UBC Social Ecological Economic Development Studies (SEEDS) Student Report

#### Formal Wear Rental at the UBC Bookstore:

#### A Triple Bottom Line Feasibility Report

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#### EXECUTIVE SUMMARY

This report assesses the financial, environmental, and social impacts of implementing a formal wear rental service at the campus bookstore at the University of British Columbia (UBC). The primary goal is to determine if the potential benefits, in these three areas, of implementing such a service outweigh the detrimental effects.

The financial analysis accounts for the business feasibility of running a formal wear rental service on UBC campus. Major factors considered in building this business model include purchasing costs, maintenance costs, rental price, and rental period. The service will be providing six categories of formal wear: suits for men and for women, dress shirts, tuxedo, tuxedo shirts, and formal dresses. After series of analysis, it is suggested to target the market at the CO-OP students and graduating students at UBC, as they show great potential in utilizing this service. Based on this marketing theme, the suggested price for rental is \$27.00 for suits, and \$46.28 for tuxedo and formal dresses, with rental period of one day. This would cover the cost of purchasing and cost of maintenance for 15 sets of formal wears within one month. Judging by the great potential of the market and the short period for return value, it is recommended to implement the formal wear rental service on UBC campus.

The environmental effects of the rental service fall into two main areas: energy consumption (carbon footprint) and pollution. The evaluation of benefits and drawbacks of the project in these two areas is based on each rental service provided to customer. In one successful rental service cycle, an existing formal wear is used rather than a new one needs to be manufactured and an extra cleaning process for the existing formal wear is requested after the service. Based on this stimulation, the rental service consumes a small amount of extra energy and water from cleaning process while saving a huge amount of carbon footprint and pollutions from producing process. The service is concluded to be environmentally beneficial overall. It is suggested to be implemented and choosing eco-friendly laundry services near the campus is also recommended.

An analysis of the social impacts of the rental service focused on the primary concerns: the UBC community, the student body, as well as producers and local retailers. The benefits to the community are increased employment opportunities for professionals and students. One area of employment is retail salespeople for the purpose of displaying, selling, marketing, and also inventory and purchasing managers. Additionally, maintenance and repair staff would be required to clean and maintain the formal wear, and may be staffed within the bookstore or alternatively outsourced to local business. Other opportunities include information technology (I.T.) professionals for inventory management and systems design. On top of providing work, the service brings additional traffic and revenue to the bookstore. The larger volume of customers directly and indirectly increase sales in all departments of the bookstore, and profits could be used to maintain or improve existing infrastructure. Offering the service also affects local businesses in the competitive market. While the service would directly compete with similar services in the area, reducing their sales, it would also provide income for retailers, distributors, and manufacturers, particularly during the initial investment phase. Additionally, formal wear maintenance and repair companies would benefit from the service, as the clothing would require repair and sizing from timeto-time. These industries would also benefit from free advertising, as customers would be displaying their product for them. If the customer or somebody thinks the formal wear is a good product, they may purchase the clothing themselves or recommend it to someone else.

Formal wear rental is of great benefit to the student body, as having a valuable resource on campus saves time and effort on their part. It offers the convenience of last minute emergencies, such as unplanned interviews for students, as well as providing an inexpensive alternative to purchasing formal wear and using it once.

The service also conveys a message of sustainability. Making a rental practice available to students could have a lasting impact on students, teaching them that sustainable option benefits can outweigh the less sustainable alternatives. It also serves to show that sustainability is easily and seamlessly integrated into everyday life.

This section also identifies health and safety risks associated with the product and practices common to this kind of business. Primarily, while wet and dry cleaning techniques are sufficient to clean and sanitize formal wear, not all clothing can be cleaning this way. As such, articles such as footwear may be more difficult to properly and safely sanitize. This report considers these implications, however the risks were assessed to be insignificant.

The primary concern pertaining to the social impact is that clothing manufacturers do not disclose inhumane working conditions. As such, it may be difficult to decide the best manufacturer so as to reduce the chance that they use sweatshop labour or poor health and safety standards at the workplace.

After considering the potential for economic growth, the market for the service, the environmentally friendly nature of the business, and the societal benefits, it can be concluded that this service is a viable and profitable undertaking with regards to these aspects. Given that the market research conducted during this study suggests a need for this service and that the associated financial investment has a minimal return rate, the economic benefits can be seen fairly easily. Additionally, the social and environmental impacts of operating the business are relatively low. Much of the environmental impact comes from the manufacturing process or how clothing is disposed of, while some is contributed to by the cleaning and maintenance process. The negative social impacts comprise mostly of manufacturing processes, however these are negated by the benefit to the UBC community and student body.

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### Introduction

The purpose of this report is to conduct an economic, social, and environmental analysis of implementing a formal wear rental service at the University of British Columbia (UBC) bookstore. Ultimately, if the findings of this report suggest that there is a potential market for this service and profits can be made without significant detrimental impacts with respect to environmental and societal concern, the implementation of the service should be seriously considered.

## **Financial Analysis**

#### 2.1 Purpose

The financial analysis section of the TBL assessment aims to investigate the expenses and revenue associated with the formal wear rental service. Factors including purchasing costs, maintenance costs, rental price, and rental period will be assessed in detail. Furthermore, the market potential will also be evaluated, and a suggested business model will also be discussed in this section.

#### 2.2 Methodology

The rental service will provide formal wear rentals in six categories: suits for men and for women, dress shirts, tuxedos, tuxedo shirts, and formal dresses. In order to assess the cost of purchase for the corresponding categories, five formal wear retailers were assessed for price and the results were compared to calculate the average budget for purchasing. As for clothing maintenance, four dry cleaning services located within seven kilometers of the UBC campus were evaluated to determine the price range in each category. Data was collected through online research and direct interviews with the owners of the shops and the dry cleaning services. To explore the market potential, a survey was conducted amongst UBC students to collect their opinion on various aspects of the rental service.

#### 2.3 Data Analysis

Purchasing formal wear accounts for a major portion of expenses, with the remaining portion of cost going to maintenance services such as dry cleaning and alterations. Table 2.3.1 shows the average cost of purchasing and maintenance in each category. Considering that a potentially large amount of clothing will be sent in for maintenance services, efficiency is a top priority in selecting dry cleaning services. All dry cleaning services targeted in the data collection are located within seven kilometers from UBC, thereby providing the shortest delivery time. An estimated average time for cleaning 5 sets of formal wear is around two to three business days ("Busy Bee Gold", 2014). Such a schedule will be sufficient to support the proposed business model introduced in the later part of this section.

Formal Wear Category	Average Purchasing Cost	Average Maintenance Cost
Suits for men	\$303.67	\$24.85
Suits for women	\$165.40	\$25.13
Tuxedo	\$215.00	\$29.13
Dress shirts	\$39.20	\$6.28
Tuxedo shirts	\$45.85	\$19.33
Formal Dresses	\$184.98	\$20.89
Average cost per set	\$159.02	\$20.94

 Table 2.3.1 Average cost of formal wear in each category

As part of the data collection process, 54 students were surveyed for their opinion on future formal wear rental service. As per the survey results in appendix A, when asked how often on average students need formal wear, 40.75% responded with "once a month", and 35.19% responded with "once a year". Also, when asked how likely it was that the students would use a rental service at UBC, 70.59% of the respondents identified that they would look into using the service. These results show that there is a potentially large demand for the formal wear rental service on campus, since the respondents would likely choose to rent formal wear over purchasing, considering that they may only need formal wear few times per year.

One suggested target market for this business model are students going for their first interviews and have not yet acquired formal wear of their own. Students who are participating in the CO-OP program are a potentially good market. The job search and interview term for science and engineering CO-OP students begins in early september and continues throughout the winter term, that is, over 4 months (" Engineering Co-op Office", 2014). This is a concentrated time period when demand for formal wear rental is expected to reach its peak. Another potential market is graduating students who require tuxedos or formal dresses for prom and banquet events. The largest demand for tuxedos and dresses happens during the graduation period (4 weeks per year).

The expense and revenue calculation will be based on the suggested targets. As per table 2.3.1, the total cost on average for one set of formal wear with maintenance costs

included is \$179.96. The number of CO-OP students placed for interviews were 1,100 students in 2014 ("Weekly Update: November 24th, 2014 | Engineering Co-op Office", 2014). According to the survey results, 48.15% of the demographic claimed to own formal wear, which suggest the remaining 51.85% could be potential customers. Using the estimation that 70.59% of that population would use the rental service, the potential customer demographic is calculated to be:

 $1,100 \times 0.5185 \times 0.7059 = 403 \text{ students over 4 months interval}$ = 5 students per day

Typically, formal wear for interview would be rented for 1 to 2 days. Adding with time taken for maintenance service, the typical rental interval for one set of formal wear is 4 days. Keeping this unavailability period in mind, the suggested amount of each article of formal wear is 15 items. As such, each week there are 10 sets available for rent and 5 sets undergoing cleaning or maintenance. The total cost of purchasing is given by:

15 \* average cost = 15 \* \$179.96 = \$2699.40

A period of one month return rate on initial investment can be achieved with the following values:

total cost  $\div$  # students per month = \$ 2699.40  $\div$  (5 students per day \* 20 days per month) = \$27.00 per rental

A similar model is applied for tuxedo and dress, however since the demand for tuxedo and dresses are significantly lower due to less consumer market (i.e. only students in their final year are graduating, and the demanding interval is only 4 weeks), the estimated formal wear sets required is 9. Using the same calculating method as above, a reasonable estimate for students who would utilize the rental service for tuxedo and dress are around 35 students ("Enrolment Statistics 2013/14", 2014). The total cost of purchasing is then given by:

9 \* average cost = \$1619.64total cost  $\div$  #students per month = 1619.64  $\div$  35 = \$46.28 per rental

#### 2.4 Conclusions

Referring to results show in appendix A, 37.25% of the demographic claimed to spend over \$170 purchasing formal wear in the past, and 51.92% of them wish to spend less than \$75 on formal wear. The offer introduced by the suggested business model significantly reduces the price providing a preferable option for customers. While these are ideal business models, judging by the high potential of this market and the relatively easily attainable return rate on investments, The business model suggests that the rental service is very feasible.

### **Environmental Impact**

#### 3.1 Purpose

This section intends to compare the potential positive and negative environmental impacts of the service and determine whether the service is environmentally beneficial overall. The carbon footprint and pollutants of manufacturing processes are used as indicators in this section. A solution is also investigated to minimize the negative impacts upon sustainability.

#### 3.2 Methodology

It is essential to first understand how a rental service can bring environmental benefits. Renting is naturally a more environmentally sustainable option when compared to buying. By signing a rental agreement, a payment is made for the temporary use of a good without transferring any ownership. When customers switch to renting, the total amount of goods in the market will be reduced as manufacturers supply less to keep the supply and demand balance. Formal wear rental service may, similarly, reduce the amount of formal wear purchased by UBC students. It will consequently reduce much of the negative environmental impacts related to the formal wear as the manufacturers would produce less. There would then be a reduced environmental impact from producing formal wear as a result of the bookstore rental service.

The drawbacks of this service in the environment aspect come from the cleaning process. The rental service may significantly increase the cleaning frequency of a piece of formal wear during its lifespan. To be specific, a piece of formal wear for rent is required to be cleaned every time after being rented to keep in good condition for the next customer. In contrast, a purchased article might be cleaned substantially less frequently. The extra cleaning processes certainly impacts in the environmental aspect.

Both environmental benefits and drawbacks of this project can be categorized into two areas, Carbon footprint (or energy consumption) and pollutants. Hence the two areas will be used as indicators to evaluate the rental service.

#### 3.3 Data Analysis

#### 3.3.1 Carbon Footprint

Every fabric has certain carbon footprint throughout its life. The typical life-cycle of a textile consists of five phases: cultivation, production, distribution, usage and removal (Jungmichel, 2010). Carbon emissions happen in every phase of this cycle in different amounts. For example, when cotton is ginned, a large amount of electricity or fuel is required to operate the machine. Similar energy consumptions can also be found in the production and transport processes. It is also important to note that the usage phase costs energy since textiles need to be washed and dried (Jungmichel, 2010). Each time the rental service is used, much of the carbon-expensive life-cycle of formal wear is saved as the customer uses a pre existing article of clothing as opposed to a new one from the manufacturer.

The textile industry has become one of the biggest greenhouse gas emission contributors in the world. According to a research of the U.S. Energy Information Administration, the U.S. textile industry is the fifth largest source of carbon dioxide (Athalye, 2012). Reducing textile industry scale is an important solution to help solve the climate issue, and promoting clothing rental among public can play an active role in such process.

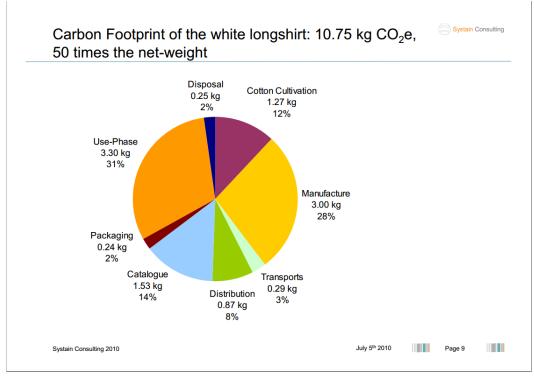


Figure 1: Carbon Footprint of a White Long Shirt

Jungmichel, N. (2010, July 5). *The Carbon Footprint of Textiles* [PowerPoint slides]. Retrieved November 26, 2014, from http://www.ci-romero.de/fileadmin/media/informieren-themen/gruene\_mode/Jungmichel.\_Systain.pdf

Assuming a customer chooses UBC bookstore to rent a long shirt instead of ordering a new one, much of the life-cycle of a long shirt will be reduced but will also add machining and maintenance costs. This means roughly 10.75 kg carbon dioxide emission can be reduced. While the usage phase is the largest contributor to the emissions during the life-cycle, cutting out many of the other phases would provide an overall reduced impact through renting.

Although different kinds of formal wear have various raw materials and producing procedures, it is reasonable to estimate that the carbon footprint during use-phase represents less than half of the total in most cases. This means the project will have a positive impact in carbon footprint in most scenarios.

#### 3.3.2 Pollutants

The Textile industry has a high level of pollution because it releases a high volume of wastewater into the environment which contains unfixed dyes. The dyeing chemicals, salts, acids, bases, chlorinated compounds and heavy metals in the effluents are extremely harmful and toxic to the environment (Silvia & Rui, 2009, p.42). However, dyeing is not the only process that generates pollution in the producing phase of a textile. Biocides are used to grow certain materials for clothes, and also bleaching generates a lot of water pollutions (Van Velduisen, 1994, p.153-155). While no significant pollution comes directly from the formal wear rental service, the only damage to the environment could be the wastewater after cleaning the formal wear, however this can be combated by the reduced carbon footprint during the clothing's life-cycle.

#### 3.4 Conclusion

The bookstore formal wear rental service is environmentally beneficial. It reduces both carbon footprint and pollution of the textile industry by a certain extent by reducing the total amount of formal wear purchased by UBC students. The main environmental drawbacks are caused by cleaning processes, which could be minimized by eco-friendly laundry stores.

# 4.0 Social Implications

#### 4.1 Purpose

Implementing a formal wear rental service would undoubtedly have a social impact on the UBC community, student body, and formal wear producers and retailers in the area. While the societal implications of a rental service are widespread, the metrics are not as simple to apply as those for economics, for example. Therefore, we weighed the detriments and benefits against the economic and environmental impacts to assess the overall impact of implementation.

#### 4.2 Methodology

To address the social impacts of implementing the rental service, this report focuses on a few key aspects including employment opportunities, health and safety, integration of sustainability in every-day life, convenience of the service for students, as well as impacts on producers and retailers. A preliminary market research survey (Appendix A) was sent to students from various fields of study, 54 of which participated, in an attempt to gauge the value of such a service to the student community.

#### 4.3 Data Analysis

The service affects the UBC community in several ways, one of which is by creating employment opportunities for retailers, distributors, producers, and salespeople. Such a service would require the bookstore to employ floor staff such as till operators (if the current infrastructure requires it), inventory and purchasing managers, maintenance workers, and possibly I.T. professionals to create and maintain and inventory system. Depending on the position, these roles could be filled by students or by experienced, external employees. The service would also indirectly employ formal wear distributors, retailers, and producers as well as maintenance and repair service employees by providing them with business. Another influence on the UBC community is that the rental service brings additional business to the bookstore. By offering another service, students would have more reason to frequent the bookstore, increasing its value to the student body and also bringing in finances which could be used to improve upon existing or implement additional services. The survey suggests that currently, many students rarely visit the bookstore. However, the survey also suggests that there is a market for this service in the student body and that there are students who would look into renting formal wear from UBC as opposed to similar services elsewhere, primarily due to the convenience of being on campus.

The rental service also affects local businesses and possibly reaches further, depending on where the formal wear is sourced. Clothing manufacturers, producers, and retailers benefit from additional business from initial inventory stocking as well as article replacement, if necessary. Whether the bookstore employs the service of an on-campus dry cleaner or whether the clothes are transported further away to be cleaned, there is also a financial benefit to that facility. For manufacturers, there is also the aspect of "free advertising". Bookstore customers will advertise for the manufacturers by wearing their clothes, and if they like the style of formal wear or someone else thinks they look good, they may purchase the product.

A negative impact would be that some clothing manufacturers employ sweatshop labour and don't disclose this information to the public. As such, the manufacturing sources would need to be scrutinized in order to negate the possibility of endorsing this policy. Other human rights issues come into play, such as unfair wages and employee health and safety, and these are often more difficult to track down.

The rental service has great potential to benefit to the student body. The convenience of having formal wear rentals on campus is likely appeal enough for many students. For instance, if a potential employer suddenly reschedules a student's interview for that day and the student did not dress accordingly before heading to classes, it would save considerable stress and a potential job opportunity. Additionally, renting is an inexpensive alternative to buying formal wear if the student uses it infrequently or grows out of it.

Renting is inherently a sustainable practice, and it could serve as a message to students as it encourages sustainable behaviour. Whether the student is aware of it or not, they are promoting local and sustainable business, continuing UBC's status as a leader in sustainable practices. By using the service, students are contributing to social and environmental action.

Finally, health and safety risks to the customer were researched. Dry cleaning is a harsh, chemical process which is effective at cleaning and sanitizing clothing. Wet cleaning, the environmental alternative, also shares these qualities. While the survey results showed that fewer people were concerned with the cleanliness of the formal wear, it is unclear whether they responded that way either because they assumed sanitary cleaning practices are employed or because hygiene is not their highest concern. Initially, this report considered the practicality, in terms of health and safety, of offering formal footwear, as the reliability of cleaning services to properly sanitize footwear was unclear. After consideration, it was determined that formal wear would be incomplete without the option to rent footwear and more care would have to be taken in determining the best method to effectively clean and service the product. This was factored into the costs and life-cycle calculations, and the possibility of health risks were deemed insignificant.

#### 4.4 Conclusions

The social benefits of a formal wear rental service primarily impact the student body, the UBC community and bookstore, and also local business. Depending on the manufacturing practices of the products supplied, the social benefits far outweigh detriments with respect to these aspects. In summary, as long as the suppliers have humane manufacturing practices and the cleaning and maintenance services operate within health and safety standards, the social impacts are purely beneficial.

## 5.0 Analysis and Recommendations

Considering the triple bottom line analysis the assessed economic, environmental, and social impacts appear to indicate this is a beneficial service to employ within the UBC community. The economic gains, after a short investment period, can be realized by both clients (students) and the UBC bookstore, providing a positive outcome for both parties. Additionally, the naturally environmental rental process and ecological practices that are available for such services add to UBC's already environmental leadership. Additionally, both he bookstore and customers, students, can benefit from taking advantage of this opportunity. As a result of the findings of this report, there appears to be little reason why this would not be a good investment for the community and for the environment.

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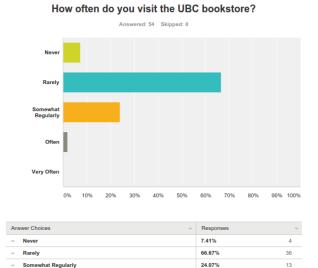
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# 7.0 Appendices



#### Appendix A - Preliminary Market Research Survey Results

Often

Total

Very Often

#### Figure A.1

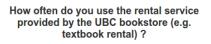
1.85%

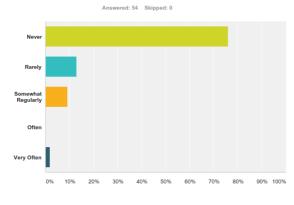
0.00%

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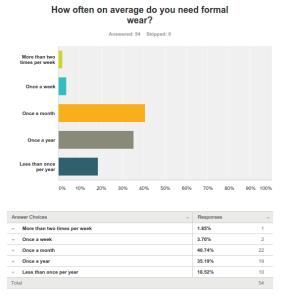
54

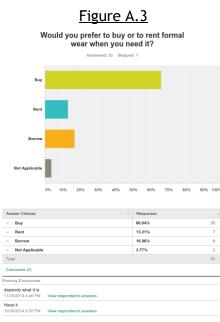




Answer Choices -	Responses -
- Never	<b>75.93%</b> 41
- Rarely	<b>12.96%</b> 7
<ul> <li>Somewhat Regularly</li> </ul>	<b>9.26%</b> 5
- Often	0.00% 0
<ul> <li>Very Often</li> </ul>	1.85% 1
Total	54

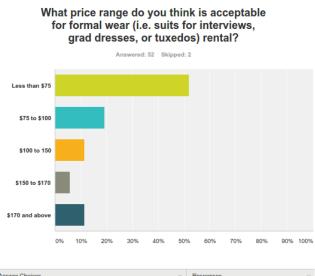
Figure A.2







Cor



Answer Choices -	Responses ~
✓ Less than \$75	<b>51.92%</b> 27
	<b>19.23%</b> 10
	<b>11.54%</b> 6
	<b>5.77%</b> 3
	<b>11.54%</b> 6
Total	52

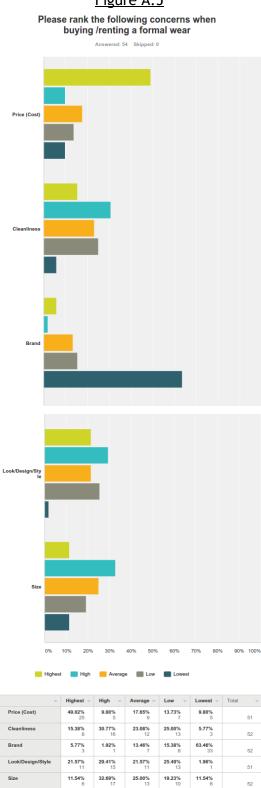


Figure A.5

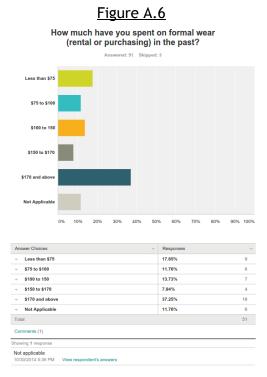
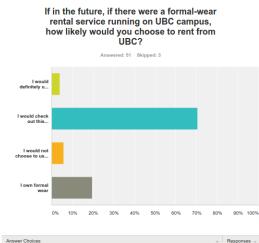


Figure A.7



Answer Choices	*	Respons	ses 🦷
- I would definite	ely use this resource for renting formal wear	3.92%	2
<ul> <li>I would check out this resource out but I would also consider buying formal wear elsewhere</li> </ul>			36
<ul> <li>I would not choose to use this service because I know other good resources for formal wear rentals</li> </ul>			
- I own formal w	ear	19.61%	10
Total			51
Comments (2)			
howing 2 responses			
only if the deal is go	od/cheap		
11/22/2014 5:15 PM	View respondent's answers		
Own my own suits			

### Figure A.8

#### Do you live nearby Campus?

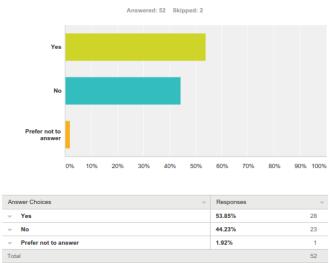


Figure A.9

Appendix B - P	rice of Purchase a	and Maintenance Tables

Link Number	Suits for Men	Dress shirts	Suits for Women	Tuxedo	Shirts for Tuxedo	Formal Dress
1 (see below)	- \$269	- \$59	- \$228	- \$269~295	-\$59	-N/A
2	-N/A	-N/A	\$150	-N/A	-N/A	-\$175.66~ 234.21
3	-N/A	-N/A	-N/A	-\$245	-N/A	\$170
4	-\$500	-\$44	-N/A	-N/A	\$44	-N/A
5	\$142.06	\$14.56	\$118.19	\$118.00	\$34.560	\$ 180.00

Table B.1

Links:

1. http://www.tailor4less.com/en-us/

2. TB Dress http://www.tbdress.com/

3. http://ca.askmen.com/fashion/trends 100/146c fashion men.html

4. http://www.myntra.com/shirts/invictus/invictus-men-white-slim-fit-formal-shirt/ 452645/buy?src=search&uq=&q=men-formal-shirts&p=3

5. https://www.formalfashionsinc.com/product.php?product\_id=3453&category\_id =20&\_\_\_utmt=1&\_\_\_utma=87668623.1457968329.1416279062.1416279062.1416279062.1&\_\_\_ut mb=87668623.4.10.1416279062&\_\_\_utmc=87668623&\_\_\_utmz=87668623.1416279062.1.1.utmc sr=(direct)|utmccn=(direct)|utmcmd=(none)

# Table B.2

Name	Suits for Men	Dress shirts	Suits for Women	Tuxedo	Shirts for Tuxedo	Formal Dress
Busy Bee Dry Cleaners	-\$30.50	-\$3.85	-\$30.5	-\$ 30.50	-\$5.25	-\$20.75
University Dry Cleaners	\$27	\$5-12	\$27	\$30	\$10	\$22-25
Good Morning Cleaners	\$21	\$8.50	\$21	\$25	\$9.50	\$13.50-\$2 9
New World Dry Cleaners	\$21	\$3.00-5.50	\$22	\$31	\$18	\$18