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Laptop Recommendation Report for Work from Home Initiative

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CORPORATE INC.

Abstract:

“Laptop Recommendation Report for Work from Home Initiative”

Prepared by Ms. Jessica Vega and Mr. Sagiv Lapkin

This Recommendation Report is in response to the Research Proposal dated February 12, 2020 concerning the selection of laptops. The main purpose of this Recommendation Report is to inform the reader which laptop model would be the best fit for Corporate Inc.’s Work from Home Initiative (WFH). In this report, Ms. Jessica Vega will outline the research and testing that has been completed during the evaluation process, in addition to the costing and scheduling associated with the project. After extensive testing and consultation from IT department head, Mr. Sagiv Lapkin, the best laptop for the company’s needs was shown to be the ThinkPad T14. This selection is due to a combination of computer specifications that fit the research criteria and cost. Further research also shows that it would be more economical to lease the laptops rather than purchase them**.**

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Introduction:

In January 2020 cases of COVID-19 started to appear within the United States. In order to prevent this virus from spreading and infecting our employees, CEO Ms. Danielle Zarfati has initiated a Work from Home Initiative (WFH).This WFH Initiative will be effective on April 24, 2020 until the quarantine is lifted. By implementing this tactic, Corporate Inc. will continue to operate as closely to normal business parameters as possible.

However, as noted in the February 12, 2020 Research Proposal, Corporate Inc. does not have the capability (i.e. laptops) to allow all 100 employees to work from home. This lack of ability to work from home, poses a serious risk to Corporate Inc.'s profits and customer relations. Preliminary research showed that 43% of small businesses have temporarily closed as a result of the virus. (Bartik, 2020). Current statistics demonstrate that 52% of the US population has lost 50% or more of their income. (Statista, 2020). The chosen WFH laptop will thus be essential in keeping our business afloat.

In order to make sure our employees remain safe and to continue to conduct business during quarantine, Ms. Danielle Zarfati has requested research on which laptop would be best suited for Corporate Inc.'s needs and whether it would be more economical to buy or lease the products. *CRN*, *CNET* and "Laptop Magazine" have indicated that Dell, Microsoft, and Lenovo are some of the top laptop brands for Windows (Alspach, 2020; Goldman, 2020; Tracy, 2020). Furthermore, Mr. Lapkin has indicated that these models are compatible with the current desktop models that Corporate Inc. has at the office. Based on this information, the following three laptops were preselected for final recommendation:

- Surface Pro 7
- ThinkPad T14
- XPS 13 Laptop

After interviewing the managers, Mr. Sagiv Lapkin and Ms. Jessica Vega made sure that the selected laptops could run Microsoft Office, the S.T.A.R. accounting system, Adobe Acrobat,

and S.K.Y.N.E.T. programs. Ms. Vega and Mr. Lapkin were then tasked with researching which of these three models will be the best laptop for the company's needs. This research was done through online analysis and physical testing. Online research included data from the manufacturer's sites, independent computer sites, Consumer Reports. Physical testing included performance, speed, and battery analysis; this physical testing was performed by Mr. Lapkin. Furthermore, Surface Pro 7, ThinkPad T14, and XPS 13 Laptop were tested under the following evaluation criteria:

Table 1.1 Company Requirements

Category	Company Requirements
Processor	10th Generation Intel® Core™ i5 or above
Display	13" to 14"
Battery Life	14-20 hours
RAM	8 GB
Storage	200 GB SSD
Operating System	Windows

The main focus of this Recommendation Report (deliverable) is to recommend to Corporate Inc. the best laptop for business applications and whether to purchase or lease the chosen laptops. This report provides detailed information regarding the research and testing process, and the findings of the research that was conducted on behalf of Corporate Inc. In addition to this information, the report also details the 40 days of testing and research, as well as the tasks involved in analyzing the laptops.

The following sections will further outline the research methods, the schedule, the budget, the research results, conclusion, appendix, and resources.

Research Methods:

Before researching the Surface Pro 7, ThinkPad T14, and XPS 13 laptops, Ms. Vega interviewed the 25 managers of Corporate Inc. to confirm which programs are needed for the WFH laptops so that their employees could continue to work. The managers specified that any WFH laptops that were procured would need to be able to run the following programs:

Table 1.2 Program Requirements

Program	RAM	Display	Speed
Microsoft Office	4 GB	1280×768	1.6 GHz
S.T.A.R.	6 GB	1280x999	1.9 GHz
Adobe Acrobat	4 GB	1280x800	1.6 GHz
S.K.Y.N.E.T.	8 GB	1280x900	1.8 GHz

After noting which programs will be needed, Ms. Vega and Mr. Lapkin established that all three laptops could run them. Once this data was confirmed, Mr. Lapkin and Ms. Vega began the online research portion of the laptop evaluation.

The main avenues of research for this Recommendation Report come from the manufacturer's sites, selected independent computer sites (e.g. CNET, CRN, etc.), and Consumer Reports. Ms. Vega and Mr. Lapkin have reviewed the material to see how each laptop compares with the other two laptops. Once the online evaluation was completed, Mr. Lapkin and Ms. Vega finalized the physical tests of performance, speed, and battery life. Additional details concerning the testing, as well as the results of these parameters can be found on page 10.

Schedule:

Table 1.3 illustrates the finalized schedule for the timeline of the laptop research and testing. In Task 1 because the managers were so quick to respond to the interviewee questionnaire, Ms. Vega was able to confirm the program specifications and finish creating the research and testing guidelines in Week 1. Due to this, Ms. Vega and Mr. Lapkin were able to move up the timeline for the preliminary research of Task 3. Unfortunately, due to some shipping complications from the manufacturer's warehouse the testing laptops for Task 4 arrived late. Due to this delay, instead of physically testing the laptops for Weeks 5 and 6, the testing was completed on Weeks 6 and 7.

The Recommendation Report was completed on April 10th (Week 8) to allow time for the selected laptops to be ordered and delivered to the company in time for the April 24th WFH Initiative.

Table 1.3 Schedule

Task	Dates of Tasks (by Week)							
Task 1: Acquire laptop specifications								
Task 2: Create research and testing guidelines								
Task 3: Complete preliminary research								
Task 4: Physically test laptops								
Task 5: Obtain costs for bulk ordering and shipping								
Task 6: Write Recommendation Report								
	Week 1: 02/17 to 02/21	Week 2: 02/24 to 02/28	Week 3: 03/02 to 03/06	Week 4: 03/09 to 03/13	Week 5 03/16 to 03/20	Week 6: 03/23 to 03/27	Week 7: 03/30 to 04/03	Week 8: 04/06 to 04/10
Month	**February**		**March**				**March / April**	**April**

In all, it took 40 days from implementation of Task 1 to completion of Task 6 to finish the project.

Budget:

The finalized budget can be found in table 1.4. This table summarizes the costs associated with this project. The budget includes the salaries of Ms. Vega and Mr. Lapkin; these salaries were calculated over the 40 days that it took to complete the project, at eight hours per day.

The laptop ordering and testing row includes the culminative purchase cost for all three laptops in order to physically test them. The total amount of this project is $18,862.

Table 1.4 Finalized Budget

Name/Description	Job	Hours worked*	Hourly Rate ($)	Subtotal ($)
Jessica Vega	Technical Writer	320	$20	$6,400
Sagiv Lapkin	IT Department Head	320	$25	$8,000
Laptop Ordering and Testing	...	...	...	$4,292
Total Amount ($)				**$18,692**

*calculated by 8 hours per day, for a total of 40 days

Research Results:

The following subsections detail the results from the testing and research conducted by Mr. Lapkin and Ms. Vega. The subsections are organized according to the specified task list from the "Laptop Research Analysis for Work from Home Initiative" proposal.

- ***Task 1: Acquire laptop specifications from Corporate Inc.***

  On Monday February 17th Ms. Vega asked the 25 managers of Corporate Inc. to attend a one-on-one half hour meeting to see what programs and specifications the prospective WFH laptops should have. These interviews took place on the 17th and the 18th. The Appendix on page 13 has the Interview Questions that were utilized in these meetings as well as the percentages of answers regarding which programs were needed for the employees to work from home. Ms. Vega ran the individual program requirements past Mr. Lapkin, and he confirmed that the Surface Pro 7, ThinkPad T14, and XPS 13 Laptop would be able to run all of these programs. With these specifications in mind, Ms. Vega was able to begin creating the finalized research and testing guidelines for Task 2.

- ***Task 2: Create finalized research and testing guidelines***

  On Wednesday February 19th Ms. Vega began to draft the research criteria for the prospective WFH laptops. This evaluation criteria included the program requirements that were requested by the managers as well as the company specifications as outlined in Table 1.1. By meeting these specifications, Corporate Inc.'s employees would be able to work from home with the same capabilities that they have from their office desktops. Once the research criterion were drafted by Ms. Vega, Mr. Lapkin looked over and finalized them on Friday February 21st. This quick turnaround allowed, Mr. Lapkin and Ms. Vega to move up the timetable of Task 3 to Week 2 as noted in the Schedule on page 7.

- ***Task 3: Complete preliminary research***

  On Monday February 24th Mr. Lapkin and Ms. Vega began to research the prospective WFH laptops with the evaluation criteria as specified in Task 2. As indicated in table 1.5 the Lenovo ThinkPad T14 matches the evaluation criteria set for battery life and display. However, the Surface Pro 7 and XPS 13 both were not able to meet the required numbers as set by the company. The XPS 13 battery life was lower than needed and the Surface Pro 7 Display was too small.

Table 1.5 Laptop Specifications

Name	Processor	Display	Battery life (in hours)	RAM	Storage	Operating System	Quality	Can run office programs
XPS 13 Laptop	10th Generation Intel® Core™ i5-10210U)	13.3", 1920 x 1080 resolution	12	8 GB, LPDDR3	256 GB SSD	Windows 10 Pro	8.7	Yes
Surface Pro 7	Quad-core 10th Gen Intel® Core™ i5-1035G4 Processor	12.3”, 2736 x 1824 resolution	10.5	8 GB, LPDDR4x	256 GB SSD	Windows 10 Pro	3.4	Yes
ThinkPad T14	10th Generation Intel® Core™ i5-10210U Processor	14.0", 1920 x 1080 resolution	16	8 GB, DDR4	256 GB SSD	Windows 10 Pro	6.4	Yes

The research for this table comes primarily from the manufacturer’s sites. The quality information row as shown in the table comes from reputable online sources like, CNET that have reviewed these laptops brands. The averages from each independent site and Consumer Reports were calculated together and the mean of these scores produced the quality score that can be found in Table 1.5. The preliminary research for Task 3 was completed on March 6th.

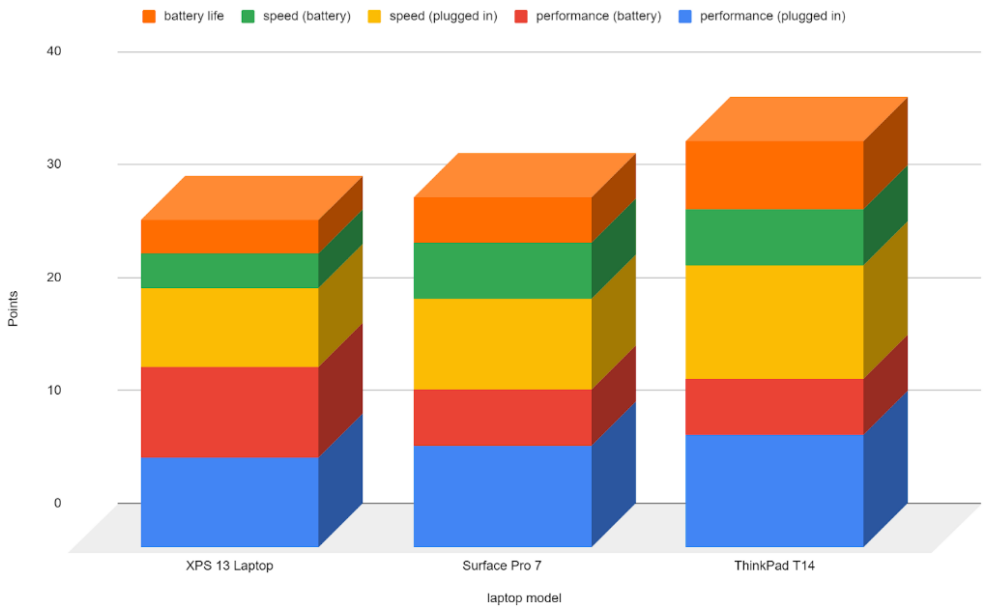
- ***Task 4: Physically Test laptops***

  On March 6th after the completion of Task 3, Ms. Vega ordered the Surface Pro 7, ThinkPad T14, and XPS 13 Laptop to conduct physical examinations of the products. However, due to unforeseen complications with shipping, the Surface Pro 7 order was lost and needed to be reordered and the XPS 13

laptop was broken upon delivery. The wrong Lenovo laptop was also delivered instead of the requested ThinkPad T14. Due to these complications, the physical examinations of Task 4 began in Week 6 as opposed to the original timeline of Week 5. Once all three laptops arrived, on March 24th and March 26th, Mr. Lapkin was able to examine each one to see how they handled the performance, speed, battery life tests.

All tests were performed at the office during clear weather conditions and with 150 Mbps internet speed. The speed and performance tests were done while the laptops were plugged in and again when they were running on battery life. The points were awarded on a scale from one to ten (with ten being the highest, and one the lowest).

Graph 1.1 Physical Test Results



When the laptops Surface Pro 7 and ThinkPad T14 were not plugged in, there was a significant decrease in performance and speed; when these laptops were

plugged in, however, speed and performance remained optimal. While running S.T.A.R. and S.K.Y.N.E.T. both the XPS 13 and Surface Pro 7 showed increased battery consumption when they were not plugged in. The testing was completed on March 30th.

- ***Task 5: Obtain costs for bulk ordering and shipping***

  On April 1st, Ms. Vega called the respective laptop manufacturers to obtain shipping information, bulk costs, and to confirm leasing information. From this research, Ms. Vega was informed that Microsoft offered a 25% off deal for any bulk orders that were over 75 laptops. However, this deal did not apply to leased laptops. Dell offered free shipping for orders over 50 laptops and Lenovo offered free warranty for bulk orders over 90 laptops. These conditions for Dell and Lenovo apply to both purchased and leased laptops.

  The table below offers further information in regard to bulk pricing, leasing, and shipping. Though the deals offered by the manufacturers are in correlation with purchasing options, leasing the laptops is the more economical option. Even if the quarantine lasts longer than expected (e.g. a year rather than a couple of months**),** the leasing prices for the XPS 13 Laptop and ThinkPad T14 are still more financially viable than direct purchasing.

Table 1.6 Prospective Bulk Costs

Laptop	Company	Purchasing Costs ($)	Leasing Costs ($)	Shipping costs ($)	Shipping costs with discounts ($)
XPS 13 Laptop	Dell	$94,900.00	$57,500	$200	$150*
Surface Pro 7	Microsoft	$130,400	$4,700	$750	$0
ThinkPad T14	Lenovo	$203,900.00	$100	$500	$500

* does not applied to leased laptops

- ***Task 6: Write Recommendation Report***

  On April 6th, after examining the notes and data from Tasks 1 through 5, Ms. Vega consolidated all information into one document and began to write the recommendation report to Ms. Zarfati. This deliverable was to include all the testing and research data that was conducted as well as the shipping, leasing and purchasing costs. Additionally, the report was to include the best laptop for Corporate Inc. in regard to economic value and overall use. On April 8th the report was completed and reviewed by Mr. Lapkin and then submitted on April 10th for Ms. Zarfati.

Conclusion:

Despite the delays that were experienced in Task 3, Mr. Lapkin and Ms. Vega were able to complete the testing and research of the prospective WFH laptops in time for the April 10, 2020 deadline and for Corporate Inc. to order the bulk laptops. The summary for the overall results can be found in the following subsection.

- ***Results Summary:***

  According to the results from the online research that can be found in Task 3, Surface Pro 7 and XPS 13 Laptop did not meet the requirements for Display and Battery life respectively. The needed requirements for the company was 13 to 14 inches which Surface Pro 7 did not meet coming in at 12.3”, 2736 x 1824 resolution. XPS 13 Laptop did not meet the battery life requirement of 14-20 hours, and instead came up to 10.5. ThinkPad T14 was able to meet these evaluation criteria with 14.0" 1920 x 1080 resolution and 16 hours of battery life. In the physical testing for Task 4, however, when ThinkPad T14 was running on battery power and the S.T.A.R. and S.K.Y.N.E.T. programs, there was a significant decrease in speed and performance.

  When ThinkPad T14 was plugged in, speed and performance remained optimal. When running these same programs for XPS 13 Laptop and Surface Pro 7, there

was also increased battery consumption when they were not plugged in. Surface Pro 7 also showed significant decrease in performance and speed as well. After examining the costs associated with each laptop, Mr. Lapkin and Ms. Vega agree that leasing the laptops for the duration of quarantine would be the most economical choice. Even if the quarantine is extended for a prolonged period of time, the leasing costs are still the cheaper option compared to purchasing.

- ***Recommendation:***

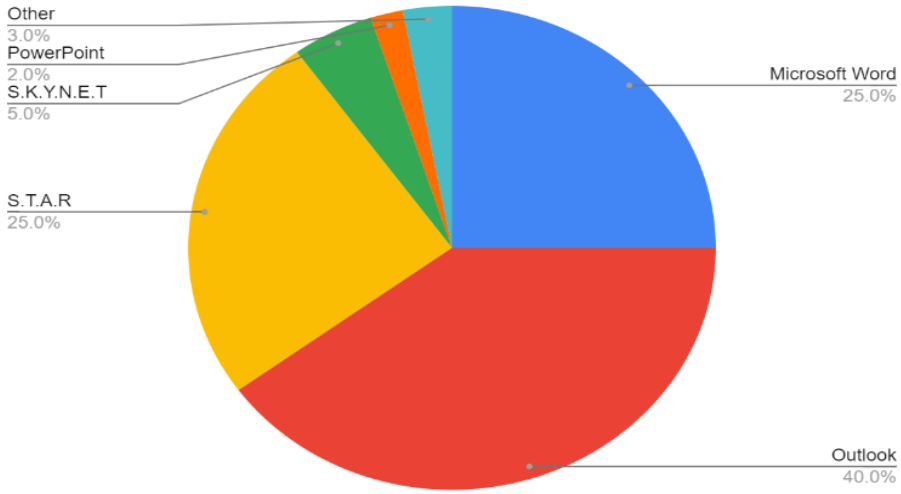
  From the online research and physical testing that was completed by Mr. Lapkin and Ms. Vega, ThinkPad T14 is shown to be the best fit for Corporate Inc. ThinkPad T14 was the only laptop that met all of the online research criteria; though there was a decrease in performance and speed when running the S.T.A.R. and S.K.Y.N.E.T. programs, when the laptop was plugged in, these issues were nullified. Though ThinkPad T14 is the most expensive for a direct purchase, the leasing option is the cheapest of all three laptops and allows more economic flexibility if the quarantine lasts longer than initially thought.

Appendix A

Below is a copy of the interview questions that were asked of the 25 managers of Corporate Inc. as well as the percentages of their answers:

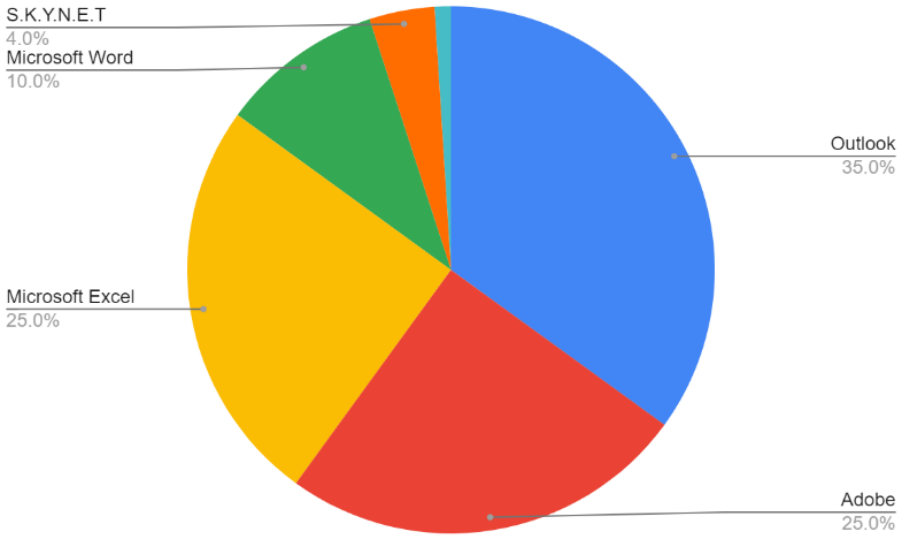
1. Which programs do you use on a daily basis while working at the office?

Pie Chart 1.1 Manager Programs



2. Which programs do your employees use?

Pie Chart 1.2 Employee Programs



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