for the sampling of stakeholders to be interviewed, we asked external consultants to do the interview by random sampling, and cover as many different regions, cities and counties in Taiwan as possible. We used a four-phase engagement, in which different approaches are applied, with each phase designed for different targets and carried out through different methods, for cross-validation of interviews and questionnaire results between different stakeholders to ensure that we didn't miss any important information. The following are specific practices to ensure the integrity of information of stakeholder engagement in the four phases:

a. Random sampling with regions and the urban-rural divide in Taiwan considered
b. Validation through questionnaires after interviews with the stakeholders

c. Open-ended interviews and sections in questionnaires for the stakeholders to express their opinions
d. Discussion with and confirmation by the stakeholders before finalizing the report

# 2.3 The Selection of Indicators

In this SROI report, indicators are used to determine the occurrence of the outcomes. To prove that the outcomes reported are material, it would be better to set more than one indicators to measure them. We therefore also directly included them in the questionnaires for the participants, so that we can identify the change. The selection of indicators is based on the 1st and the 2nd phase of stakeholder engagement. After surveying the NPOs and conducting face-to-face interviews with the stakeholders, we summarized stakeholders' changes that resulted in the outcomes and from which we drew conclusions per outcome in Section 2.2. This made such changes found through stakeholder engagement more suitable as indicators for outcome evaluation. In addition, before delivering the questionnaires, we discussed with the NPOs whether such indicators matched the changes observed, and confirmed the applicability of such indicators with stakeholders in the 4th phase of engagement with them. We used such behavior changes as indicators for outcome evaluation, apply them to the engagement questionnaire in the 3rd phase to support the occurrence of outcomes. In the 2nd phase interviews, we found that there are similar or common behavior changes shared by every stakeholder group but to varying degrees. For this reason, in order not to overestimate our results and to ensure the materiality principle, we used the results of the interviews to set certain thresholds for some indicators. Only when the thresholds set in the questionnaire were reached could the indicators be considered sufficient to support the occurrence of the outcomes. In the 1st and 2nd phase of stakeholder engagement, we developed the following indicators for different outcomes:

1. Participant：

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| Using digital products to improve quality of life | Number of hours using multimedia software | Using multimedia software at least 1 hour per day on average | This project aims at eliminating the digital divide with regard to access to digital products, enabling |

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| | Number of hours using word processing software | Using word processing and utility software 1 hour per day on average | everyone to enjoy the life of digital inclusion. As digital inclusion cannot be judged by single software or digital usage, we choose software and utilities that are frequently used in digital life as indicators for using digital products to improve the quality of life, and the number of hours and usage as the threshold for evaluation. Also, the selection of the indicators was discussed and confirmed through the 4-phase stakeholder engagement. |
| | Number of hours using the computer to search for everyday life information | Using the computer to search for everyday life information about 1-4 hour(s) per day on average | |
| | Number of times doing online shopping per week on average | Doing online shopping about 2-5 times per week on average | |
| Increased self-confidence | Increased number of times using the computer to share information and works per week on average | Number of times using the computer to share information and works increases by about 2 or more times per week on average | Participants gained confidence mainly from sharing digital information and works, so we used times of sharing as an indicator to support the occurrence of this outcome. |
| Improved academic performance and increased interest in | Weekly attendance at supplementary education courses | Attending 2 or more supplementary education course sessions | Number of times attending supplementary education course sessions correlates |

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| learning | | per week | closely with the improvement in academic performance in school. Attending more sessions means that a participant has a stronger willingness for continuous learning. |
| Increased workplace competitiveness | Number of hours using the refurbished computers for work per day | Using the refurbished computers for work for over 2 hours per day on average | Number of hours using the computer at work can be seen as practicing digital skills, which means that one's workplace competitiveness increases. |
| Reduced sense of isolation | Monthly increase in contact with one's family | Monthly increase in contact with one's family about 5 or more times | We can see from our interviews that participants' feeling of isolation is mainly relieved through the company of family and friends. Thus we chose increased times of contact with family and friends for this outcome. |
| | Numbers of friends one communicates with via the computer | Number of friends one contacts via computer increases 2 or more | |
| Physical discomfort | Number of times receiving medical treatment increases due to long time computer use | Number of times receiving medical treatment increases by about 1 (or more) time(s) due to long time | Some participants reported receiving medical treatment because of physical discomfort caused by their use of computers. Thus, we chose the number of times |

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| | | computer use | receiving medical treatment as an indicator for physical discomfort. |

2. Volunteers:

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| Increased work efficiency | Number of working hours reduced per day | Working time reduced by 2 hours or more | According to the interviews, if a volunteer focuses on work and reduces working time by 2 hours per day, we will regard this as a strong support for the outcome of increased work efficiency. |
| Reduced unnecessary living expenses | Monthly savings on living expenses | Reducing living expenses by TWD 1,000 or more | If a volunteer reduces unnecessary living expenses by TWD 1,000 or more, which will be counted as reaching the threshold. |
| Better interpersonal relationships | Making new friends through participation in activities | Number of people reporting making 2 or more new friends through participate in activities | As for volunteers, most of them gained better interpersonal relationships mainly through making new friends. Therefore, we chose the increase in number of new friends made as the indicator for evaluation. |
| | Monthly increase in number of times communicating with family | Monthly increase in number of times communicating with family is 2 or more | Increase in family contact is also one of the reasons for volunteers to have better interpersonal relationships, so we chose the monthly increase in number of times communicating with fammily as the indicator for |

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| | | | evaluation. |

3. NPOs

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| Increased visibility | NPOs reporting advertising effects similar to paid advertising | Reporting promotion effects similar to paid advertising | After discussing with the NPOs, we decided that if the project can achieve similar promotional effects, it can be considered to have the outcome of increased vilibility. |

4. Digital Phoenix Association

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| Increased visibility | Number of enquiries the association receives from NPOs after joining the project | The association receives 5 more enquiries from other NPOs after joining the project | Unlike NPOs, as a platform for public welfare, the Digital Phoenix Association focuses on connecting NPOs. The number of NPOs contacting Digital Phoenix is used to measure its performance of promoting public welfare. |

5. Computer refurbishment factory

| Outcomes | Indicator | Threshold for Indicator | Description |
|---|---|---|---|
| Production of refurbished digital products | Number of refurbished digital products produced from recycled computers after joining the project | Number of refurbished digital products produced from recycled computers after joining the project | The number of refurbished recycled digital products is used to measure the outcome of producing refurbished digital products. |
| Improved | Number of | Number of | Employees' improvement in |

| | | | |
|---|---|---|---|
| skills of its employees | computer an employee refurbishes | computer an employee refurbishes | skills in refurbishing computer is indicated by the number of computer they refurbish. |
| | Number of times an employee communicates with donors and NPOs | Number of times an employee communicates with donors and NPOs | Employees' improvement in communication skills through the project is indicated by the number of organizations they communicate with. |

# 2.4 Financial Proxy

The definition of financial proxy of each outcome involves abstract value judgement. During the stakeholder engagement phases, most stakeholders found it hard to directly estimate the value created by the outcomes from a monetary point of view and could only compare it to something of equal value instead. In this report, an indicator mainly serves to support the occurrence of an outcome rather than being a replacement of the financial proxy variable of an outcome, but it will be part of the bases for selecting financial proxy.

For the selection of financial proxy, we used the descriptions and feelings stated by the stakeholders in interviews in the 2nd phase as well as popular perceptions as main bases for their selection. The outcomes were then discussed and confirmed in the final phase of stakeholder engagement. Each outcome's financial proxy and basis of calculation is explained below:

1. Participants:

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| Improved quality of life through digital products and skills | Basic computer course fees per hour | In the interviews many participants said that the project helped them take computer courses they cannot afford, and replied the same in the 4th phase, the confirmation phase. Therefore, we took the participants' expenses if they would personally pay for similar courses as our choice for the financial proxy. In addition to classroom training, the project provides refurbished computers for participants for practicing after class. However, in Taiwan, since certain e-learning classes also provide computers for their trainees to practice in | TWD 100/hr. | Basic Computer + Google Application courses offered by School of Professional Education and Continuing Studies in universities http://my.sce.pccu.edu.tw/MS/technology/Detail.aspx?ProdId=8AT3_A5090&Source=Search&SourceKey=2928&CataId=0701#Intro | Calculation of quantity: The actual number of hours a participant spends participating in courses in 2015 and 2016. Duration: Since most participants state that they will keep using digital products, to avoid overestimating the value of the report, we only took the cases during the reporting period into consideration. |
| | Word processing software course fees per hour | | TWD 114/hr. | Microsoft Office Certification training courses offered by School of Professional Education and | |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | their spare time. For that reason, this part is difficult to distinguish, and most stakeholders cannot give an example of a substitute. To prevent overestimating the value, we decided not to select an additional financial proxy for this part. | | Continuing Studies in universities http://www.dpcd.pu.edu.tw/admiss/news.php?Sn=65 | |
| | Graphics editing software course fees per hour | | TWD 300/hr. | Computer drawing classes offered by School of Professional Education and Continuing Studies in universities http://my.sce.pccu.edu.tw/MS/technology/Detail.aspx?ProdId=8BE8A5080&SourceKey=0703&CataId=0703 | |
| | Average shipping cost of online shopping | After being brought into contact with and learning how to use the Internet, some participants | TWD 110/shipment | Chunghwa Post Co., Ltd. http://www.post.gov.t | Calculation of quantity: Proportion of participants who are actually reported through |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | started to shop online and get used to comparing price and search for information on the Internet before ordering. Through the discussion between participants and NPOs, travel expenses, the benefits of price comparison and travel time are thought to be the main advantages. Thus, average shipping cost of online shopping in Taiwan was selected as the main financial proxy.<br>Though this financial proxy may not reflect the benefits of online comparison and information searching, most participants point out that price comparison is an existing behavior and that computers are just a convenient | | w/post/internet/Postal/index.jsp?ID=2050106 | the questionnaires reaching the threshold for the indicator is used to estimate the proportion of reaching the threshold for indicator in all participants regarding online shopping behavior, which is the basis of calculating the number of people. The median of the threshold for the indicator in the questionnaire, i.e. the median of number of times shopping online per week, which is approximately 3 times per week, is used as the criterion of inclusion.<br>Duration: After discussion and confirmation, most of the participants state that they will continue online shopping and |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | tool to facilitate it. Therefore, after discussion, this part was excluded. | | | price comparison. For the sake of prudence, we still assume that the duration is only 1 week.<br>So the financial proxy of this indicator is calculated as below:<br>(Proportion of participants reporting reaching the threshold X the total number of participants) X 3 times X 1 week X TWD 100 |
| Increased confidence | Self-confidence training program fees | Since increased self-confidence is an abstract outcome, it is difficult for participants to directly select a financial proxy. After referring to similar parameters in other reports and confirming with participants, we thought that the fees for self-confidence training | Self-confidence training program TWD 2,800 | Self-confidence training programs offered by Business Management Consultant Company http://www.i-talent.com.tw/files/11-1005-338.php | Calculation of quantity: To prevent overestimating the value of the outcome, we only used one training program as the basis of the Calculation of quantity to calculate the proportion of participants reaching the threshold for the |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | programs would be a suitable proxy. Though some participants and NPOs think that this financial proxy slightly underestimates the outcome, yet, under the principle of preventing overestimation, we still selected the lower price in the market as estimated value. | | | indicator from statistical result of the questionnaires.<br>Duration：Since we only used one consultation as the evaluation basis, no additional duration needed to be assumed and only the impact of drop-off will be discussed in the following chapters. |
| Decreased sense of isolation Improved academic performance and increased interest in learning | Family counseling fee | When participants answered the questions about decreasing sense of isolation, we found that interaction with family and with friends are of equal importance. Thus, we selected different financial proxies for improvement in the relationship with family and with friends respectively. We use 1 family counseling fee to | TWD 3,750 per relatives consultation | Family counseling offered by corporate foundations **http://www.shiuhli.org.tw/consult/shiuhli_center_8.jsp#qa303** | Calculation of quantity: Like increasing self-confidence, only the participants reported reaching the threshold for indicator, which is the charge for 4 family counseling, are included in the calculation.<br>Duration: Since we only used one counseling session as the evaluation basis, no additional |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | represent the improvement in the relationship with relatives. As for the cost of interaction with friends, we use the expense of dining with friends per time to represent this. Like the value of increased self-confidence, the value of decreased sense of isolation is an abstract outcome for which stakeholders find it hard to give an example of equal value for comparison. Therefore, we came to this decision after referring to the selections in international reports and each phase of stakeholder engagement.<br>Due to the lack of educational resources, disadvantaged adolescents often fall behind peer | | | duration was assumed and only the impact of drop-off will be discussed in the following chapters. |
| | Supplementary education course fees per hour | | TWD 125/hr. | Via telephone interview, we conducted a survey of expenses of after-school cram school for elementary and junior high school students in Taiwan. The monthly tuition fees are between TWD 6000-12000 for 48 hours of course hours (about TWD 125-250/hr.). | **Calculation of quantity: Calculated from school children who actually attend supplementary education courses and number of hours.**<br>Duration: Calculation of quantity was estimated by the actual number of people attending computer courses, so no additional duration was assumed and only the impact of drop-off will be discussed in the following chapters. |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | group in schoolwork. For that, in addition to the life changes from digital inclusion, disadvantaged adolescents often take online supplementary education courses to catch up with their peers. We interviewed NPOs and school children, and most of them intuitively think that the occurrence of such outcome leads to cut down on after-school cram school expenses. So based on these responses, we also used this financial proxy for this outcome. | | | |
| Improved quality of life through digital products | Basic computer course fees per hour | In the interviews many participants said that the project helped them take computer courses they cannot afford, and replied the same in the 4th phase, | TWD 100/hr. | Basic Computer + Google Application courses offered by School of Professional Education and | Calculation of quantity: The actual number of hours a participant spends participating in courses in 2015 and 2016. |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| and skills | | the confirmation phase. Therefore, we took the participants' expenses if they would personally pay for similar courses as our choice for the financial proxy variable. In addition to classroom training, the project provides refurbished computers for participants for practicing after class. However, in Taiwan, since certain e-learning classes also provide computers for their trainees to practice in their spare time. For that reason, this part is difficult to distinguish, and most stakeholders cannot give an example of a substitute. To prevent overestimating the value, we decided not to select an additional financial proxy variable | | Continuing Studies in universities http://my.sce.pccu.edu.tw/MS/technology/Detail.aspx?ProdId=8AT3_A5090&Source=Search&SourceKey=2928&CataId=0701#Intro | Duration: Since most participants state that they will keep using digital products, to avoid overestimating the value of the report, we only took the cases during the reporting period into consideration. |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | for this part. | | | |
| Improved digital skills and efficiency | Added pay for information-based skill certificate | Employees indicated that the development of digital skills is a primary benefit for their future job search. Therefore, the salary difference in the employees possessing digital skills between those without them is a reasonable proxy variable in quotation. | Improved digital skills and efficiency | Added pay for information-based skill certificate | Employees indicated that the development of digital skills is a primary benefit for their future job search. Therefore, the salary difference in the employees possessing digital skills between those without them is a reasonable proxy in quotation. |
| Physical discomfort | The number of medical resource utilization is increased with computer use: one consultation or more | The cost of medical resource utilization related to physical discomfort is related to the National Health Insurance in Taiwan. Most of the students only address the registration fee, which is significantly lower than the overall cost of social resources used. Consider that it causes a negative effect; we don't | Physical discomfort | The number of medical resource utilization is increased with computer use: one consultation or more | The cost of medical resource utilization related to physical discomfort is related to the National Health Insurance in Taiwan. Most of the students only address the registration fee, which is significantly lower than the overall cost of social resources used. Consider that it causes a negative effect, we |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | want to underestimate the impact. To this end, we took "Medical cost from a single clinic visit due to accidental and non-accidental damage", statistical data announced by the Ministry of Health and Welfare as the financial proxy for this negative outcome. In the stakeholder engagement at the fourth phase, we clarified the considerations for this calculation to the students. | | | don't want to underestimate the impact. To this end, we took "Medical cost from a single clinic visit due to accidental and non-accidental damage", statistical data announced by the Ministry of Health and Welfare as the financial proxy variable for this negative outcome. In the stakeholder engagement at the fourth phase, we clarified the considerations for this calculation to the students. |

2. Volunteers:

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| Improved work efficiency | Average hourly wage of employees in Taiwan, 2015 | The interviews with volunteers were unanimous in saying that concentrating on work is the best way to improve work efficiency, and reduce the time required for repeated tasks. Therefore, time is considered for this item. The average hourly wage of information technology, the profession of their occupation. While some volunteers consider it lower than expected, it does not overestimate this outcome and there is no better alternative variable. Therefore, this financial proxy was adopted for this assessment. | TWD 267 per hour | Statistical data from Directorate-General of Budget, Accounting and Statistics, Executive Yuan https://www.dgbas.gov.tw/lp.asp?CtNode=5624&CtUnit=1818&BaseDSD=29&xq_xCat=05 | Calculation was based on the ratio of actual number of volunteers reporting improvement of work efficiency.<br>The most reported 2-hour improvement is considered.<br>Duration: Notably, volunteers did report improved work efficiency in the interview and questionnaire, it is only effective for about a month. Therefore, we consider it to be a month and 20 days |
| Improved personal | Hourly cost incurred from interacting | From the interviews and questionnaire, it was found | TWD 487 per hour per | Global Value Exchange http://www.globalvalu | The calculation considered the time volunteers actually spent |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| relationships | with friends in the event | that interaction with friends is the primary means of improving peer relationships. As most volunteers did not consider dinner party cost an ideal proxy variable, it was decided to refer to the proxy variables in other reports and the cost incurred for participating community development activities was considered. As it does not vary too much away from those in Taiwan, no adjustment was made for price levels. | individual | eexchange.org/valuations/8279e41d9e5e0bd8499f559c | on the activities.<br>Duration: The duration calculation is applicable because of the considerations mentioned above. |
| | Family counseling fee per session | The improvement of family relationships is measured with "family counseling fee per session", this was also considered for students and | TWD 3,750 per attendance | The family counseling regimen provided by a foundation http://www.shiuhli.org.tw/consult/shiuhli_cent | It was counted as four sessions per year since volunteers reported to value family emotional support more and return home at least once per |

| Outcomes | Financial Proxy Variable | Description | Monetary Value | Source | Basis of Calculation |
|---|---|---|---|---|---|
| | | was discussed with the volunteers | | er_8.jsp#qa303 | season.<br>Duration: This is not applicable as quotations are per session. |
| Reduced unnecessary expenses | The median from questionnaire is TWD 3,000 and 7,500, respectively. | Reducing unnecessary costs is of financial significance, we defined the interval of reduced costs in the questionnaire. The two medians of the most reported intervals were adopted as the proxy variables. | TWD 3,000 and 7,500, the medians derived from collected questionnaire | Stakeholder engagement questionnaire | The calculation considered the number of volunteers achieved cost reduction based on the ratio reaching the target value.<br>Duration: The interviews and questionnaire indicated that most volunteers considered the reduction to last for approximately 6 months. The duration was therefore hypothesized to be 6 months. |

3. NPOs

The organizations enhanced their visibility. We generated different indicators reflecting different advertising costs to serve as financial proxies for change in visibility; we also worked with the assumption of only one advertising campaign.

（1） Our telephone interviews indicated that it took about NTD 80,000 to buy a half-page advertisement in a mainstream magazine.

（2） We took the numbers of staff distributing leaflets staff as our indicator, and the cost of the minimum wage of NTD 20,008 for a person distributing leaflets for a month served as our proxy for this effect.

（3） Our telephone interviews indicated that an external IT management company maintaining a client's website would charge about NTD 1,000 to update a specific post.

（4） Our telephone interviews with printing companies further indicated that the design cost per poster was about NTD 2,500.

4. Digital Phoenix Association

The benefits brought by the ASUS Computer Recycling and Education Project are to increase the visibility of the Taiwan Digital Phoenix Association and to create a platform for bridging the Digital Divide. In our interviews, we found NPOs learned about the Digital Education Project mostly through the Internet and then connected with the Digital Phoenix. Based on 96 NPOs receiving refurbished computers in 2015, we applied an average conversion rate of 3.48% [10]for the fourth quarter of 2015 based on a research by Smart Insight to arrive at a number of 2,758 NPOs reached.

[10]Http://www.smartinsights.com/ecommerce/ecommerce-analytics/ecommerce-conversion-rates/

Statistics from the Ministry of the Interior indicated that the average number of staff per NPO is 16.7. [11]That put the number of staff in NPOs reaching information about the ASUS Computer Recycling and Education Project to 46,059 staffs. We used a cost figure of USD 2.75 per 1,000 people reached by key word-based advertisements as reported in a study by Nuanced Media[12]. The cost of reaching 46,059 organization staffs was USD 127 by estimation. Applying an average NTD-to-USD exchange rate of 31.898 in 2015, Digital Phoenix saved NTD 4,051 on cost for building visibility.

We would like to emphasize that Digital Phoenix plays an indispensable role in the ASUS Computer Recycling and Education Project. However, the benchmark for the evaluation of this project was the changes that the Digital Education Project brings to society rather than the importance of each stakeholder in the project, the enhanced visibility of Digital Phoenix was not included in the scope of changes expected from the project, and it was reasonable to assume its impact from the project to be limited. Yet whereas its impact on the associations was small, that did not mean its contribution was small.

5. Computer refurbishment factory

（1） Reuse of digital products：

It is practically impossible to wholly refurbish a recycled computer for reuse; instead, the computers donated to ASUS Foundation are examined and the functional parts from several computers are recombined into one computer for those in need. As the recycling and reuse of computers is one of the primary services of the factory, we must determine the value of these products.

According to the interviews with the factory and with the students, the experience with reusable computers is inferior to brand-new ones. A

[11]Http://sowf.moi.gov.tw/stat/Survey/%E4%BA%BA%E5%9C%98/102%E5%B9%B4%E5%90%84%E7%B4%9A%E4 % BA% E6% B0% 91% E5% 9C% 98% E9% AB% 94% E6% B4% BB% E5% 8B% 95% E6% A6% 82% E6% B3% 81% E8% AA % BF% E6% 9F% A5% E5% 88% 86% E6% 9E% 90.pdf

[12] Https://nuancedmedia.com/cost-reach-1000-people/

discussion involving donator, ASUS Foundation, the factory and students revealed that most donated devices are three years old, and a further discussion with non-profit organization and students reached the consensus that it is reasonable to define the value of refurbished devices as second-hand devices used for three years.

To estimate the value, we applied the replacement cost with depreciation considered.

In the scope of this project, the refurbished digital products donated to non-profit organizations in 2015 were considered, the average price of digital products in 2012, where these are still brand new, was as follows: desktop: USD 483, laptop: USD 821, and AIO: USD 1,071.[13,14]

The calculation is based on the "Table of the Durable Life of Fixed Assets" suggested by donors supported by the linear depreciation method:

Desktop PC: USD 483 X 31.898 / (3+1) = TWD 3,852

Laptop: USD 821 X 31.898 / (3+1) = TWD 6,547

All-in-One: USD 1,071 X 31.898 / (3+1)= TWD 8,541

The depreciation and salvage value calculations are subject to the confirmatory procedure with stakeholders in the fourth phase. Lastly, the value generated from the workshop-renovated digital products is derived from the devices supplied to 21 NPOs included in the analysis of this project.

（2） Improvement of employee skills

Seven employees reported improvement of work skills, including six hardware refurbishment technicians and one contact person for donating and receiving organizations. For the hardware renovators, the curriculum cost of Level B technician for computer hardware fabrication (TWD 8,700 per individual) is considered as the financial proxy due to their frequent practice. In the case of administrative personnel, the curriculum cost for interpersonal relationships and communication skill training of TWD 3,600 per individual is considered as the variable.

[13] Source: Market Intelligence & Consulting Institute (MIC), http://mic.iii.org.tw/english/AboutMIC.aspx

[14] Source: Central Bank https://www.cbc.gov.tw/content.asp?CuItem=27029

## Explanation on Selecting Financial Proxy:

In such discussions, similar outcomes were sometimes applied with variables different in some ways, for example, when it came to making more friends, the students considered the cost incurred from parties/gatherings, and the costs related to activity participation in the case of volunteers. Such difference comes from the discussions in stakeholder engagement. More specifically, each stakeholder has his/her considerations and may have different points of view. When defining financial proxy variables, the outcome of stakeholder engagement and their perception are analyzed.

For students, the outcome shows that the cost of curriculum takes higher precedence than benefits, which may be associated with their position as users. This suggests that the students largely agree with NPOs in the selection of financial proxy, but there is a gap in the observed outcome. Considering the difference in perceived responses, several indicators thresholds were incorporated in the design of the questionnaire to reflect the numbers of people exhibiting these outcomes.

The primary factors of considering the same financial proxy for varying subgroups include:

1. Instead of outcome, subgroup of students was defined from the stakeholder engagement in the first phase as the preliminary measure to avoid errors in representative samples. Inconsistency in outcomes was observed but such discrepancy occurred only on NPOs workers and disadvantaged adolescents.
2. A high agreement was observed in the comments and feedback from subgroups of students, for example, course fees were generally selected as the financial proxy for those aiming to improve the quality of life with digital products.
3. Following the financial proxy selection step, a final sampling and discussion with stakeholder was held for confirmation and agreement.

In the selection of financial proxy, the use of local public information was used first. When none proved available, we called the local service provider or referred to international reports or database for information to be used. We will further discuss and confirm the selection with stakeholders. When there was a need to estimate the duration of a certain outcome or financial proxy, we estimated the duration and discussed the drop-off effect with the stakeholder.

# Chapter III. Establishment of an SROI Model for this Project

## 3.1 Calculation of Inputs

### 3.1.1 Analysis and Calculation of Inputs

After inventory, the inputs of ASUS Computer Recycling and Education Project can be divided into several aspects:

（1） Input of ASUS budget

The domestic budget for the ASUS Computer Recycling and Education Project is NTD 400,000 per year, which means NTD 600,000 for the 1.5-year surveyed period from 1 January 2015 to 30 June 2016 (1.5 x NTD 400,000). In addition to the annual budget, ASUS will allocate ICT product recycling incentives to the factory's working capital. In 2015, these incentives amounted NTD 2,565,420. In the same year, ASUS donated 1,262 ICT products, 393 (31.14%) of which were donated to 21 NPOs covered in this report.

We applied this percentage of donated ICT products to the project's budget for 2015-2016: 31.14% x NTD 3,165,420 = NTD 985,745.

（2） Input of project volunteer manpower

The project volunteers recruited by ASUS can be divided into student volunteers and company volunteers. In this study, we set the hourly wage of the student volunteers at NTD 120, the statutory minimum hourly rate in 2015, while we set the

hourly wage of the company volunteers at NTD 267, calculated from a national average monthly salary in ICT sector in 2015 at NTD 44,879[15](source: Directorate General of Budget, Accounting and Statistics) and 84 statutory working hours per fortnight.

Since the analysis period for this project is 2015-2016, and the present analysis analyzes courses up to 30 June 2016, the input value for 2016 was estimated at 1/2 the value of 2015. This puts the value of volunteer input at NTD 974,354.

***Table 3-1 Input of Volunteer Hours and their Value***

| | Average hourly wage | Input hours | Value of inputs (NTD) |
|---|---|---|---|
| ASUS company volunteers | 267 | 3,220.5 | 859,874 |
| Student volunteers | 120 | 954 | 114,480 |
| Total | | 4,174.5 | NTD 974,354 |

（3） Input of refurbish factory cost

As mentioned above, the refurbish factory was established specifically for the ASUS Digital Recycling Project, and its refurbished computers are donated to NPOs. The factory's operational revenue comes from processing the unusable ICT products and components. We applied the average cost of refurbishing a computer to the computers covered under the scope of this report, to arrive at the factory's cost input.

In 2015, a total of 393 ICT products (320 desktop computers, 48 notebook computers, and 25 AIOs) were donated to 21 NPOs. Based on the information provided by the factory, the average renovation cost per ICT product was NTD

[15] Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan http://www.dgbas.gov.tw/ct.asp?xItem=38850&ctNode=4987&mp=1

2,082.32 (including costs of labor and materials). Therefore, the cost of refurbishing 393 ICT products was NTD 818,352.

（4） Input of the Taiwan Digital Phoenix Association manpower

Digital Phoenix has one full-time employee: the project manager who is responsible for the implementation and communication of the ASUS Computer Recycling and Education Project. This part of the budget is funded by ASUS and will be excluded here to avoid duplication.

### 3.1.2 Total Inputs under the Scope of Analysis of this Report

Based on the analysis in section 1.1, we summarize the costs of total domestic inputs of the ASUS Computer Recycling and Education Project from 2015 to 2016 in the following table:

***Table 3-2 Total Input of the Project***

| Inputs | Amounts (NTD) |
|---|---|
| ASUS budget | 985,745 |
| Project volunteer manpower | 974,354 |
| Refurbishment factory cost | 818,352 |
| Total project inputs during the reporting period | NTD 2,778,451 |

## 3.2 Adjusting Factors

According to the SROI guide, impacts of outcomes may be reduced due to the allocation of resources among various projects and the continuation of a project. Therefore, four factors must be considered when calculating SROI:

（1） Deadweight

the probability of an outcome occurring regardless of the project's existence.

（2） Displacement

This factor represents the spillover effect of the target project and has negative changes on project of or value of other public welfare projects in the community. The SROI guide indicates that not every project will have this factor. The SROI guide cites the example of a negative spillover effect from increasing the number of street lights in crime-ridden Area A, which pushes crime to Area B.

（3） Attribution

In the absence of this project, stakeholders would still have the opportunity of intervention from other projects to produce the same results. Unlike Deadweight, Attribution indicates the involvement of other projects, while Deadweight is the probability that the results will naturally occur.
As in the case of the Deadweight factor, our questionnaire surveys whether stakeholders have access to and participate in other similar charitable projects to determine Attribution.

（4） Drop-off

The adjusting factor comes from the principles of avoiding over-statement in SROI, and is used to understand the impact of other factors on the outcome. The definition of the factor comes from stakeholder engagement.

In the second phase interviews, we probed for the presence of four factors, such as the chance of identical influence taking place without the project, any other trigger of the change, whether the change and/or benefit excluded or affected others, and the duration. The inquiry was done in cross-over questions to clarify the effect of these four factors on the outcome. Besides the interviews, related questions were incorporated into the questionnaire to verify the incidence of the factors found in the interviews. The basis of our decision and choice was explained to stakeholders during the last phase for their final confirmation.

1. Participants

| Outcomes | Adjusting Factor | | Description |
|---|---|---|---|
| Improve quality of life with digital products and skills | Deadweight | 61.73% | During our interviews, we found that some of the participants are equipped with digital skills and have applied these skills to improve their quality of life. In this regard, we assume the ratio of the participants who responded they possess digital skills as the deadweight factor. |
| | Displacement | 0.00% | The impact this project has on participants' improvement of quality of life is a closed-loop outcome. As observed by NPOs, participants and us, it is determined that no participant has exerted any crowding out effect or negative impact on other people or stakeholders as a result of their possession of digital skills for improving their quality of life. |
| | Attribution | 30.00% | In their familiarization with and application of digital skills in their daily lives, the participants responded that NPOs at their location also made contributions in addition to ASUS' provision of education and refurbished computer hardware. Among the questionnaires, approximately 27.08% of the participants believed the contribution made by NPOs and associations should be accounted for. We conservatively have set this ratio to 30%. |
| | Drop off | 0.00% | Most of the participants responded that they will continue to use their digital skills to improve their quality of life because of the convenience in life brought forth by their digital skills. As the term examined in the analysis is only the 1.5 years starting from 2015.1.1 to 2016.6.30, we will not assume any other drop-off factor once verification is made with stakeholders. This was only included in the subsequent sensitivity analysis. |

| | | | |
|---|---|---|---|
| Increase self-confidence | Deadweight | 50.00% | In the questionnaires, approximately 50% of the participants responded that their self-confidence had increased depending on other factors, even without the project. In this regard, we assumed a deadweight of 50%. |
| | Displacement | 0.00% | From our observation during the stakeholder engagements, it was determined that no crowding out effect or negative impact was suffered by other people or stakeholders as a result of participants' improvement of their self-confidence. |
| | Attribution | 30.00% | Approximately 30% of the participants responded that the contributions made by NPOs for the improvement of their self-confidence can be accounted for roughly 20%-30% in addition to ASUSTek's provision of education and refurbished computer hardware. We conservatively assumed it as 30%. |
| | Drop off | 10.00% | From our life experience, we can see a decrease of self-confidence gained through sharing over time. In the first interview and questionnaire, most of the participants responded that they don't feel any decrease of self-confidence over time. However, in the final confirmation, a certain extent of decrease can be determined. In this regard, we decided to set it as 10% after discussion with the participants. |
| Decrease sense of isolation | Deadweight | 20.00% | In the questionnaires, approximately 20% of the participants responded that their sense of isolation had decreased depending on other factors, even without the ASUSTek Computer Recycling and Education Project. In this regard, we assume a deadweight of 20%. |
| | Displacement | 0.00% | From our observation during the stakeholder engagements, it was determined that no crowding out effect or negative impact is suffered by other people or stakeholders as a result of participants' decrease of their sense of isolation. |

| | | | |
|---|---|---|---|
| | Attribution | 0.00% | Most of the participants responded that they will continue to use digital tools to communicate with their relatives. As the term examined in the analysis is only the 1.5 years starting from 2015.1.1 to 2016.6.30, we will not assume any other drop-off factor once verification is made with stakeholders. This will only be included in the follow-up sensitivity analysis. |
| | Drop off | 0.00% | As the term examined in the analysis is only the 1.5 years starting from 2015.1.1 to 2016.6.30, we assumed no other drop-off factors once verification was made with stakeholders. This was only included in the subsequent sensitivity analysis. |
| Improve academic performance and interest in learning | Deadweight | 0.00% | After discussion with NPOs and school children, it was determined that disadvantaged school children don't have any other access to the same software and hardware resources as those provided by ASUSTek. In this regard, we will not assume any other deadweight factor. This was only included in the follow-up sensitivity analysis. |
| | Displacement | 0.00% | From our observation during the stakeholder engagements, it was determined that no crowding out effect or negative impact was suffered by other people or stakeholders as a result of participants' decrease of their sense of isolation. |
| | Attribution | 30.00% | After discussion with NPOs and school children, it was determined that the improvement of participants' academic performance and their interest in learning should be attributed to the consistent course contribution sponsored by the government in addition to ASUSTek'S provision of courses and refurbished computer hardware. Our discussion concluded that the factor should be assumed as 30%. |
| | Drop off | 0.00% | As the term examined in the analysis is only the 1.5 years starting from 2015.1.1 to 2016.6.30, we assumed no other drop-off factor once verification is made with stakeholders. This was only included in the subsequent sensitivity analysis. |

| | | | |
|---|---|---|---|
| Improve employment competitiveness | Deadweight | 0.00% | After discussion with NPOs and participants, it is determined that disadvantaged workers have access to job opportunities in NPOs only when supported by government projects. They do not have access to the same software and hardware resources as those provided by ASUS. In this regard, we will not assume any other deadweight factor. This was only included in the subsequent sensitivity analysis. |
| | Displacement | 50.00% | As stated above, the NPOs staffs are mostly disadvantaged workers recruited via the Multi-Employment Promotion Program under the Ministry of Labor. Once their job is done in the NPOs, the digital skill may prevent those disadvantaged workers who do not have the same level of skill from engaging in the program in the future. After verification with NPOs, we decide to assume a displacement of 50% for this kind of crowding out effect. |
| | Attribution | 30.00% | Approximately 30% of the participants responded that the contributions made by NPOs for the improvement of their employment competitiveness can be accounted for roughly 20%-30% in addition to ASUSTek'S provision of education and refurbished computer hardware. We conservatively assume it as 30%. |
| | Drop off | 0.00% | Most NPOs workers responded that they will continue to use their increased digital competitiveness for their future career without interruption. As the term examined in the analysis is only the 1.5 years starting from 2015.1.1 to 2016.6.30, we will not assume any other drop-off factor once verification is made with stakeholders. This was only included in the subsequent sensitivity analysis. |
| Cause physical discomfort | | 0.00% | Though physical discomfort is a negative outcome, we will not assume any other Adjusting Factor adjustment regarding the outcome of physical discomfort in order not to overstate it. |

2. Volunteers

| Outcomes | Adjusting Factor | Factor | Description |
|---|---|---|---|
| Improve work efficiency | Deadweight | 20.00% | In the interviews and questionnaires, volunteers responded that they would devote more attention to their public welfare engagement than their job. Despite busy work or study, there is generally a 20% chance that they will attend other public welfare activities when time is available or some aspirations exist since paid absences and resources are offered under this project. |
| | Displacement | 0.00% | From the field observations made by ASUS, volunteers and us, it was determined that no crowding out effect or negative impact was suffered by other people or stakeholders as a result of the improvement of volunteers' work efficiency with regard to the increase of work efficiency contributed by the project. |
| | Attribution | 10.00% | Volunteers responded that they are enthusiastic about the public welfare activities based on their personality traits besides their participation in this project. In this regard, we assume this factor as 10%. |
| | Drop off | 0.00% | As 60% of the participants responded that the outcome of work efficiency improvement only lasts one month, our calculation is done conservatively under the condition of one month of time regarding the estimation of benefit continuation for efficiency improvement. |
| Improve interpersonal relationship | Deadweight | 20.00% | In the interviews and questionnaires, volunteers responded that they attribute the improvement of their interpersonal relationships primarily to their public welfare engagement. Despite busy work or study, there is generally a 20% chance that they will attend other public welfare activities when time is available or some aspirations exist since paid absences and resources are offered |

| | | | |
|---|---|---|---|
| | | | under the program. It would be less likely for them to engage in other projects without their engagement in this project. |
| | Displacement | 0.00% | From the field observations made by NPOs, participants and us, it was determined that no crowding out effect or negative impact was suffered by other people or stakeholders as a result of the improvement of participants' self-confidence. |
| | Attribution | 0.00% | With regard to volunteers' response in the dialogues, the outcome calculated in this report was the one anticipated in the project without any influence by other external factors. In this regard, we assumed it as 0%. |
| | Drop off | 10.00% | In the questionnaires, only few volunteers responded that they believe the improvement of their interpersonal relationship will decrease over time. We conservatively assumed this as 10%. |
| Reduce unnecessary living expense | Deadweight | 20.00% | In the interviews and questionnaires, volunteers responded that they would devote more attention to their public welfare engagement than their job. Despite busy work or study, there is generally a 20% chance that they will attend other public welfare activities when time is available or some aspirations exist since paid absences and resources are offered under the program. |
| | Displacement | 0.00% | From the field observations made by NPOs, participants and us, it was determined that no crowding out effect or negative impact was suffered by other people or stakeholders as a result of the decrease of participants' unnecessary living expenses. |
| | Attribution | 0.00% | Generally, the change of volunteers' consumer behavior is the immediate impact of this project, of which no other particular factors can be specifically specified. In this regard, we will not assume a ratio. This was included in the subsequent sensitivity analysis. |
| | Drop off | 0.00% | Most volunteers responded that they believe the change of their consumer behavior will last more than one year. Their reduction of unnecessary living expenses will only continue and not |

| | | | |
|---|---|---|---|
| | | | discontinue on the basis of their consistent engagement in other public welfare activities. In this regard, did not assume a drop-off factor. This was only included in the subsequent sensitivity analysis. |

3. Refurbishment Factory

| Outcomes | Adjusting Factor | Factor | Description |
|---|---|---|---|
| Output of refurbished computers | Deadweight | 0.00% | The refurbishment factory is the social enterprise established specifically for the ASUSTek Computer Recycling and Education Project. In this regard, after discussion with the ASUS Foundation and the factory, it was determined that the output of these refurbished computers can be traced. Hence, we no longer assumed a deadweight. |
| | Displacement | 0.00% | From observations made by the ASUS Foundation, the computer refurbishment factory and us, a discussion was held with regard to the possible influence incurred by the factory over other computer vendors. Since the purpose of the factory is to refurbish discarded computers and turn them into usable recycled ones, this will significantly reduce the impact on the environment. In addition, no negative impact from the factory was found in any disclosed information. Therefore, we excluded it. |
| | Attribution | 0.00% | The output of refurbished computers is the refurbishment work done by the factory. No other alternative factor exists. Therefore, we assumed a ratio of 0%. |
| | Drop off | 30.00% | In the responses from the stakeholders, we found that the performance and availability of the refurbished computers are not comparable to brand new ones. In this regard, during the term examined in the analysis, the participants reflected that |

| | | | |
|---|---|---|---|
| | | | there is a 30% faulty rate over their use of refurbished computers. Though the factory would exchange those malfunctioning refurbished computers in time, we reflect this fact in the drop-off factor. |
| Improvement of employee skills | Deadweight | As the improvement of employee skills was calculated with a relatively conservative financial proxy, its impact on the outcome is not significant. Therefore this was only included in the subsequent sensitivity analysis. | |
| | Displacement | | |
| | Attribution | | |
| | Drop off | | |

# 3.3 Calculation of Outcome Value

In the previous Chapter, we have confirmed the changes and outcomes for stakeholders and determined the measurements of these outcomes, including indicators, financial proxies and adjusting factors. The SROI analysis on the ASUSTek Computer Recycling and Education Project under the ASUS Foundation concludes:

1. Participant

| Stakeholder | Outcome | Financial Proxy | | Quantity | | Monetized values (TWD) | |
|---|---|---|---|---|---|---|---|
| | | Proxy | Value ( TWD ) | 2015 | 2016 | 2015 | 2016 |
| Participant | Improved quality of life through digital products and skills | Cost per hour of basic computer course | 100 | 6,548.00 | 5,058.00 | 654,800 | 505,800 |
| | | Cost per hour of word processing software course | 114 | 96 | 20,810.50 | 10,944 | 2,372,397 |
| | | Cost per hour of image editing software course | 300 | | 1,373.00 | | 411,900 |
| | | Cost per hour of housekeeping | 450 | | 284 | | 127,800 |
| | | Average shipping cost per online purchase | 110 | | 188 | | 20,680 |
| | Increased self-confidence | Cost per self-confidence training | 2,800 | | 251 | | 702,800 |
| | Decreased sense of isolation | Cost per family counseling | 3,750 | | 142 | | 532,500 |
| | | Cost per hour of interaction with friends during activities | 474 | | 3,860.00 | | 1,829,640 |
| | Improved academic performance and interest in learning | Cost per hour of after-school counseling at elementary and middle schools | 125 | 80 | 11,808.00 | 10,000 | 1,476,000 |

| Stakeholder | Outcome | Financial Proxy | | Quantity | | Monetized values (TWD) | |
|---|---|---|---|---|---|---|---|
| | | Proxy | Value ( TWD ) | 2015 | 2016 | 2015 | 2016 |
| | Improved employment competitiveness | Average monthly salary increased with ICT certification | 1,002 | 1,212.00 | | | 1,214,424 |
| | Physical discomfort | Cost per medical treatment | 950 | | 157.56 | | (149,682) |
| Total | | | | | | 675,744 | 9,044,259 |
| Discount rate | | | | | | | 1.20%[1] |
| Current value | | | | | | | 8,937,015 |

[1] Since the monetized values for 2015 and 2016 were not equal, the discount rate used for the 2016 present value is based on the fixed interest rate of 1.2% for one-year postal savings in the Taiwan Postal Savings Fund in 2015.

2. Volunteer

| Stakeholder | Outcome | Financial Proxy | | Quantity | | Monetized values (TWD) | |
|---|---|---|---|---|---|---|---|
| | | Proxy | Value ( TWD ) | 2015 | 2016 | 2015 | 2016 |
| Volunteer | Improved work efficiency | Average hourly wage per information industry employee in Taiwan in 2015 | 267 | 1,840 | 1,200 | 491,280 | 320,400 |
| | Reduced unnecessary living expenses | Savings from reducing unnecessary living expense (median determined from the questionnaire survey) | 3,000 | 90 | 60 | 270,000 | 180,000 |
| | | | 7,500 | 90 | 60 | 675,000 | 450,000 |
| | Decreased sense of isolation | Cost per family counseling | 3,750 | 448 | 160 | 1,680,000 | 600,000 |
| | | Cost per hour of interaction | 487 | 2,063 | 546 | 1,004,681 | 265,902 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | with friends during activities | | | | | |
| Total | | | | | | 4,120,961 | 1,816,302 |
| Discount rate | | | | | | | 1.20%[1] |
| Current value | | | | | | | 1,794,765 |
| Grand Total | | | | | | 5,915,726 | |

[1] Since the monetized values for 2015 and 2016 were not equal, the discount rate used for the 2016 present value is based on the fixed interest rate of 1.2% for one-year postal savings in the Taiwan Postal Savings Fund in 2015.

3. NPOs

| Stakeholder | Outcome | Financial Proxy | | Quantity | | Monetized values (NTD) | |
|---|---|---|---|---|---|---|---|
| | | Proxy | Value（NTD） | 2015 | 2016 | 2015 | 2016 |
| NPOs | Increased visibility | Advertisement on mainstream magazines | 80,000 | | 2 | | 160,000 |
| | | Employment of 1 person for leaflet distribution | 20,008 | | 1 | | 20,008 |
| | | Exposure on website | 1,000 | | 8 | | 8,000 |
| | | Poster printing | 2,500 | | 2 | | 5,000 |
| Total | | | | | | 0 | 193,008 |
| Discount rate | | | | | | | 1.20%[1] |
| Current value | | | | | | | 190,719 |
| Grand Total | | | | | | 190,719 | |

[1] Since the monetized values for 2015 and 2016 were not equal, the discount rate used for the 2016 present value is based on the fixed interest rate of 1.2% for one-year postal savings in the Taiwan Postal Savings Fund in 2015.

4. Computer Refurbishment Factory

| Stakeholder | Outcome | Financial Proxy | | Quantity | | Monetized values (NTD) | |
|---|---|---|---|---|---|---|---|
| | | Proxy | Value ( NTD ) | 2015 | 2016 | 2015 | 2016 |
| Computer refurbishment factory | Production of refurbished computers | Residual value of computers after 3 years of use (desktop, notebook and All-in-One) | 3,852 | 320.00 | | 1,232,640 | 0 |
| | | | 6,547 | 48.00 | | 314,256 | 0 |
| | | | 8,541 | 25.00 | | 213,525 | 0 |
| | Improve employee skills | Cost of B-level computer hardware refurbishment skills training course | 8,700 | 6.00 | | 52,200 | 0 |
| | | Cost of interpersonal relationships and communication skills course | 3,600 | 1.00 | | 3,600 | 0 |
| Total | | | | | | 1,816,221 | 0 |
| Discount value | | | | | | | 1.20%[1] |
| Current value | | | | | | | 0 |
| Grand Total | | | | | | 1,816,221 | |

[1] Since the monetized values for 2015 and 2016 were not equal, the discount rate used for the 2016 present value is based on the fixed interest rate of 1.2% for one-year postal savings in the Taiwan Postal Savings Fund in 2015.

5. Total Social Impact Value

| Stakeholders | Outcomes | Monetized values (TWD) | Deadweight | Displacement | Attribution | Drop off | Social impact value (TWD) |
|---|---|---|---|---|---|---|---|
| Participant | Improved quality of life through digital products and skills | 4,063,547 | 61.73% | 0.00% | 30.00% | 0.00% | 1,088,584 |
| | Increased self-confidence | 694,466 | 50.00% | 0.00% | 30.00% | 10.00% | 218,757 |
| | Decreased sense of isolation | 2,334,130 | 20.00% | 0.00% | 0.00% | 0.00% | 1,867,304 |
| | Improved academic performance and interest in learning | 1,468,498 | 0.00% | 0.00% | 30.00% | 0.00% | 1,027,949 |
| | Improved workplace competitiveness | 1,200,024 | 0.00% | 50.00% | 30.00% | 0.00% | 420,008 |
| | Physical discomfort | 147,908 | 0.00% | 0.00% | 0.00% | 0.00% | (147,908) |
| Volunteer | Improved work efficiency | 807,881 | 20.00% | 0.00% | 10.00% | 0.00% | 581,674 |
| | Reduced unnecessary living expenses | 1,567,530 | 20.00% | 0.00% | 0.00% | 0.00% | 1,254,024 |
| | Decreased sense of isolation | 3,540,315 | 20.00% | 0.00% | 10.00% | 10.00% | 2,294,124 |
| NPOs | Increased visibility | 190,719 | 0.00% | 0.00% | 27.08% | 0.00% | 139,072 |
| Digital Phoenix Association | Increased visibility | 4,051 | 0.00% | 0.00% | 0.00% | 0.00% | 4,051 |
| Computer refurbishment factory | Production of refurbished computers | 1,760,421 | 0.00% | 0.00% | 0.00% | 30.00% | 1,232,295 |
| | Improved employee skills | 55,800 | 0.00% | 0.00% | 0.00% | 0.00% | 55,800 |
| TOTAL | | 17,835,291 | | | | | 10,035,734 |

In order to stay with do not over-claim principle, with the analysis timeframe of the report, and with the verifiability of the data calculations, we have assumed no spillover effect of the outcomes beyond the reporting period, and the duration of any improved work efficiency reported through the questionnaires is assumed to be only one month. Discount rate was determined depended on the purpose and expected returns interest rates for different purposes and expected returns. In the SROI guide, a 3.5% discount rate is used according to HM Treasury's Green Book (a disclosure of UK public works policies). The discount rate used in this report is based on the fixed interest rate of 1.2% for one-year postal savings in the Taiwan Postal Savings Fund as of December 2015. The reason for taking this interest rate as the present value discount rate is that the same rate is used by the Ministry of Finance for tax returns and tax levies, implying that this is the cost of capital rate in the public sector. As the outcome period does not spillover beyond the reporting period, the outcomes in 2016 can be calculated back to their values in 2015 using the present value discount method.

Finally, the total value of input is divided by the outcome value. Thus, the SROI ratio for this project is: NTD 10,035,734 / NTD 2,778,451 = NTD 3.61

# 3.4 Sensitivity Analysis

SROI turns qualitative, narrative and other non-quantitative information into financial values and that inevitably involves a lot of assumptions and estimates. To achieve objective and verifiable results, the SROI guide requires a sensitivity analysis and disclosure of relevant information for each analysis. Thus, to be rigorous and objective, the SROI calculation was adjusted according to certain occurrences in the following order as the sensitivity analysis testing of this report:

1. Sensitivity Analysis of the Increase in Value of Social Impact

（1） Adjustment of Financial Proxy for Courses

In order to comply with the requirement of do not over-claim principle in the SROI guide, this analysis report uses the lowest value of public information as the proxy variable when searching for financial proxies. With

regard to price of the word processing software course, we found the lower was NTD 114 per hour and used it for the financial proxies as the basis of calculation. According to other organizations, the price of word processing software course is NTD 500 per hour. In the same way, the price of the course offered to disadvantaged adolescents fell between NTD 125 to NTD 250 per hour, and this report was initially estimated at the most conservative price of NTD 125 per hour. If it is adjusted For NTD 250 per hour. SROI would be adjusted to:

NTD 11,063,683 / NTD 2,778,451 = NTD3.98

2. Sensitivity Analysis of the Reduction in Value of Social Impact

（1） Only retain the benefits of participants' improvement of quality of life with digital products and refurbishment factory's production of refurbished computers

Among all the outcomes, the most significant, intuitive and concrete ones are the improvement of quality of life with digital products and refurbished computers recycled from discarded 3C products. If only to retain these two benefits of participants and of refurbishment factory, SROI would be adjusted to:

NTD 2,172,970 / NTD 2,778,451 = NTD 0.78

（2） Reduction of benefits for volunteers

During the interviews with volunteers, we found that volunteers were more likely to participate in volunteer activities. Therefore, if we assume that volunteers that do not participate in the ASUS Computer Recycling and Education Project but participate in other volunteer activities would still achieve the same benefits, then we increased the Deadweight to 100% to

reduce the outcome of volunteers to zero. The results would be as follows:

NTD 5,905,912 / NTD 2,778,451 = NTD2.13

（3） All inputs to the Digital Education Project are credited

As stated in the previous calculation, the project involved 393 refurbished computers donated and used for digital education courses in 2015, which represents 31.14% of the 1,262 computers donated over the entire reporting period. This proportion was used in our calculations. If we assumed that the 1,262 refurbished computers and allocated budgets were accounted for 100% of the inputs, and conservatively assumed that the courses did not produce concrete outcomes if they were not offered to stakeholders, the SROI ratio would be:

NTD 13,824,240 / NTD6,767,662 = NTD 2.04

3. Sensitivity Analysis of Range Adjustment

In order to ensure the objectivity of the results, we added a reasonable 10% upward and downward range estimate to the calculated SROI values. After adding this 10% range, we could draw a reasonable range as follows:

| Addition and subtraction rates | Impacts | SROI |
|---|---|---|
| 10% | 11,039,308 | NTD 3.97 |
| -10% | 9,032,161 | NTD 3.25 |

4. Sensitivity analysis of adjusting factor adjustments

（1） The assumption of adjusting factors, such as deadweight, displacement, attribution and drop-off, was determined from the interviews stakeholders as well as statistics from the questionnaires. However, many of the assumed

factors are 0% due to the fact that the stakeholders believe the project won't be hindered by the negative factors of substitution, crowding out effect and time depletion. From a conservative perspective, we have adjusted the factors that the stakeholders considered as 0% impact to 10% or 30%. Such testing methodology is derived from the intervals determined in our discussion with the stakeholders. The results are 2.83 and 1.64 respectively.

（2） After the final dialogues and discussions with the stakeholders, we had increased pre-assumed Adjusting Factors by 10% and 20%, conservatively. The results are 2.90 and 2.15 respectively.

# Chapter IV. Conclusions

## 4.1 Analysis of Results

### 4.1.1 Project Value Analysis

During the face to face interviews with organization staffs and the participants of the project, we had a better understanding of the changes brought by the Digital Education Project. Through the process described in this report, we found that for every New Taiwan dollar of input in the Digital Education Project, the project generated a social impact of NTD 3.61

The main sources of these outcomes were participants, followed by the refurbishment factory, and were in line with the social objectives that the project was intended to achieve. As for the source of value generated, outcomes mostly came from the benefits of improved digital skills.

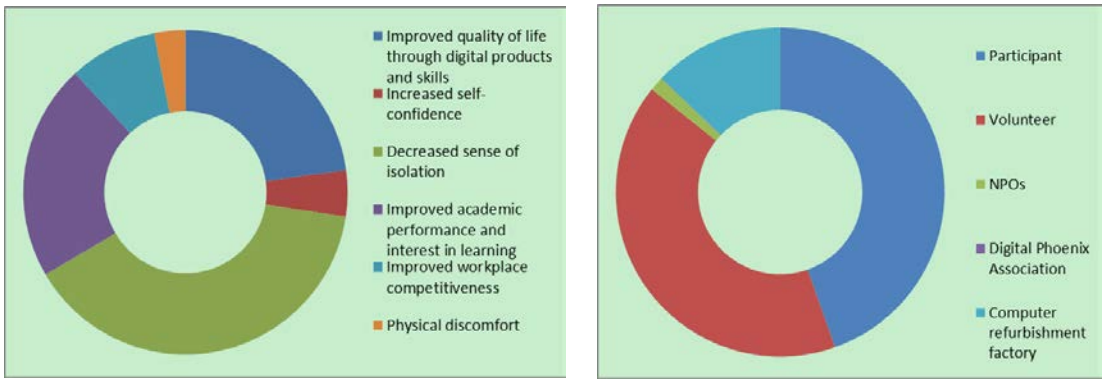


***Figure 4-1 Social Impacts Values of Stakeholders in the Project***

# 4.1.2 Follow-up Management of the Digital Education Project

The main purpose of this study is not to calculate the value of SROI. Rather, the calculation process is meant to generate a benchmark for continuous rolling management. Among the results of the calculation, we have the following findings on ways to increase the impact of and the value of the Digital Education Project:

（1） Create a user management system:

In this SROI study, by 30 June 2016 only 31.14% of the refurbished computers donated had been used to set up digital courses. We did not have the actual information on the users and the use of the remaining 68.86% of the refurbished computers but only knew that those NPOs received refurbished computers. To ensure the effective follow-up management, we suggested a continuous follow-up tracking system or an online user feedback mechanism to help ensure the use of the refurbished computers.

（2） Enhance the use efficiency rate of the refurbished computers

The 1,262 refurbished computers donated in 2015 were used to offer 977 hours of digital education courses that reached 649 persons. Calculation showed that if we can increase the manpower input in the digital computer training courses, it would bring the benefits over the cost. Therefore, the use efficiency rate should be enhanced through rigorous planning and further increase the impact of the project.

（3） Promote the proper use of refurbished computers

In the process of interviewing stakeholders, a small number of participants responded slight discomfort caused by the way and time of using the

refurbished computer, producing negative changes to the project. Therefore, we plan to increase the advocate of the proper usages and habits for participants. This may be reached by putting slogans on refurbished computers and incorporating relevant information in the digital courses, with the aim of reducing the risk of discomfort to users.

（4） Customize Curriculum

During the calculations for this study, we found that different participant groups had different marginal benefits from different digital education courses. In order to maximize the social value of the Digital Education Project, we could offer various digital courses targeting different participant groups in a more detailed way. A survey of the participant groups was summarized as follows:

***Table 4-1 Observations of the Participants in this Project and ASUS Follow-up Management Policy***

| Participants | Survey findings | Follow-up management |
|---|---|---|
| Disadvantaged adolescents | We found that although there are more computer courses for disadvantaged adolescents, there is a lack of tools for practicing and collecting information. While disadvantaged adolescents often lag behind their peers in their studies, they can be reinforced through online learning about digital skills. | If we are able to provide digital products and combine these with an online learning mechanism, disadvantaged teenagers will receive benefits of reducing the Digital Divide beyond the expectation. ASUS will focus on developing courses for these disadvantaged youths. |
| Women of new immigrants | Women of new immigrants, mostly young or middle-aged, are quick learners and they can soon apply their new skills to work. | ASUS will develop more advanced courses to these women and include more work-related contents to increase their benefits from applying their new skills in the workplace. |
| Residents of underprivileged communities | Many residents from underprivileged communities come to school for digital skills courses in hopes of enhancing their competitiveness in the workplace. | This resembles the situation of women of new immigrants because of the higher professionalism of the courses. We will provide more professional |

| Participants | Survey findings | Follow-up management |
|---|---|---|
| | | lecturers and even provide courses for license. |
| Senior citizens | Senior citizens learning digital skills mostly not to enhance their competitiveness in the workplace, but to reduce their sense of isolation and improve their quality of life. | In future curriculum design, we will create a more life-oriented and social-oriented curriculum, and we will arrange more student volunteers to communicate and interact with them. |
| Organization staffs | In many public service organizations, a large proportion of their staff is vulnerable as well. Many public welfare organizations rely on government grants to recruit and train their staff and teach them skills for the future. | As with residents of underprivileged communities, we will provide more professional lecturers and even provide courses for license. |
| People with physical and/or mental disabled | We found that people with disabilities scored significantly lower in terms of convenience of life and mood changes when compared to other groups in the study. This may reflect the need for people with disabilities who not only need to develop digital skills, but also to use digital tools to enhance their quality of life and their state of mind. During the interviews, we found that people with mental and/or physical disabilities had the weakest family relationships of all groups in the study. Improving their family relationships may be the most important issue for people with disabilities. | In the future, we hope to offer courses to participants with disabilities on digital skills as well as on how to use ICT devices to address the inconvenience in their lives.<br>We even plan to invite their family members to attend the classes together. |

（5） Strengthen the linkage with NPOs

During the implementation and engagement of this study, feedback showed that the implementation of the ASUS Computer Recycling and Education Project produced different outcomes for different NPOs. Some NPOs display greater creativity and more usages, such as using the refurbished computers to not only educating the targeted vulnerable groups but also training their

own staffs for their administrative works, which expanded the scope of the impact. Therefore, we hope to strengthen our linkage with the NPOs to increase our current understanding of their needs. We will increase the frequency of field visits and of collaborative discussion on the usage, so that the refurbished computers can be applied in more diverse ways.

### 4.1.3 The Dilemma of Public Welfare in Taiwan

In addition to the SROI calculations, we also found the dilemma of many public services in Taiwan are facing during the analysis of the project:

（1） The disadvantaged helping the disadvantaged: During the interviews, we originally expected that the participants should be the main target of the NPOs. In fact, even a large proportion of the staffs themselves are disadvantaged in society and thus lack in digital skills. As a result, the majority of the participants for the courses have been organization staffs themselves. Even we who are writing this report via a computer could not imagine how we manage our administrative affairs without a digital environment.

This discovery let us deeply understand the human talent shortage in Taiwan's NPOs. We will input more efforts in the manpower of volunteers and the training of the NPOs staffs.

（2） The plight of disadvantaged children: During the engagement, we furthermore found that our curriculum for computer software applications for disadvantaged adolescents often overlapped with their school curriculum. However, the role of refurbished computers and the

courses is to assist disadvantaged adolescents to bridge the learning gap among their peer through the same digital education course.

Due to their family and living background, the disadvantaged social status would pass onto the next generation and thus create social problems. In the future, we will also try to connect with NPOs to provide programs that address the gap between the disadvantaged adolescents and their peers.

（3） The desert island in the city: The traditional impression is that resources may be scarcer in remote areas. In fact, we found that the gap between reach and poor in the city is huge, and the underprivileged people in their cities lack even more resources than those in rural areas. Their lack of digital skills makes them even more vulnerable in all aspects. Our future education programs will pay attention to vulnerable groups regardless of their locations and to reflect the real needs for each group.

（4） Many hands make light work: In this SROI analysis, our greatest lesson learned is that different stakeholders have different needs, and thus different education courses should be designed in order to achieve greater social impact. Based on the long-term experiences NPOs have work with various disadvantaged groups, NPOs could feed back to us the needs of those groups to design different courses. However, the resources are limited, and we also believe that there should be a lot of room for further improvement. We hope that this SROI report may invite feedbacks and increase the visibility of the project so that other NPOs may reach us for cooperation, increasing the social impacts.

The findings presented and the future plans announced are the main purpose of

this report, not the NTD 3.61: NTD 1 figure, as stated in the sensitivity analysis. According to the reference of some parameters, the value ranges between NTD 0.78 to NTD 3.98. We hope that the readers should not focus on the figures, but rather consider the intentions of this report and the follow-up management of public services of the project.

## 4.2 Summary: Empowering Charity Activity

"No Measurement, No Management". Since the inception of the project in 2008, ASUS has been working hard to bridge the Digital Divide, and the gap between urban and rural areas. ASUS hopes to facilitate ideal digital environment to establish Digital Inclusion, promoting corporate social responsibility while making profits. In addition to simply putting resources, our business spirit is also keen ensuring that resources are used at the right time at the right place to produce right results. This is our sole purpose and the original intention for calculating the SROI, so that our public service may be more powerful.

Through the implementation of this SROI project, we reviewed the inputs and outcomes of our project and found many aspects that could be improved. And because we listened to the needs of the disadvantaged groups in society, we could found the right direction, which bolsters our confidence that we can commit to our mission of bridging the Digital Divide.

In the future, we will use the same methodology to expand the analysis to the Refurbished Computer Donation Project for overseas, serving as the review for our oversea project so that our experience can serve as a reference and make a difference in more places.

SROI is not a competition or a game in numbers. Therefore, we published this first SROI analysis report in Taiwan based on the SROI guide. We wish to attract more NPOs to pay more attention to the importance of charity management.

# Annex I. Details of Courses of the ASUS Computer Recycling and Education Project during 2015-2016

| Course organizer | Course title | Course duration | Course participants | Total hours | Number of participants |
|---|---|---|---|---|---|
| Miaoli County West Lake Township Longdong Community Development Association | Computer learning | 2015/5/1 to 2015/6/30 | Organization staffs | 16 | 15 |
| Great Garden Catholic Church | Know your computer | 2015/3/19 | Disadvantaged adolescents | 2 | 15 |
| Happy Learning Tainan Yongkang | Photocap / GOOGLE cloud questionnaire | 2016/2/16 | Organization staffs | 2.5 | 8 |
| Happy Learning Pingdong Gaoshu | I am a text pro Office applications | 2016/3/1 - 2016/3/31 | Residents of underprivileged communities | 9 | 28 |
| | I am also a marketing expert – online sales skills for agricultural products | 2016/4/1 - 2016/4/30 | Residents of underprivileged communities | 9 | 21 |
| | Show off your brand – Product presentations that look and sound cool (foundation) | 2016/5/1 - 2016/5/31 | Residents of underprivileged communities | 9 | 22 |
| | Show off your brand – Product presentations that look and sound cool (advanced) | 2016/6/1 - 2016/6/30 | Residents of underprivileged communities | 9 | 20 |
| Longchi Charity Association | Chinese Digital Learning | 2015/8/25 - 2015/12/23 | Women of new immigrants | 4 | 20 |
| Chinese Council | Basic Computer Concepts | 2016/4 to 2016/5 | Disadvantaged adolescents | 12 | 7 |
| | Word Processing and the World of Internet | 2016/4 to 2016/5 | Disadvantaged adolescents | 6 | 7 |
| Taitung County Indigenous | Uniform education platform | 2016/1/1 - 2016/6/30 | Disadvantaged adolescents | 16 | 26 |

| Course organizer | Course title | Course duration | Course participants | Total hours | Number of participants |
|---|---|---|---|---|---|
| Kaulahan Cultural and Educational Development Association | Video-Assisted Teaching | 2016/1/ 4-2016/6/14 | Disadvantaged adolescents | 16 | 2 |
| Chinese National Association of the Deaf ROC | Dictation Typing Training Course | 2016/5/24 - 2016/5/25 | Organization staffs | 16 | 14 |
| | Digital Training Project Computer Courses | 2016/7/26 | Organization staffs | 2.5 | 9 |
| Nantou County Angels Association | Interpersonal communication | 2016/1/1 - 2016/1/31 | People with physical and/or mental disabled | 8 | 10 |
| | Communication in the Electronic Era | 2016/2/1 to 2016/2/28 | People with physical and/or mental disabled | 8 | 10 |
| | Enhance communication, Facebook | 2016/3/1 - 2016/3/31 | People with physical and/or mental disabled | 8 | 10 |
| | Build a web auction | 2016/4/1 - 2016/4/30 | People with physical and/or mental disabled | 8 | 10 |
| | Online Auction Promotion Practice | 2016/3/1 - 2016/9/30 | Organization staffs | 56 | 20 |
| | Thanksgiving Bazaar - The use of video clips to promote the Nantou Angels | 2016/3/1-2016/1/30 | Organization staffs | 72 | 10 |
| | Administrative word processing | 2016/ 1/1 to 2016/12/31 | Organization staffs | 192 | 10 |
| Private Cheng Hong Rehabilitation Home | Office applications | 2016/2/1 - 2016/8/31 | People with physical and/or mental disabled | 14 | 13 |
| Tainan City Private Changtai Home | Information and Education Activities for Persons with Mental and Physical Disabilities 2015 | 2015/6/1 to 2015/6/26 | People with physical and/or mental disabled | 32 | 10 |
| International Cultural Education Foundation | Office Applications | 2015/7/5 - 2015/8/14 | Disadvantaged adolescents | 6 | 16 |
| | Google Apps Teaching | 2015/7/5 - 2015/8/14 | Disadvantaged adolescents | 6 | 16 |
| | Online Remediation Tutorial | 2016/1/24 - 2016/2/5 | Disadvantaged adolescents | 4 | 16 |
| | Online Remediation Tutorials | 2016/7/11 - 2016/8/19 | Disadvantaged adolescents | 6 | 12 |
| Taipei Yongjian Evergreen Promotion | Year 1: Basic Concepts, Simple Operation, Saving Photos | 2015/3/1 - 2015/12/15 | Senior citizens | 72 | 18 |

| Course organizer | Course title | Course duration | Course participants | Total hours | Number of participants |
|---|---|---|---|---|---|
| Association | Year 2: The World of Internet, Google Maps | 2015/3/1 - 2015/12/12 | Senior citizens | 68 | 23 |
| | Year 3: Searches, Buses, Stock Market | 2016/3/1 - 2016/7/30 | Senior citizens | 38 | 25 |
| Changhua Ren'ai Presbyterian Church | Office Application Course (first time) | 2016/7/1 - 2016/8/31 | Organization staffs | 16 | 14 |
| | AAOT Online English Tutor (primary school class) | 2016/1/1-2016 / 8/31 | Disadvantaged adolescents | 48 | 6 |
| | AAOT Online English Tutor (junior high school class) | 2016/1/1 - 2016/6/30 | Disadvantaged adolescents | 36 | 6 |
| I-Link Community Services Taiwan | Seniors Love Facebook | 2016/2/24 - 2016/4/27 | Senior citizens | 15 | 20 |
| Happy Learning Association - Hsinchu Chudong | Office, PowerPoint Application Course (first time) | 2016/4/15 | Organization staffs | 2.5 | 6 |
| Kaohsiung City Information Application Association | Computer teaching and after-school counseling | 2016/3/1 - 2016/4/30 | Organization staffs | 24 | 15 |
| | Computer Teaching and After-School Counseling | 2016/4/1 - 2016/4/30 | Organization staffs | 24 | 15 |
| | Computer Teaching and After-School Counseling | 2016/5/1 - 2016/5/31 | Organization staffs | 24 | 15 |
| Love Neighborhood Association - Yuanli | Office Application Course (first time) | 2016/4/1 - 2016/6/30 | Disadvantaged adolescents | 6 | 9 |
| Department of Health and Welfare Children's Home | WORD document processing | 2016/1/1 - 2016/6/30 | Disadvantaged adolescents | 8 | 16 |
| | PHOTOIMPACT images | 2016/1/1 - 2016/6/30 | Disadvantaged adolescents | 2 | 16 |
| Kaohsiung City Foreign (Nanyang) Sisterhood Association | OfficePowerPoint | 2016/3/5-2016/4/3 | Women of new immigrants | 20 | 15 |
| | Office Word | 2016/3/14-2016/6/6 | Women of new immigrants | 24 | 13 |
| Hong Park Memorial School | Administrative systems | 2016/1 to 2016/4 | Organization staffs | 0.5 | 40 |
| Total | | | | 977 | 649 |

# Annex II. Stakeholder Engagements and Questionnaire Outlines

1. Participants

| Basic information and survey | |
|---|---|
| How did you know what information is available on a refurbished computer? | Why did you want to use a refurbished computer to join the course? |
| Did you have the opportunity to participate in computer courses offered by other groups if you didn't have this non-profit organization / group? | Did you have computer skills before the computer course? |
| How many hours a day did you use a computer before the computer course? | What kind of software did you use before the computer course? |
| What was your current computer course about? Please briefly explain here: | |
| **Checking outcomes** | |
| Digital multimedia skills | After the computer course, did you start using digital media such as watching pictures, movies, drama series, or listening to music, etc. |
| Digital work skills | After the computer course, have you started applying your computer skills in your work? |
| Social network software usage | After the computer course, did you start using Facebook, Skype, and other social media? |
| Digital information collection and search | After the computer course, did you start using your computer in daily life to make your life more convenient? (For example: visit websites, edit photos, check the bus schedule, weather, government websites, maps, translation of foreign languages, etc.) |
| Online shopping | After the computer course, did you start shopping online and compare prices? |
| Self-confidence | After the computer course, has your self-confidence increased? |
| Interpersonal relationships | After the computer course, have you made more friends, expanded your network, and reduced your sense of loneliness? |

| | |
|---|---|
| Family relationships | After the computer course, do you have more contact and better relationships with your relatives? |
| Negative changes | After the computer course, did you have any issues with your eyes, body posture, and daily living? |

2. Non-profit organizations

| Basic information and survey | |
|---|---|
| Who is the main beneficiary group of your association? | How have the donated refurbished computers been used? |
| How did you know about the ASUS Foundation and the ASUS Computer Recycling and Education Project? | Has your association used any of the ASUS digital education courses? |
| How long, in your opinion, will the impact of the ASUS computers on your organization last? | Could you get the same resources from other organizations or groups, if this ASUS project would not exist? |
| **Checking outcomes** | |
| Administrative efficiency | After participating in this Digital Education Project, has the administrative efficiency of your association / organization improved? |
| Visibility | After participating in this Digital Education Project, has the visibility of your association improved, has promotion been more smooth, and has the number of participants increased each year? |

3. Volunteers

| Basic information and survey | |
|---|---|
| How did you know about the ASUS Computer Recycling and Education Project? | Why did you want to take part in this Digital Education Project? |
| How many times have you joined activities of the ASUS Computer Recycling and Education Project? | Are you involved in a volunteer project in Taiwan or abroad? |
| If you would not have joined these ASUS activities, would you participate in other volunteer activities? | |
| **Checking outcomes** | |
| Work efficiency | Has this Digital Education Project helped you improve your work efficiency? |

| | |
|---|---|
| Reduce unnecessary expenses | Have you reduced your material desires and saved on your day-to-day expenses as a result of participating in this project? |
| Public service involvement | Have you become more actively involved in public services after participating in this project? |
| Interpersonal relationships | Has this project helped you make new friends and expand your interpersonal relationships? |
| Family relationships | After the computer course, do you have more contact and better relationships with your relatives? |
| Negative changes | Are you frustrated by the fact that your beneficiary group does not feel this project has helped them? |

# Annex III. Stakeholder Impact Map

# 1. Students participate in computer courses

| Stakeholders | Intended/unintended changes | Inputs | | Outputs | The Outcomes (what changes) | | | | | | | | | | Deadweight % | Displacement % | Attribution % | Drop off % | Impact | | Calculating Social Return | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Who do we have an affect on? Who has an effect on us? | What do you think will change for them? | What do they invest? | What is the value of the inputs in currency *(only enter numbers)* | Summary of activity in numbers | Description | Indicator | Source | Quantity How much change was there? | | Duration | Outcomes start | Financial Proxy | Value in currency | Source | What would have happened without the activity? | What activity did you displace? | Who else contributed to the change? | Does the outcome drop off in future years? | Quantity times financial proxy, less deadweight,displacement and attribution2015 | | Discount rate | | 1.2% |
| | | | | | How would the stakeholder describe the changes? | How would you measure it? | Where did you get the information from? | 2015 | 2016 | How long does it last after end of activity? (*Only enter numbers*) | Does it start in period of activity (1) or in period after (2) | What proxy would you use to value the change? | What is the value of the change? (*Only enter numbers*) | Where did you get the information from? | | | | | 2015 | 2016 | 2015 | 2016 | |
| Students participate in computer courses (Disadvantaged adolescents, Women of new immigrants, Residents of underprivileged communities, Senior citizens, People with physical and/or mental disabled, Organization staffs) | Life of digital inclusion | Time of students | 0 | computer courses attendees and use of refurbished computers | Use digital tools to improve the quality of life | Hours of using multi-media audio/video software | Interview and Questionnaire | 6548 | 5058 | 0 | 0 | Hourly rate of university extension department: basic computer concepts and Internet applications courses | 100 | University Continuing Education Department: basic computer concepts and Internet applications courses http://my.sce.pccu.edu.tw/MS/technology/Detail.aspx?ProdId=8AT3_A5090&Source=Search&SourceKey=2928&CataId=0701#Intro | 61.73% | 0.00% | 30.00% | 0.00% | 175,414.37 | 135,498.76 | 175,414.37 | 133,892.06 | |
| | | | | | | Hours of using word processing software and tools | Interview and Questionnaire | 96 | 20810.5 | 0 | 0 | Hourly rate of university extension department: word processing software courses | 114 | University Continuing Education department: Microsoft Office certification courses http://www.dpcd.pu.edu.tw/admiss/news.php?Sn=65 | 61.73% | 0.00% | 30.00% | 0.00% | 2,931.79 | 635,541.43 | 2,931.79 | 628,005.37 | |
| | | | | | | | Interview and Questionnaire | | 1373 | 0 | 0 | Hourly rate of university extension department: computer drawing courses | 300 | University Continuing Education department: computer drawing courses http://my.sce.pccu.edu.tw/MS/technology/Detail.aspx?ProdId=8BE8A5080&SourceKey=0703&CataId=0703 | 61.73% | 0.00% | 30.00% | 0.00% | 0.00 | 110,343.89 | 0.00 | 109,035.47 | |
| | | | | | | Hours of using of computer to look up for living information | Interview and Questionnaire | | 284 | 0 | 0 | Housekeeping - price per hour | 450 | OK Work Home Services: http://www.okwork.com.tw/ | 61.73% | 0.00% | 30.00% | 0.00% | 0.00 | 34,236.34 | 0.00 | 33,830.38 | |
| | | | | | | Frequency of online shopping per week | Interview and Questionnaire | | 188 | 0 | 0 | Average shipping cost of online shopping | 110 | Chunghwa Post http://www.post.gov.tw/post/internet/Postal/index.jsp?ID=2050106 | 61.73% | 0.00% | 30.00% | 0.00% | 0.00 | 5,539.97 | 0.00 | 5,474.27 | |
| | | | | | Improve in grades and enhance motivates of learning | Frequency of attendees of supplementary education course per week | | 80 | 11808 | 0 | 0 | Hourly fee for cram schools of elementary or junior high school students | 125 | telephone inquiries | 0.00% | 0.00% | 30.00% | 0.00% | 7,000.00 | 1,033,200.00 | 7,000.00 | 1,020,948.62 | |
| | | | | | Enhance employability | Daily hours working on refurbished computers | | | 1212 | 0 | 0 | Average additional monthly salary of NTD 1,002 for certificate personnel | 1,002 | Research reports of Information Technology Professional License | 0.00% | 50.00% | 30.00% | 0.00% | 0.00 | 425,048.40 | 0.00 | 420,008.30 | |
| | | | | | Negative impact on health | Increase in frequency of medical treatments | Interview and Questionnaire | | 157.5601961 | 0 | 0 | Fee of medical treatment for accidental or non-accidental injuries per visit | -950 | Ministry of Health and Welfare: Risk Analysis of Various Diseases for National Health Insurance, p.15, www.mohw.gov.tw/cht/DOS/DisplayStatisticFile.aspx?d=6350 | 0.00% | 0.00% | 0.00% | 0.00% | 0.00 | -149,682.19 | 0.00 | -147,907.30 | |
| | Mental satisfaction | | | | Increase self-confidence | Frequency of sharing achievement and living information per week | Interview and Questionnaire | | 251 | 0 | 0 | The cost of a self-confidence training course | 2,800 | Talent training course http://www.i-talent.com.tw/files/11-1005-338.php | 50.00% | 0.00% | 30.00% | 10.00% | 0.00 | 221,382.00 | 0.00 | 218,756.92 | |
| | | | | | Decrease in sense of isolation | Increase in frequency of contacting family members per month | Interview and Questionnaire | | 142 | 0 | 0 | Family counseling fee | 3,750 | Family counseling, provided by the foundation http://www.shiuhli.org.tw/consult/shiuhli_center_8.jsp#qa303 | 20.00% | 0.00% | 0.00% | 0.00% | 0.00 | 426,000.00 | 0.00 | 420,948.62 | |
| | | | | | | Frequency of interactions with friends through computers | Interview and Questionnaire | | 3860 | 0 | 0 | Hourly values of interaction with friends during activities | 474 | Global Value Exchange http://www.globalvalueexchange.org/valuations/8279e41d9e5e0bd8499f5c5b | 20.00% | 0.00% | 0.00% | 0.00% | 0.00 | 1,463,712.00 | 0.00 | 1,446,355.73 | |

## 2. Non-profit organizations

| Stakeholders | Intended/unintended changes | Inputs | | Outputs | The Outcomes (what changes) | | | | | | | | | | Deadweight % | Displacement % | Attribution % | Drop off % | Impact | | Calculating Social Return | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Who do we have an affect on? Who has an effect on us? | What do you think will change for them? | What do they invest? | What is the value of the inputs in currency (*only enter numbers*) | Summary of activity in numbers | Description | Indicator | Source | Quantity How much change was there? | | Duration | Outcomes start | Financial Proxy | Value in currency | Source | What would have happened without the activity? | What activity did you displace? | Who else contributed to the change? | Does the outcome drop off in future years? | Quantity times financial proxy, less deadweight,displacement and attribution2015 | | Discount rate | | 1.2% |
| | | | | | How would the stakeholder describe the changes? | How would you measure it? | Where did you get the information from? | 2015 | 2016 | How long does it last after end of activity? (*Only enter numbers*) | Does it start in period of activity (1) or in period after (2) | What proxy would you use to value the change? | What is the value of the change? (*Only enter numbers*) | Where did you get the information from? | | | | | 2015 | 2016 | 2015 | 2016 | |
| Non-profit organizations | Enhance charity effectiveness | | | | Increase visibility | Number of NPOs responding receiving benefits of charged advertisement □ | Interview and Questionnaire | | 2 | 0 | 0 | According to telephone interviews, it took about NTD 80,000 to buy a half-page advertisement in a mainstream magazine. | 80,000 | Telephone interview | 0.00% | 0.00% | 27.08% | 0.00% | 0.00 | 116,672.00 | 0.00 | 115,288.54 | |
| | | | | | | | Interview and Questionnaire | | 1 | 0 | 0 | The cost of the minimum wage to hire a staff distributing leaflets for a month was NTD 20,008. | 20,008 | Basic monthly salary set forth by Ministry of Labor | 0.00% | 0.00% | 27.08% | 0.00% | 0.00 | 14,589.83 | 0.00 | 14,416.83 | |
| | | | | | | | Interview and Questionnaire | | 8 | 0 | 0 | According to telephone interviews, an external IT management company maintaining a client's website would charge about NTD 1,000 to update per time. | 1,000 | Telephone interview | 0.00% | 0.00% | 27.08% | 0.00% | 0.00 | 5,833.60 | 0.00 | 5,764.43 | |
| | | | | | | | Interview and Questionnaire | | 2 | 0 | 0 | According to telephone interviews. the printing companies indicated that the design cost per poster was about NTD 2,500. | 2,500 | Telephone interview | 0.00% | 0.00% | 27.08% | 0.00% | 0.00 | 3,646.00 | 0.00 | 3,602.77 | |

## 3. Volunteers

| Stakeholders | Intended/unintended changes | Inputs | | Outputs | The Outcomes (what changes) | | | | | | | | | | Deadweight % | Displacement % | Attribution % | Drop off % | Impact | | Calculating Social Return | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Who do we have an affect on? Who has an effect on us? | What do you think will change for them? | What do they invest? | What is the value of the inputs in currency *(only enter numbers)* | Summary of activity in numbers | Description | Indicator | Source | Quantity How much change was there? | | Duration | Outcomes start | Financial Proxy | Value in currency | Source | What would have happened without the activity? | What activity did you displace? | Who else contributed to the change? | Does the outcome drop off in future years? | Quantity times financial proxy, less deadweight,displacement and attribution2015 | | Discount rate | | 1.2% |
| | | | | | How would the stakeholder describe the changes? | How would you measure it? | Where did you get the information from? | 2015 | 2016 | How long does it last after end of activity? *(Only enter numbers)* | Does it start in period of activity (1) or in period after (2) | What proxy would you use to value the change? | What is the value of the change? *(Only enter numbers)* | Where did you get the information from? | | | | | 2015 | 2016 | 2015 | 2016 | |
| Volunteers(ASUS volunteers, Student volunteers) | Mental satisfaction, improve the quality of life | Time of ASUS volunteers | 859873.5 | 3220.5 hours | Improved work efficiency | Daily working hours saved | Interview and Questionnaire | 1,840.00 | 1,200.00 | 0 | 0 | National average hourly salary in ICT sector in 2015 in Taiwan | 267 | National average hourly salary in ICT sector in 2015 surveyed by Directorate General of Budget, Accounting and Statistics | 20.00% | 0.00% | 10.00% | 0.00% | 353,721.60 | 230,688.00 | 353,721.60 | 227,952.57 | |
| | | Time of student volunteers | 114480 | 954 hours | Save on unnecessary living expenses | Living expenses saved per month | Interview and Questionnaire | 90 | 60.00 | 0 | 0 | Living expenses saved(Median of outcome from questionnaires) | 3000 | Questionnaire | 20.00% | 0.00% | 0.00% | 0.00% | 216,000.00 | 144,000.00 | 216,000.00 | 142,292.49 | |
| | | | | | | | Interview and Questionnaire | 90 | 60.00 | 0 | 0 | | 7500 | Questionnaire | 20.00% | 0.00% | 0.00% | 0.00% | 540,000.00 | 360,000.00 | 540,000.00 | 355,731.23 | |
| | | | | | Develop friendships | Increase in number of friends from joining activities | Interview and Questionnaire | 2063 | 546 | 0 | 0 | Hourly values of interaction with friends during activities | 487 | Global Value Exchange http://www.globalvalueexchange.org/valuations/8279e41d9e5e0bd8499f559c | 20.00% | 0.00% | 10.00% | 10.00% | 651,033.29 | 172,304.50 | 651,033.29 | 170,261.36 | |
| | | | | | | Increase in frequency of contacting family members per month | Interview and Questionnaire | 448 | 160 | 0 | 0 | Family counseling fee | 3750 | Family counseling, provided by the foundation http://www.shiuhli.org.tw/consult/shiuhli_center_8.jsp#qa303 | 20.00% | 0.00% | 10.00% | 10.00% | 1,088,640.00 | 388,800.00 | 1,088,640.00 | 384,189.72 | |

# 4. Digital Phoenix and refurbishment factory

| Stakeholders | Intended/unintended changes | Inputs | | Outputs | The Outcomes (what changes) | | | | | | | | | Deadweight % | Displacement % | Attribution % | Drop off % | Impact | | Calculating Social Return | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Who do we have an affect on? Who has an effect on us? | What do you think will change for them? | What do they invest? | What is the value of the inputs in currency *(only enter numbers)* | Summary of activity in numbers | Description | Indicator | Source | Quantity How much change was there? | | Duration | Outcomes start | Financial Proxy | Value in currency | Source | What would have happened without the activity? | What activity did you displace? | Who else contributed to the change? | Does the outcome drop off in future years? | Quantity times financial proxy, less deadweight,displacement and attribution2015 | | Discount rate | | 1.2% |
| | | | | | How would the stakeholder describe the changes? | How would you measure it? | Where did you get the information from? | 2015 | 2016 | How long does it last after end of activity? *(Only enter numbers)* | Does it start in period of activity (1) or in period after (2) | What proxy would you use to value the change? | What is the value of the change? *(Only enter numbers)* | Where did you get the information from? | | | | | 2015 | 2016 | 2015 | 2016 | |
| Digital Phoenix | Enhance effectiveness and efficiency | | | | Increase visibility | Frequency of contacts received from non-profit organizations after the project | Interview and Questionnaire | 1 | | 0 | 0 | Effectiveness of the advertisement to crease the visibility of the organization | 4,051 | According to the smart insight study, the average conversion rate of advertising is 3.48%. About 2,758 Non-profit organizations with 46,059 employees have been contacted. (According to the statistics of the Ministry of Interior, there are about 16.7 employees per NPO). In the study of nuanced media, the advertising cost of reaching every 1,000 people exposed to keyword advertising cost for US $ 2.75. To reach 46,059 NPOs employees, cost approximately US $ 127, or NT4051, using the average annual exchange rate of the US dollar against the Taiwan dollar over 2015, which was 31.898 | 0.00% | 0.00% | 0.00% | 0.00% | 4,051.00 | 0.00 | 4,051.00 | 0.00 | |
| Refurbish Factory | Social enterprise that takes a business-like approach to solving social issues | Cost of computer refurbishment | 818352 | Produced 320 desktops, 48 notebook computers, and 25 All-In-One | Production of refurbished computers | Desktop computers | Information provided by Refurbish Factory | 320.00 | | 0 | 0 | Value of the computer after 3 years by straight-line depreciation method | 3,852.00 | During the interviews, we found that ICT products were often discarded after a three-year life cycle according to the "Table of Useful Life of Fixed Assets" published by the Ministry of Finance. As a result, we traced back the average unit prices of donated ICT products to their 2012 values, arriving at USD 483, USD 821, and USD 1,071 for desktops, notebooks, and AIOs respectively. We applied the straight-line depreciation method and (N + 1) to arrive at an estimated residual value after 3 years to which we applied the average annual exchange rate of the US dollar against the Taiwan dollar over 2015, which was 31.898 | 0.00% | 0.00% | 0.00% | 30.00% | 862,848.00 | 0.00 | 862,848.00 | 0.00 | |
| | | | | | | Notebook computers | | 48.00 | | 0 | 0 | | 6,547.00 | | 0.00% | 0.00% | 0.00% | 30.00% | 219,979.20 | 0.00 | 219,979.20 | 0.00 | |
| | | | | | | All-In-One | | 25.00 | | 0 | 0 | | 8,541.00 | | 0.00% | 0.00% | 0.00% | 30.00% | 149,467.50 | 0.00 | 149,467.50 | 0.00 | |
| | | | | | Upgrading of employees 'skills | Number of staffs participating in the project | Interview and Questionnaire | 6.00 | | 0 | 0 | Training course for Level B Technician for Computer Hardware Fabrication. | 8,700.00 | University extension department: https://learn.104.com.tw/cfdocs/edu/classall.cfm?theclass=&school=2084 | 0.00% | 0.00% | 0.00% | 0.00% | 52,200.00 | 0.00 | 52,200.00 | 0.00 | |
| | | | | | | Number of staffs communicate with donors and NPOs | Interview and Questionnaire | 1.00 | | 0 | 0 | The cost of a course on interpersonal relationships and communication skills. | 3,600.00 | Courses provided by foundations https://learn.104.com.tw/cfdocs/edu/class.cfm?theclass=802172&school=1324 | 0.00% | 0.00% | 0.00% | 0.00% | 3,600.00 | 0.00 | 3,600.00 | 0.00 | |

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