An Investigation into Evaluating Laptop Computers using TBL: Social

(Precious)/Bomah Weekse, Bo Xu, Jiaqi Jiang, Sanzhar Murat, Aiden Suyu Wu, Caroline Fei Ya Meng

University of British Columbia

APSC 262

April 10, 2014

UNIVERSITY OF BRITISH COLUMBIA
APSC 262 L2C: Dr. Dawn Mills

An Investigation into Evaluating Laptop Computers using TBL: Social

Prepared for:
UNIVERSITY OF BRITISH COLUMBIA
APSC 262 - Technology and Society II

Fei Ya Meng -
Suyu (Aiden) Wu -
Jiaqi Jiang -
Bo Xu -
Sanzhar Murat -
Bomoh Weekse -

April 10, 2014

ABSTRACT

This report is the evaluation of the laptop computer brands according to their social aspects of the Triple Bottom Line. By analyzing the social aspects of different brands, the one that is best suitable for selling on UBC campus was identified. All the information was collected from the laptop brands' websites and annual sustainability reports. In order to determine the most popular brands used on UBC campus, a special survey has been prepared and over 100 students, teachers and staff members have been surveyed. The survey results represent 6 of the most popular brands on campus, which are: Apple, Lenovo, ASUS, Acer, HP and Sony. Social standards behind each of these companies are collected and represented in this report.

From the investigation of all six brands, it has been identified that all of the companies are consistent with the social aspects of the Triple Bottom Line (TBL). All of the companies investigated emphasize the valuability of the Corporate Social Responsibility as well as their responsibility in front of society. All six companies do not purchase units containing minerals that have been mined in conflict areas or where human rights are not respected. Companies ensure that there is no child labor used on every step of the supply chain.

UNIVERSITY OF BRITISH COLUMBIA
APSC 262 - Technology and Society II

An Investigation into Evaluating Laptop Computers using TBL: Social

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF ABBREVIATIONS

AED: Automated External Defibrillator

CPR: Cardiopulmonary Resuscitation

CPU: Central Processing Unit

CSF: Civil Society Forums

CSR: Corporate social responsibility

EICC: Electronic Industry Citizenship Coalition

GC 100:   United Nations Global Compact 100

HSCSI: Hang Seng Corporate Sustainability Index

ILO: International Labor Organization

OECD: Organisation for Economic Co-operation and Development

RAM: Random-Access Memory

TBL: Triple Bottom Line

UBC: University of British Columbia

UNIVERSITY OF BRITISH COLUMBIA
APSC 262 – TECHNOLOGY AND SOCIETY II

AN INVESTIGATION INTO EVALUATING LAPTOP COMPUTERS USING
TBL: SOCIAL

1.0 INTODUCTION

As members of the 21st century, it is almost impossible to live without laptops. Laptop computers are seen everywhere on the UBC campus, used by not only students but also teaching staff, and other residences. Based on our individual needs, in terms of both entertainment and work, we find a laptop which we can be satisfied with. At the UBC campus, a great variety of laptops are seen, from the thin and table like Microsoft Surface to more customizable gaming machines like Alienware.

When you enter an electronic store, like Future Shop or the technology department of our very own UBC Bookstore, a detailed list of properties of a particular model of laptop can be found. The list can include aspects from, processor speed to RAM to CPU and many of the others which can affect the users' opinion. However, what is not provided are the impacts that a particular brand has on society. If we were to analyze a laptop brand by the Triple Bottom Line, a question that should come to mind is "How sustainable is the laptop?" According the TBL, the term sustainable can be split into, environmental, economic, and social aspects. In this report, the main focus is on the social aspect.

While laptops are usually categorized by their functionality corresponding to the price marketed and the popularity of the brand, this project will not only investigate the most popular brand or model on campus as well as deciding a guideline of requirements on what people on campus look for when buying a laptop, but the social standards behind the brand. Some questions we will try to answer include "Are all the employees treated fairly?", "Are the materials used by the brand ethically sourced?" and "Are the suppliers of the brand doing the same?"

The most used brand will be based on a short student survey of ten questions. As a result, the popular brands were narrowed down to six, Apple, Lenovo, Asus, Acer, HP and Sony. Research and analysis were be done from each of the brand's official website to investigate the social conditions regarding topics on human and workers' rights, health and safety standards, employee benefits, code of conduct, source of material and suppliers management will be done for evaluation.

2.0 SURVEY

We conducted a survey among 100 student at UBC. The following shows the survey questions as well as the results.

2.1 SURVEY QUESTIONS

Q1. Which brand of laptop do you prefer?

Q2. What kind of operating system do you prefer?

Q3. What price will you consider when buying a laptop?

Q4. Will you consider getting warranty?

Q5. Do you consider the RAM when you buy a new computer?

Q6. Do you consider the Hard Drive when you buy a new computer?

Q7. Have you ever bought a computer at UBC bookstore? If not, why?

Q8. Will you consider the Processor? Why?

Q9. Which size/shape of laptop you prefer?

2.2 SURVEY RESULTS

1. Based on our survey result the top brand chosen by students is Apple, which was 50%, and Sony, the second popular brand with 20%. Student said that they like these brand because of the fact that laptops from these two brands are lightweight and well designed.

2. 40% of the students prefer using Apple and 56% of the students prefer windows operating system, and the rest of the students did not show any preference.

3.   The majority of the students would like to spend less than $1200 on a laptop, because they said that they only use their laptop for school and there is no reason to spend too much money on it.

4.   Half of the students said that they consider the warranty when purchasing a computer. Half of the students, however, do not care, because they believe that it's useless and some of them said that they can simply fix their computers on their own without a warranty.

5.   30% of the students don't know what RAM is, and other students said as large as possible.

6.   Most of them do care about the hard drive, because they want to make sure there is enough space to store their files.

7.   Only 10% of the students have bought computers at bookstore, and all of them live on campus. The other 90% of students said that they thought the pricing in bookstore is too high and that there are less options in bookstore; they prefer buying computers in Future Shop or Staples.

8.   Again there are 20% of the students don't know how does processor work, so they didn't answer the question. Other students said they want the latest one (at least i5).

9. The most popular size is 13 inch, which about 80%.

2.3   LAPTOP BRANDS

List of Main Laptop Brands:
    1. Lenovo
    2. Asus
    3. Acer
    4. HP
    5. Sony
    6. Apple

3.0　LENOVO

Lenovo is one of the most prominent PC manufacturers in the world. The acquisition made Lenovo one of the leading global PC makers. Also, Lenovo is a Worldwide Olympic Partner and the Official Computing Equipment provider for the Beijing 2008 Olympic Games (Social Responsibility, n.d).

3.1　SUSTAINABILITY

Lenovo is committed to building exceptionally engineered PCs. It has been selected as a constituent stock of the 2013 of the Hang Seng Corporate Sustainability Index (Sustainability Report, n.d).Apart from that, Lenovo is a signatory and member of the UN Global Compact. In 2010, Lenovo has been selected for inclusion in the first United Nations Global Compact 100 (GC 100) – a new global stock index that combines corporate sustainability and baseline financial performance. The GC 100 marries corporate performance on environmental and social issues with a requirement of basic profitability (Sustainability Report, n.d).

3.2　HUMAN RIGHTS

Lenovo is doing their best to protecting human rights. Lenovo believes that by supporting and respecting the protection of internationally proclaimed human rights and ensure that business practices are not complicit in human rights abuses. Lenovo manages their operations consistent with the spirit and intent of the United Nations Universal Declaration of Human Rights and the International Labor Organization Declaration on Fundamental Principles and Rights at Work. (Sustainability Report, n.d)

4.0   ASUS

ASUS is a multinational computer hardware and electronics company based in Taiwan. It was founded in 1989 and since them produces desktops, laptops, netbooks and other products in the sphere of electronics. ASUS is one of the largest PC vendors in the world, being the forth-largest in 2012 (Pettey & van der Meulen, 2013). ASUS has different lines of laptops and netbook for different objectives and for different users. Within the ASUS products one can find everything form very lightweight tablets to powerful gaming laptops. The beneficial side of the brand is its concern about environmental responsibility, human rights, employee welfare and supply chain management.

4.1   HUMAN RIGHTS/EMPLOYEE WELFARE

ASUS is very responsible about CSR not only to shareholders but also to stakeholders by improving the employees' welfare and being consistent with EICC. The company announced their Declaration on Human Rights policy and do not discriminate against their employees based on sex, race, age, religion, etc ("Human Rights/Employee Welfare", n.d.). The company ensure that no child labor was used in production of any parts of their products and that employees are paid higher than legally required wages. Employees' salary are based on their personal skills, experience, educational level and professional knowledge ("Human Rights/Employee Welfare", n.d.). Full-time employees are granted to have special bonuses for individual performance and achievements. They are also provided with the life insurance, health care and annual medical check.

ASUS management philosophy is "Inspire, motivate and nurture our employees to explore their highest potential" ("2012 ASUSTeK Corporate Sustainability Report", 2013). That highlights the company's respect towards their employees. There are held different activities for special holidays, as well as cultural exhibitions, seminars, etc. In order to promote healthy life style - gymnasium, SPA, swimming pool are available for the employees. The company also encourage employees to pursue the further education not only by providing them and their children scholarships but also by providing special training courses ("Human Rights/Employee Welfare", n.d.). Some of the courses are represented in **Figure 1**.

Labor Safety & Health Course Type	Course
Internal Training	● Environment, safety and health training for new employees ● Fire training ● First-aid training ● Introduction to hazards and dangerous substances ● Emergency response training ● Lead and solvent operator on-job training
Professional	● Nurse training ● ISO 14001 lead auditor training ● OHSAS 18001 lead auditor training ● Organic solvent supervisor training ● Special chemicals supervisor training ● Dust supervisor training ● Fire prevention manager training ● Forklift operator training ● Boiler operator training

Source: http://csr.asus.com/english/file/ASUS_CSR_2012_EN.pdf

4.2 SUPPLY CHAIN MANAGEMENT

ASUS believes that a key to promote corporate sustainability is a supply chain management. The company established supplier policy and organize regular audit process ("2012 ASUSTeK Corporate Sustainability Report", 2013). That helps to ensure that all the suppliers in the supply chain are consistent with CSR requirements. Starting from 2008 ASUS required their suppliers sign the "Consent of ASUSTeK Code of Conduct" ("2012 ASUSTeK Corporate Sustainability Report", 2013). That was made to ensure that all the suppliers are aware about the labor standards, Human Rights and safety and health. From 2012 ASUS started educating their supplier with CSR policies and approaches ("2012 ASUSTeK Corporate Sustainability Report", 2013).

ASUS is very serious about the outcomes of the illegal explorations on mining. ASUS will not accept and will not use illegally mined minerals, minerals from conflict areas and minerals from mines with low working conditions. That aspect is described in the "Consent of ASUSTeK Code of Conduct", which is signed by every single company's supplier ("Conflict Mineral Sources Investigation", n.d.).

5.0   ACER

Acer is a brand based in Asia that is popular due to its affordable prices and wide variety of laptops/computers. Just as the other brands, Acer works with many suppliers and ensures that all parts of the corporation adhere to proper social and environmental practices. Through many of the organizations the brand has taken part in or developed, Acer has shown that it is a well-organized corporation where all employees are treated with dignity and respect.

5.1   CODE OF CONDUCT

Acer has been a member of Electronic Industry Citizenship Coalition (EICC) since May of 2008, and has adopted the EICC Code of Conduct as operating principles (Supplier Code of Conduct, n.d). Suppliers are also asked to sign Acer Supplier Code of Conduct Declaration (Supplier Code of Conduct, n.d) to ensure that all standards are met, and all legal laws are abided.

The code is divided into 5 sections (Supplier Code of Conduct, n.d):
1. Labor
2. Health and Safety
3. Environment
4. Ethics
5. Management System

Some content covered in this code are (Supplier Code of Conduct, n.d):
- Working conditions in the electronics industry supply chain are to be safe
- Workers are to be treated with respect and dignity
- Business operations are to be environmentally responsible
- Malpractices such as using forced labor, underpaid labor, involuntary prison labor, or binding workers to unreasonable contracts are forbidden

5.2   EMPLOYEES

Acer ensures health and safety issues of their employees in the workplace. In 2012, "Education and Training for General Labor Safety and Health" was held and attended by 841 employees in Taiwan to

reinforce legal requirements, such as hygiene, safety standards and environmental concerns, and to bring more awareness of safety in the workplace (Health and Safety, n.d). Continuous health care services are also provided to employees, and for extra protection, training such as CPR, AED, and emergency simulations. (Health and Safety, n.d).

Salary and retirement benefits comply to the local laws of the location of the branch. Employees are also provided with benefits corresponding to their position, which may include insurance, bonuses and vacation (Compensation and Welfare, n.d). Anti-discrimination is promoted and the code of conduct clearly states to respect all employees, and that they are treated rightfully, with no consideration of their gender, religion, race and political beliefs. Acer formulated the Standards of Business Conduct, which "sets down related human rights policies including respect of diversity, fair treatment, and anti-discrimination and harassment" (Employees Relations, n.d.), and demanded for all suppliers and stakeholders to uphold these policies.

After entering the corporation, employees are entitled and encouraged to improve their skills or interests accordingly to "The Management Process of Internal and External Training" (Employee Development, n.d). "Incentives for Professional Certification" is developed to provide subsidies and bonuses to cover fees from each employee's choice of study (Employee Development, n.d), including studying abroad, certification exams, seminars and etc.

5.3   SOURCES OF MATERIALS

Acer makes sure that all the material from its suppliers are attained rightfully, both environmentally and socially, and are not from conflicted areas, as suppliers are provided with a list of requirements to follow when sourcing for materials. Acer is also a supporter of EICC and the Conflict-free Smelter Program, joined the "Implementation Programme of the Supplement on Gold to OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk Areas " in 2012, and the "Public- Private Alliance for Responsible Minerals Trade" in 2013 (Responsible Sourcing of Minerals, n.d).

5.4 SUPPLY CHAIN MANAGEMENT

Acer confirms that all parts of its corporation, including suppliers are following or implementing the EICC Code of Conduct in each of their own ways to promote sustainable practices and respect the workers' rights. Suppliers are asked to complete Supplier Self-Assessment Questionnaire to ensure their understanding of the code (Supply Chain Management, n.d). In order to confirm that all branches and suppliers abide to the code, programs such as Supplier Risk Assessment, Supplier Audits, Supplier Declaration, Supplier Training, Internal Professional Training are developed for supervision and to avoid any kind of forced labour and human trafficking(Supply Chain Management, n.d). An example of this would be the event held in 2012, where inspections over 77 manufacturing facilities were done, and 100000 employees were audited, with interviews from over 900 employees (Supply Chain Management, n.d). Suppliers are required to submit a Corrective Action Report (Supply Chain Management, n.d). For those suppliers identified with any faults or room for improvements, Acer will take action upon those suppliers.

To raise awareness of social and environmental responsibilities, four CSF events were done since 2012 (Supply Chain Management, n.d). The event included workshops, with talks from international stakeholders, suppliers and Acer executives, to address key issues such as Supplier Management, Communication, Energy Resources and Climate Change, and Green Products (Supply Chain Management, n.d). In 2012, the Vendor CSR Scorecard was also developed to act as a examination in environmental, social standards for the suppliers and to guide ways for future improvements (Supply Chain Management, n.d).

6.0 HP

HP is one of the world's largest IT companies with operations in 170 countries, and it is also the largest supply chain in the IT industry. HP focuses its social responsibility seriously, so it is in the unique position to drive innovation that helps to create a better and strong world, where people are healthy, the economy is thriving and the world is sustainable. HP has made a huge effort to combine technology and human beings together to solve society's toughest challenges.

6.1 HUMAN RIGHTS

HP views respecting human rights as a core principle in the company's culture. It also impacts a wide range of human rights due to its huge scale and scope in global business. Since 2002, HP has taken part in the UN Global Compact, "which includes 10 universally accepted principles in the area of human rights, labor, environment and anti-corruption." (Corporate Human Rights Reporting: An Analysis of Current Trends, Elizabeth Umlas) Also, HP has its own Global Human Rights Policy, which is a guide to approach of respecting human rights while doing business all over the world.

Despite formulating human rights policies and standards, HP also has its unique process to manage human rights. HP established a centralized human rights program in its Ethics and Compliance office. The office is built to ensure that the human rights policy is implemented successfully. It also defines processes to assure the prevention, diminution and redress of any human rights impacts across HP's business (Ethics and Compliance, n.d).

In 2012, HP also built a human rights risk assessment process evaluated to its operation and potential human rights risks. The assessment is conducted every year to improve HP's understanding of human rights risks in its various business operations. The results, which come from the reviews of assessment, will be updated to the Office of General Council and Global Citizenship Council, where are conducting human rights management across HP's business.

6.2 SUPPLY CHAIN RESPONSIBILITY

HP has one of largest supply chains in the industry. It consists more than 1000 production supplies and tens of thousands of nonproduction suppliers. HP's supply chain includes six continents, more than

45 countries and territories, and many different cultures. However, this extensive supply chain not only provides huge amount of opportunities in the global trading but also brings challenges for HP managing its supplies.

HP is very focused on supply chain responsibility. Through various approaches, such as "addressing risk, measuring performance, capability building, stakeholder engagement, policy and standard development, procurement integration", HP uses supply chain Social and Environmental Responsibility (SER) program to improve labour standard, human rights and environmental performance.(Supply Chain Responsibility: Our Approach, n.d).

HP is a strong advocate for the preservation of nature. It is the first IT Company to set a supply chain greenhouse gas (GHG) emissions reduction goal. HP tries to decline 20 percent of GHG emissions, which are emitted in its first tier manufacturing and product transportation, in its supply chain by 2020 compared with 2010. (HP Announces Supply Chain Greenhouse Gas (GHG) Emissions Reduction Goal, n.d).

6.3 PRIVACY

HP is one of most trusted IT companies in the world. It takes responsibility very seriously to protect customers' privacy and personal information. HP not only obeys many privacy laws worldwide, but also shapes new privacy policies and frameworks by involving with governments and regulators. This privacy strategy is based on providing transparency and choice to our customers.

HP also embeds the privacy protection in its processes, products and services. It established a framework called HP Privacy Accountability Framework to help employees assess and manage the risks associated with collecting and handling personal data. This framework also helps HP to meet customer expectations and ensures transparency in its practices.

In order to implement and monitor better for the privacy program, HP requires every employee obey its privacy policies and standards. In 2012, more than 99% of HP permanent employee completed privacy training. Some employees, who are routinely handling personal information, such as human resources, marketing, received additional privacy training specific to their role.

7.0 SONY

Sony is a Japanese company which focuses on electronics, games, entertainment and financial service sectors. In march 2009, Sony has employed more than 171,000 workers. The company's annual revenue is about $8 billion, with almost $1.5 billion in profit. Up to now, Sony has about 100 affiliated companies all of the world (Kennan). As one of the worlds top companies, they do take their employee's human rights, safety and environmental issues very carefully. They have their own policy for human rights and the use of conflict minerals; they also participate in EICC.

7.1 HUMAN RIGHT AND EQUAL OPPORTUNITIES

Sony takes their employees' human rights very seriously. The company tries its best to create a dynamic workplace, where all of their members rights are respected and equal employment opportunities allow to individuals to make the most of their capabilities (CSR Reporting 2013).

In May 2003, Sony enacted The Sony Group Code of Conduct, which deals with the respect for human rights, and maps out policies for human rights - related rules and activities throughout the Sony Group. In the article they also point out that people's race, religion, gender, age and physical limitations should not be considered for the company to hire, promote and train their employees. This is based on the international law, United Nations Universal Declaration of Human Right (CSR Reporting 2013).

7.2 SUPPLY CHAIN MANAGEMENT

In order to address safety, human rights, and environmental protection issues about the procurement of raw materials and components, Sony works very closely with their suppliers. In the following graph, which shows the Basic Structure of the Supply Chain of Sony (CSR Reporting 2013).
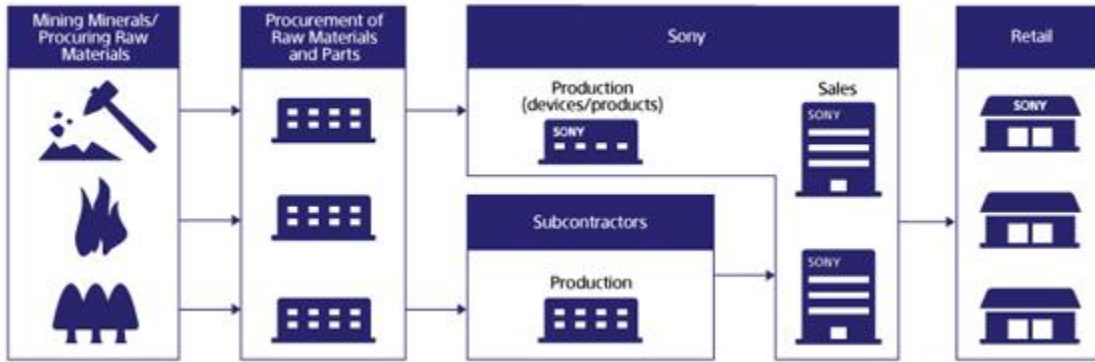
Source: http://www.sony.net/SonyInfo/csr_report/sourcing/supplychain/index.html

In 2004, Sony participated in the establishment of the Electronic Industry Citizenship Coalition (EICC). By joining this organization, Sony can help themselves prevent some of the social and environment issues in the electronics supply chain.

8.0 APPLE

Apple, an American multinational corporation headquartered in Cupertino, California is an extremely successful electronic/software company that specializes in laptops, computers and music players. With the amount of success that this company is accumulating, Apple has started delving into ventures such as the iphone. Today, however, the main focus is on laptops. Why are Apple laptops so popular amongst students, particularly at UBC? Why are apple products so expensive compared to other brands? The answer is that unlike a lot of companies today, Apple has been able to appeal to a huge crowd due to the values that the company upholds with manufacturing its products as well as worker policies.

8.1 SUSTAINABILITY

This company, unlike others, has been able to come up with a way of better representing its impact on the environment. Currently, Apple's total environmental footprint is made up from 61% manufacturing, 5% transportation, 30% product use, 2% recycling and 2% facilities. (The Story Behind Apple's Environmental Footprint, 2013) By breaking it up into different sub-sections, Apple is able to understand where it needs to change its policies specifically in order to reduce its environmental footprint. Currently, it is known that 98% of Apple's carbon footprint is a result of product usage, while the remaining 2% is from facilities.(The Story Behind Apple's Environmental Footprint, 2013) The single most important thing that can be done in order to decrease pollution to the environment, according to Apple, is to improve the environmental performance of its products. And in order to improve said environmental performance, Apple has decided to design products with less material, ship with less packaging, and produce products that are less hazardous, less toxic, and recyclable.

8.2 HUMAN RIGHTS

Apple is dedicated to treating all of its workers fairly and without bias; educating its workers in an attempts to empower and strengthen its work community. This company believes wholeheartedly in the fact that when people gain an education, they will be able to improve the quality of their lives, and reduce any chance of being exploited by employees.(Supplier Responsibility - Empowering Workers, 2013).

In recent years, Apple is working tirelessly to eradicate the unethical hiring of workers as well as their exploitation. (Supplier Responsibility - Labour & Human Rights, 2013). As of 2014, the company

has tracked the weekly work hours of its employees, and has been able to reach a 95% rate of compliance with their issued maximum 60 hour workweek (Supplier Responsibility - Labour & Human Rights, 2013). Finally, the eradication of child labour has been a huge part of Apple's human rights movement. Any supplier that is found with underage workers will be put probation, and in most cases the branch will be terminated (Supplier Responsibility - Labour & Human Rights, 2013). Audits are held every so months in an attempts to seek out those underage.

8.3 SUPPLY CHAIN

Apple has a total of 18 final assembly factories, with over 200 supply chains worldwide. Below is a diagram representing Apples current supply chain model:

FIGURE 3: SUPPLY CHAIN MODEL OF APPLE INC.

Supply Chain Model of Apple Inc

Source: http://www.supplychainopz.com/2013/01/is-apple-supply-chain-really-no-1-case.html
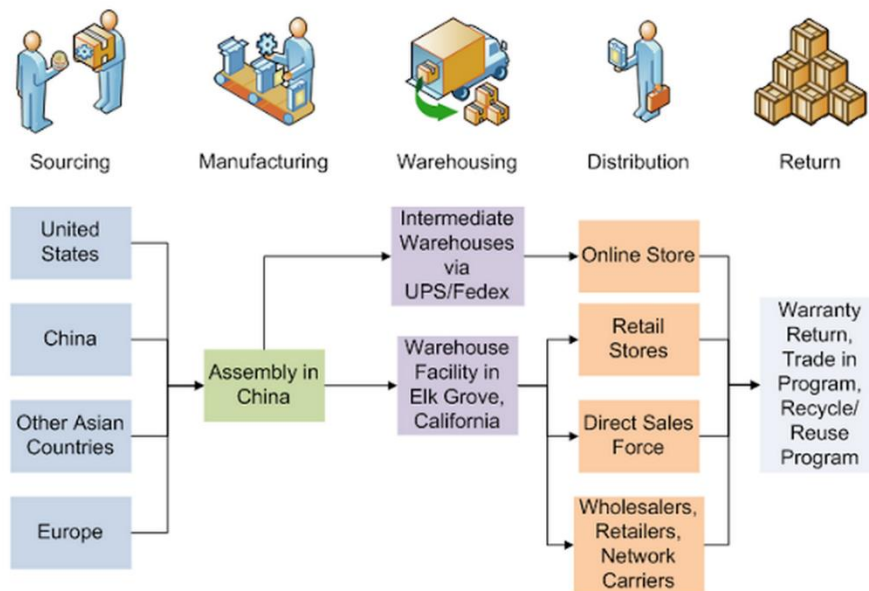
Apple purchases a wide variety of material worldwide, and then has it manufactured in China for the cheapest price before turning the assembled product over to warehouses where they will be later distributed online, at retail stores, directly, or by wholesalers, retailers, and network carriers.

9.0 CONCLUSION

As shown in the student survey, it seems that although slightly more than half of the students prefer Microsoft Windows operating system, the most popular brand is still Apple. However, Apple products are also known for their expensive prices. Why is this particular brand so wide-spread then?

From the investigation into each of the six brands' social subjects. It is proven that all six brands take their employees very seriously and consider the social guidelines in the TBL. Acer and Lenovo have taken the EICC Code of Conduct as their main principle. This code indirectly references the TBL as it promote sustainability of the environment as well as the protection of workers. Sony, Lenovo and HP are also proven to be supporters of TBL socially in each of their own ways. The Apple brand, however, is exceptional in encouraging their workers to abide by certain policies while maintaining and empowering workers through education of their workers' rights. Not only are they one of the leading and perhaps the largest corporation in the electronic technology area. Many recent reports can be found on the Apple official site, and the number of participants in their programs regarding further certification, education of workers' rights, and other programs provided for their employees are significantly higher than some of the other leading brands. Perhaps this explains the higher prices of Apple products.

Although, without analysis of the specs or the price per functionality of a laptop, we cannot recommend a model that is convincing enough to a consumer. However, the work being put into the production of the laptop should also be considered. The six brands, Apple, Sony, Asus, Acer, Lenovo and HP, have all proven to be social advocates, therefore adding worth to the value to their products. If a model of laptop was to be chosen, it would have to be the Mac series due to Apple's high standards for the protection of their employees and simply because it's the most popular and trusted brand.

REFERENCES

2012 ASUSTeK Corporate Sustainability Report. (2013). Retrieved from ASUSTeK website: http://csr.asus.com/english/file/ASUS_CSR_2012_EN.pdf

Apple (Canada) - Supplier Responsibility - Labour & Human Rights. (n.d.). Retrieved from http://www.apple.com/ca/supplier-responsibility/labor-and-human-rights/

Apple (Canada) - Supplier Responsibility - Our Suppliers. (n.d.). Retrieved from http://www.apple.com/ca/supplier-responsibility/our-suppliers/

Apple (Canada) - The Story Behind Apple's Environmental Footprint. (n.d.). Retrieved from http://www.apple.com/ca/environment/our-footprint/

Compensation and Welfare. (n.d.). *Acer Group.* Retrieved April 9, 2014, from http://www.acer-group.com/public/Sustainability/people/welfare.htm

Conflict Mineral Sources Investigation. (n.d.). *ASUS Corporate Social Responsibility*. Retrieved April 10, 2014, from http://csr.asus.com/english/index.aspx#144

Corporate Human Rights Reporting: An Analysis of Current Trends. (Elizabeth Umlas). Retrieved November 2009, from https://www.globalreporting.org/resourcelibrary/Human_Rights_analysis_trends.pdf

Csr reporting. (2013, August 2). Retrieved from *http://www.sony.net/SonyInfo/csr_report/sourcing/supplychain/index.html*

Csr reporting. (2013, August 2). Retrieved from *http://www.sony.net/SonyInfo/csr_report/sourcing/materials/index.html*

Employee Development. (n.d.). *Acer Group.* Retrieved April 9, 2014, from http://www.acer-group.com/public/Sustainability/people/development.htm

Employees Relations. (n.d.). *Acer Group.* Retrieved April 9, 2014, from http://www.acer-group.com/public/Sustainability/people/relations.htm

Health and Safety. (n.d.). *Acer Group.* Retrieved April 9, 2014, from *http://www.acer-group.com/public/Sustainability/people/health.htm*

HP 2011 Global Citizenship Report. (n.d.). Retrieved from HP website: http://www8.hp.com/us/en/pdf/hp_fy11_gcr_ethics_and_human_rights_tcm_245_1357677.pdf

HP Announces Supply Chain Greenhouse Gas (GHG) Emissions Reduction Goal. (n.d). HP. Retrieved September 23, 2013, from http://www8.hp.com/us/en/hp-news/press-release.html?id=1489007#.U0YLjfldXlQ

Human Rights/Employee Welfare. (n.d.). *ASUS Corporate Social Responsibility*. Retrieved April 10, 2014, from http://csr.asus.com/english/index.aspx#28

Is Apple Supply Chain Really the No. 1? (n.d.). Retrieved from http://www.supplychainopz.com/2013/01/is-apple-supply-chain-really-no-1-case.html

Kennan, M. W. (n.d.). Sony corporation history & background. Retrieved from *http://www.ehow.com/about_5176244_sony-corporation-history-background.html*

Pettey, C., & van der Meulen, R. (2013, January 14). Newsroom. *Gartner Says Declining Worldwide PC Shipments in Fourth Quarter of 2012 Signal Structural Shift of PC Market*. Retrieved April 10, 2014, from http://www.gartner.com/newsroom/id/2301715

Responsible Sourcing of Minerals. (n.d.). *Acer Group*. Retrieved April 9, 2014, from *http://www.acer-group.com/public/Sustainability/supply/supply-3.htm*

Social responsibility. (n.d.). *Lenovo.* Retrieved April 10, 2014, from *http://www.lenovo.com/social_responsibility/us/en/*

Supplier Code of Conduct. (n.d.). *Acer Group.* Retrieved April 9, 2014, from http://www.acer-group.com/public/Sustainability/supply/conduct.htm

Supply Chain Management. (n.d.). *Acer Group.* Retrieved April 9, 2014, from http://www.acer-group.com/public/Sustainability/supply/system.htm

Supply Chain Responsibility: Our Approach. (n.d). HP. Retrieved 2012, from http://h20195.www2.hp.com/V2/GetPDF.aspx/c03742930.pdf

Sustainability reports. (n.d.). *Lenovo*. Retrieved April 9, 2014, from *http://www.lenovo.com/social_responsibility/us/en/FY2013_Lenovo_Sustainability_Report.pdf#page=41&view=fit*