New Product Development
Fall 2019: final term project

Dec 18th, 2019

by **Rishabh Saxena** & **Krunal Patel**

The strategic company name "Eznect" has been derived using the combination of two words: Easy and connect. We have came across this strategic name since it aligns with our product goals: Connecting technologies, Simplicity, Centralization and has been design for "easy to use".

Company Name: Eznect: Easy to Connect
Company Logo:

eznect

Easy to Use || Improved Connectivity || Centralized

Mission Statement
To combine and minimize technologies for the ease of people.

Vision Statement
A hassle-free future.

Employees:
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Products or services that we sell and our new product, long term product goals (Problem we are aiming to solve):
Our company aims to reduce the hassle of the user by combining technologies to increase user efficiency by reducing the number of devices, centralizing data and making the technology as cost effective as possible for the user.

Problem Statement:

- **Number of Devices:** In the world of advancements where IOT has connected everything, we still carry 2 to 3 devices to get through our daily work.
- **Data Decentralization:** Carrying these devices is not only difficult but it also decentralizes the data at times. Often, we are left with problems like lack of internet service which leads to inability to access the data on the server or from other devices connected through cloud.
- **Economical:** We spend about $1600 on an average to get 2 to 3 devices for working.

Today everyone owns at least 2 to 3 devices. One phone, one laptop and in many cases a tablet as well. The problem is, as we pay for each of these devices while buying them, we fail to realize that mostly all of them have similar configuration and all that makes them different is the size of the screen or a couple of new features which have been pushed to the customers in a way that they now seem to be a necessity. Also, even though we have clouds to store our data, we generally store our files on the onboard storage to avoid the monthly charges of the

cloud and inaccessibility in case of unavailability of network. Sometimes, even when we wish to have all the three devices, we are unable to do so because we cannot afford it. An average laptop with good specification will cost somewhere close to $550. A phone with good high-end specifications will cost minimum about $500 and a tablet in the decent range of specs would be another $400. Overall, one might end up spending $1500 in total.

New Product Category:

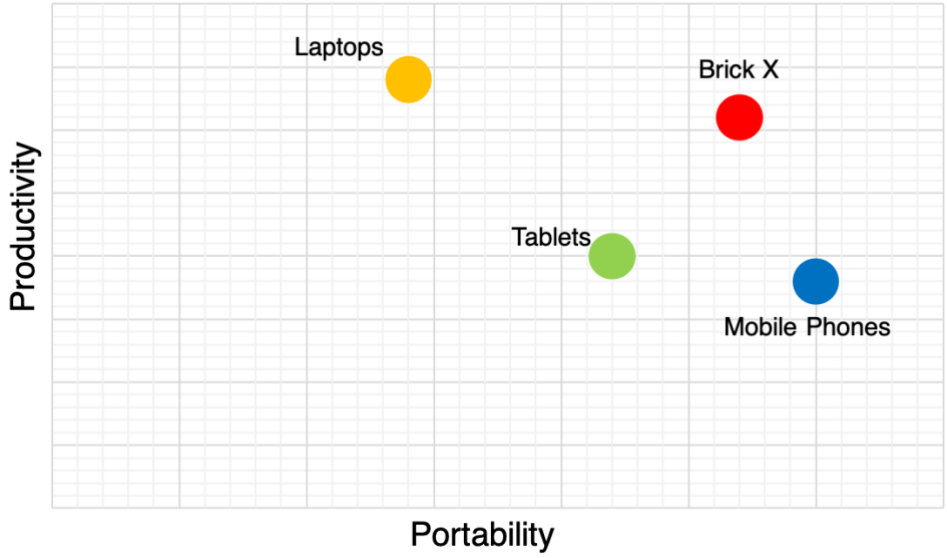
The product that we bring to the market is going to be New-to-the-World. We aim to speed to the market with the idea to get ahead of the market and set new standards of this product. We aim to act upon the competitive advantage that the product would give over the existing portable devices and more importantly aim to get the mindshare of the customer. Speeding to market will let us grab the market while gaining revenues from the product. According to our analysis, we can earn a close to $280 Million in profit with this project.

Product Innovation Charter for Motion
Background ● The rising cost of electronic devices make the consumer spend more and these devices in no time become obsolete and do not get any buy-back value ● 2 to 3 devices are owned by everyone and all of them do not vary much in technical specification. They are simply pushed to the consumer and consumer spends close to $1500 for them. ● Decentralized data and inability to access cloud at times leaves the consumer vulnerable
Focus ● Finding an alternate solution to what is already available in the industry. ● Designing a device that can replace a laptop and a tablet. ● The phone should have windows operating system and the hardware should not need a fan for cooling the processor. ● The focus should be on using snapdragon processors and reducing the power consumption of device while still being efficient enough to support the student lifestyle.
Goals and Objectives ● Grab the market share by speeding to the market, ● Satisfy the evident customer needs ● Introduce the product with best possible quality and competitive price ● And to gain revenue by increasing the margins.
Guidelines ● The design should be compact ● The learning curve of the product should be very small ● Reducing the weight of the device

New Product Process

Opportunity Identification

We see a gap in the market for a device that could be more portable than laptop yet be as efficient as a laptop. We want to combine the performance of a laptop and the portability of a mobile phone and bring in a product that can be used as both with simple and light-weight accessories.



Concept Generation

We, at **Eznect**, aim to reduce the number of devices by making the products as modular as possible. With simple accessories, we want to increase the productivity of one device and bring down the cost as much as possible. How do we plan to do this?

We want to build a new kind of smartphone. A Windows Operating System Smartphone. In out market research, we found out that Windows is the most widely used operating system when it comes to productivity. It is highly adaptive, supports all kinds of softwares and is secure enough for an average person. The graph below shows the market-share of Windows OS.

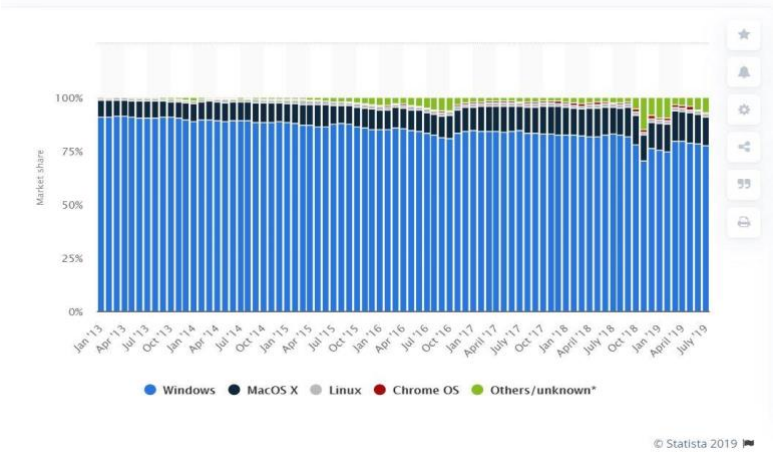


Figure 1: Statista

Keeping Windows as the OS, we now shift towards the product design. For running Windows OS, the hardware is a little complicated and requires a comparatively larger space to fit in the processing unit. Assuming this, we aim to

design a phone with a screen size slightly bigger than the current industry standard but still portable enough to carry. We plan to create a 6.5 inch edge-to-edge screen with a device thickness maximum of 7mm.

Design Goals

Our focus for design are as follows:

1. **Design for Competitive Advantage:** The fact that our product will offer a better performance, will be more portable and economical in the longer run makes us target (at least initially) the lower end (sub $250) of the laptop and tablet lines.
2. **Design to meet customer needs:** The tuition fees of schools and colleges has been rising and cellphone, tablets and laptops are a necessity for students. With our product we can target the students who do not have much to spend for each device separately.
3. **Design for the ease of use:** By centralizing data, flexibility to carry, lighter weight and simplifying technology, this product aims to design for the ease of use.

Proposed concept design:

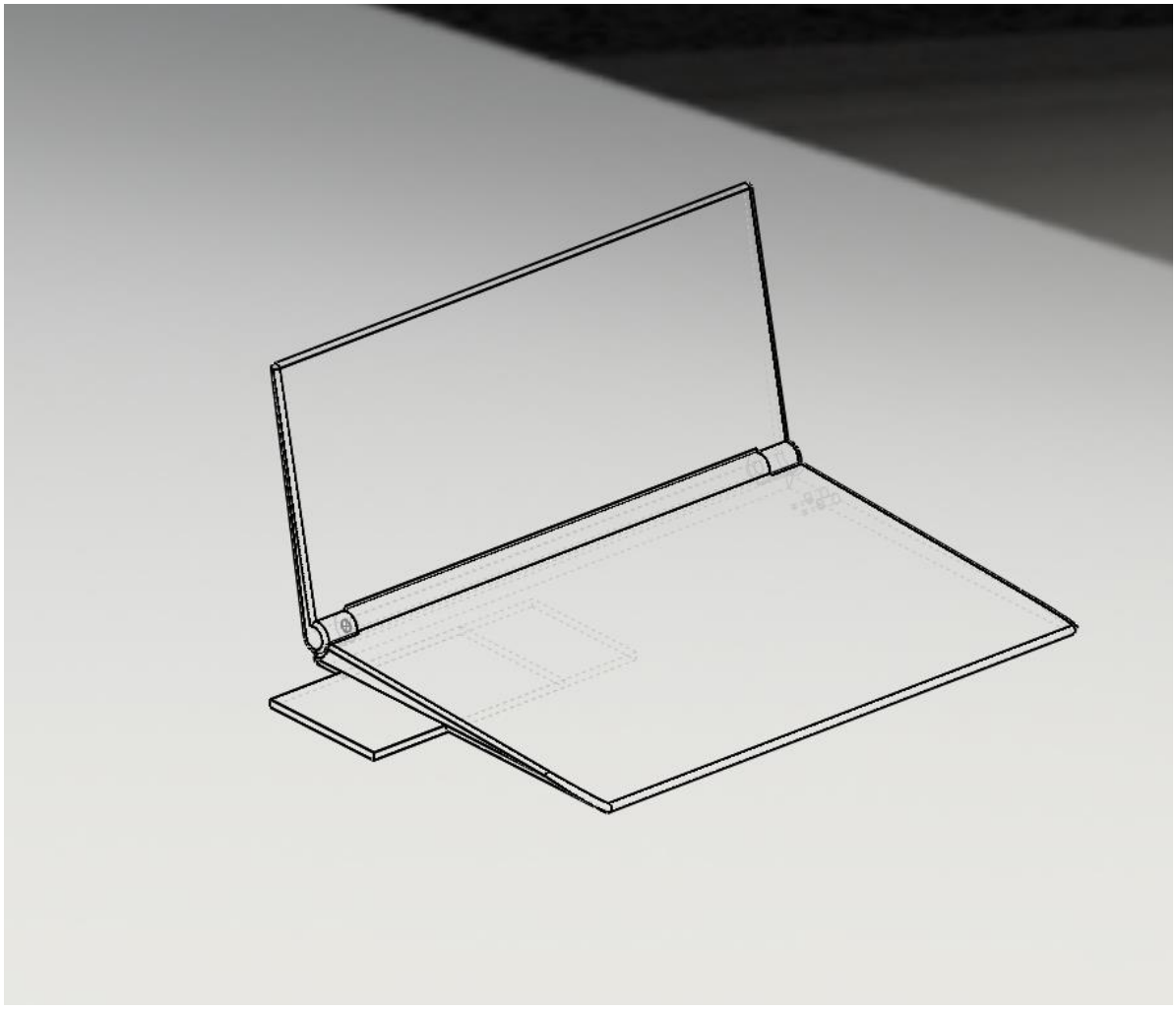


Figure 1: Conceptual SolidWorks CAD Design

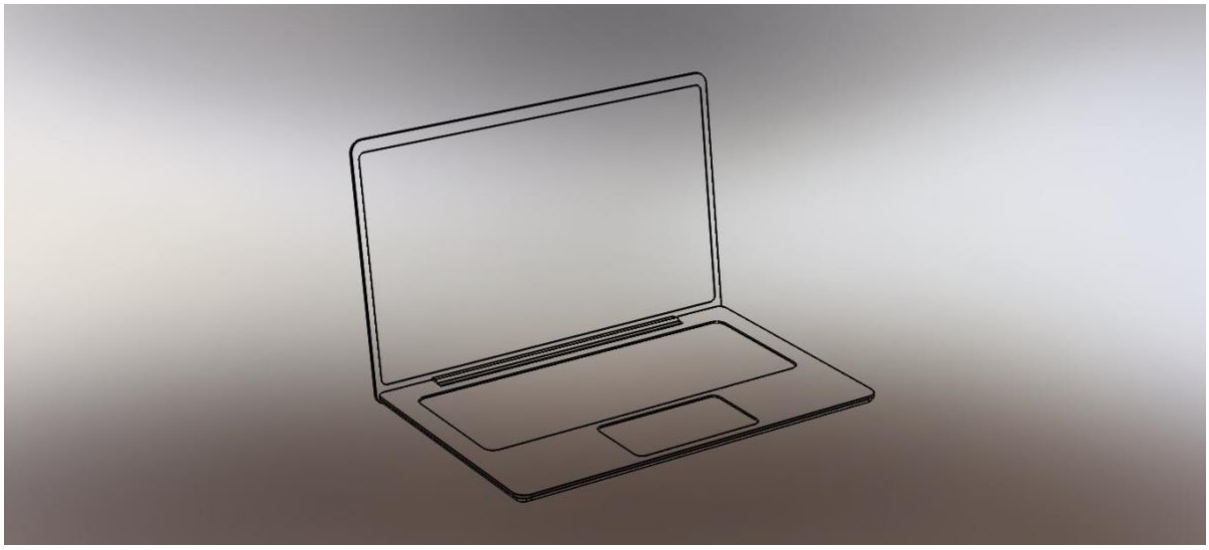


Figure 2

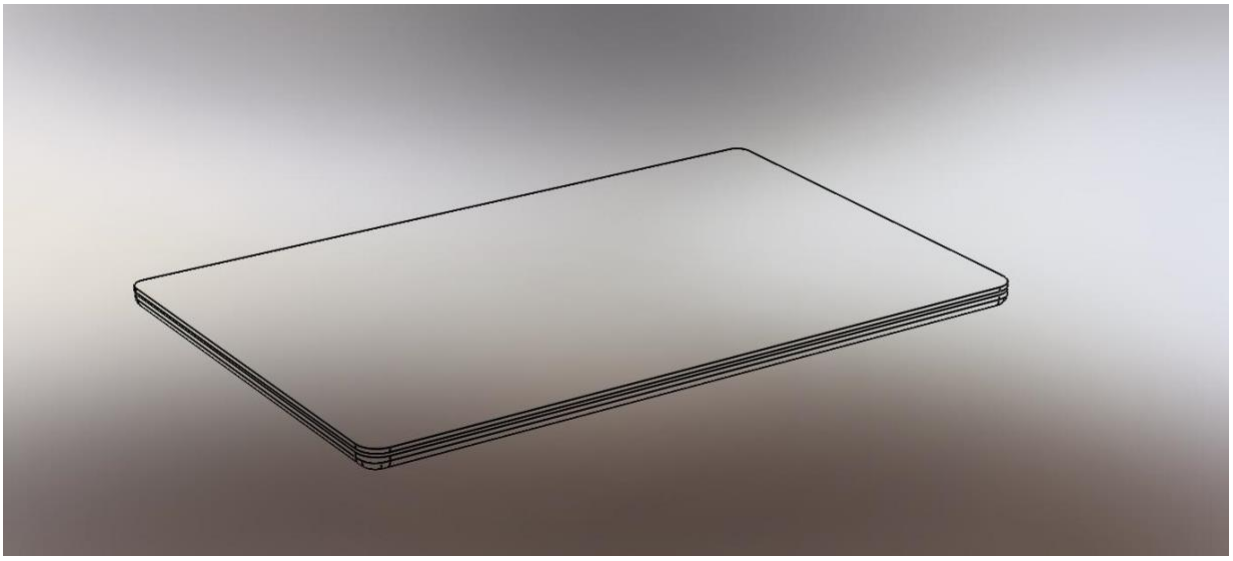


Figure 3

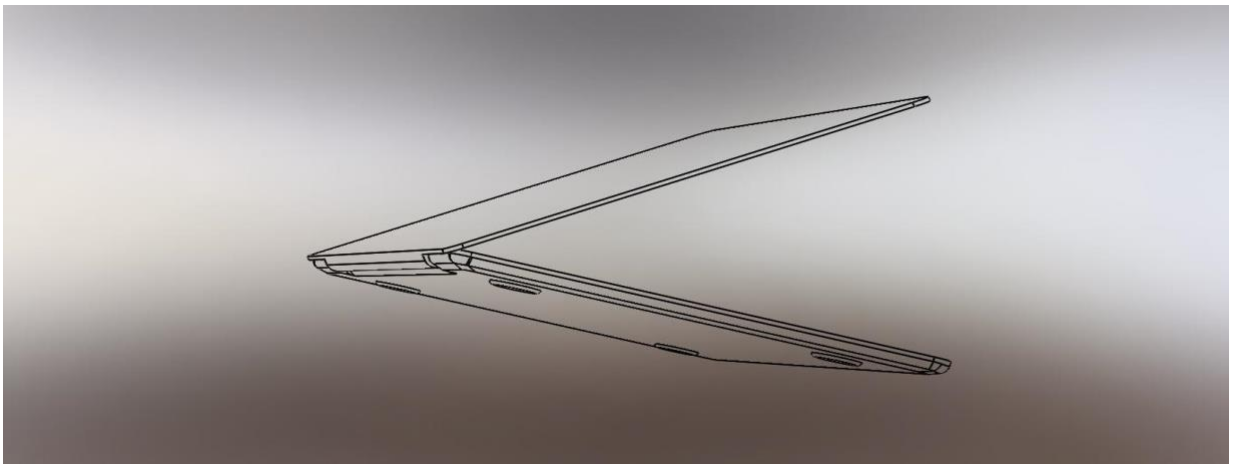


Figure 4

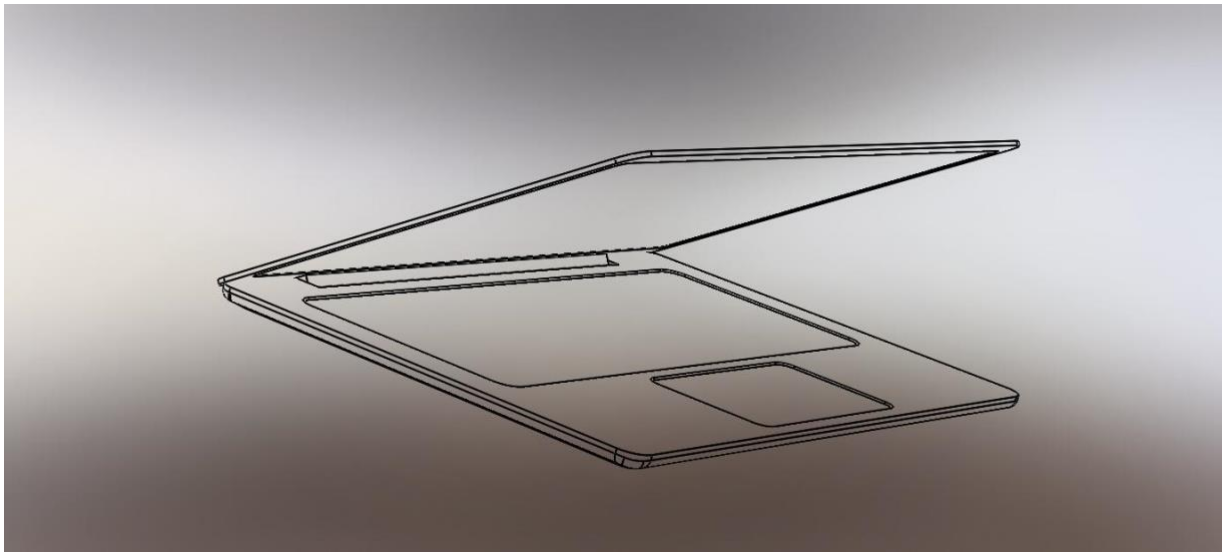


Figure 5

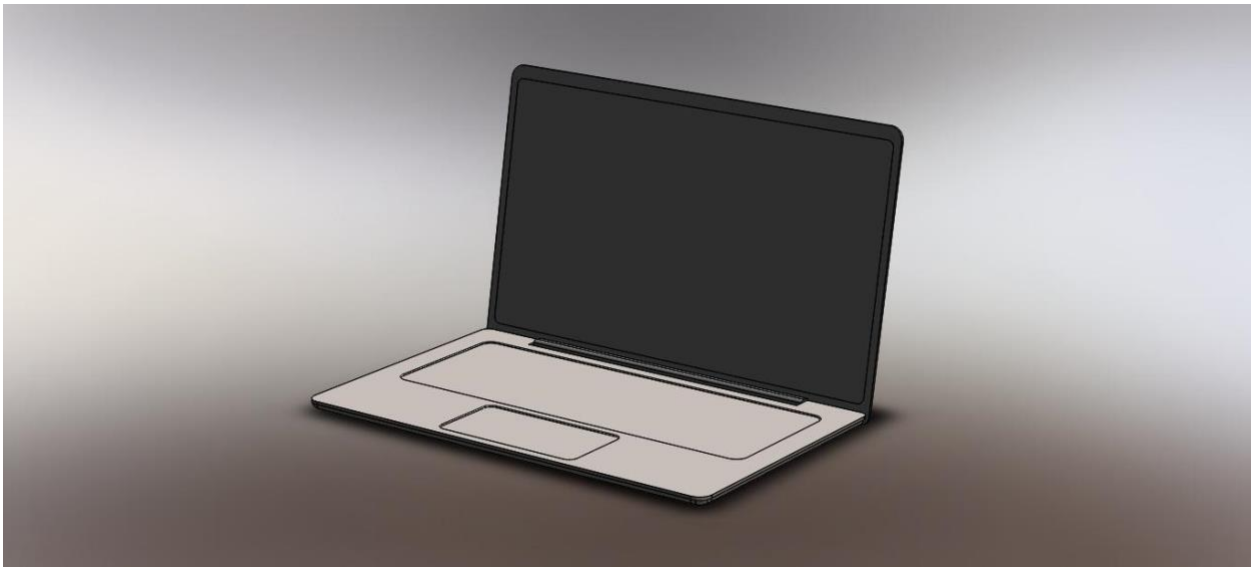


Figure 6

Concept Evaluation

Market Research

I. Market and industry description

The electronics and communication industry seem to be stuck in a paradigm. The devices in the industry lack innovation and minor and insignificant upgrades make the phones and laptops bought just a year ago obsolete. This wastes user's money. They are fooled and are made to spend hundreds of dollars for something that offers nothing but hype.

II. Competitive analysis

Some of the top spec devices in the market in each section:

Electronic Device (Laptop/Mobile)	Single Core Processor	Multi Core Processor
Samsung S10	706	2426
Iphone 11 Pro	1326	2334
Google Pixel 4	631	2535
Macbook Pro	905	3895
HP Spectre	1197	3408
Macbook Air	761	1534
Pixel Book	826	1283

Overall Performance Comparison-Geekbench 1

From the above table, it can be seen that Geekbench score for performance is almost similar for laptop and mobile phones for similar specifications performance, which indicates a possible technical feasibility.

III. Need for the product (Demand analysis)

By centralizing the processing unit for all devices we can save a lot of money. The weight of the devices would significantly go down and the number of devices would also reduce. Space occupied in the laptop chassis by the processor, would be occupied by the battery and this battery can act as the charging hub for the phone or bluetooth earphones.

IV. Positioning goals

We position our device between a phone, a tablet and a laptop. Initially we can completely replace the laptops with decent specifications but as the technology progresses, we aim to replace all the laptops and tablets.

V. Conclusion: Why there is a need in the market for our product?

Buying an average phone with decent processor would cost about $350. An average laptop with decent specifications would again cost about $550. Take a tablet (without a keyboard) and you spend another $300 with nothing but 3 devices with decent specifications and a negative of $1200 account balance. Our idea is to buy a high-end phone with best specifications for $700 and spend $100 for the slide. This would save about $400 per user and would increase the productivity of the user.

ATAR Analysis:

1. **Awareness:** Considering the product as a flanker brand for Microsoft. Because of a big launch event and awareness through Youtube- Tech Reviews, facebook, and physical awareness from the product store of the product reaches to approximately 20 million= 20,000,000 (Value is assumed based on the youtubers views reach) in the geographic segment: Indian market (even though being a global product).
2. **Trial:** To maximize trial, our primary platform is major Microsoft stores across various Indian cities, since success rate for trial is far better for instore compared to the online trial success rate (nearly 2.5 times, might be due to the inconvenience of making online purchase, make payment for trial and delayed shipping time). Considering all those factors, we consider the worst-case scenario of 10% trial= 2,000,000. (approximately value usually for unsuccessful products)
3. **Available:** Based on the online availability, in stores availability and strong distribution channels-retailers, the product's availability should be more than 80%. (=1,600,000 units)
4. **Repeat:** Our customers would only increase through referral initially and the repeat customers would be fairly low because this kind of a product is not bought yearly in general. Considering an 1,600,000 units sold and only 5% referral customers, we can conclude that the number of total units that would be sold in 2 years (i.e., until we launch a new and upgraded product) would be 1,680,000.
5. **Profit Estimation:** Since, the average margins for Microsoft laptops and cellphones comes out to be 21%, assuming the similar profit margin for price of product to be $800 becomes $140, yearly profit comes to be roughly:

PROFIT: 0.21 X $140 X 1,680,000 units = $282,240,000

Product name strategy: The name "Eznect" has been derived by the combination of two words: Easy and Connect, sounds like "Eazy to Connect". The words "Easy" and "Connect" aligns with the product's strategic goals: "Connecting technologies", "Easy to use", "Simplicity" and "Centralization of data".

eznect

Easy to Use || Improved Connectivity || Centralized

Development

1. **Technical:** After a careful examination of the potential market and the current products that exist in the space we have come to the following specifications for our product:

Eznect Product Attributes:

Memory Capacity: 64GB
Processor: Snapdragon 855
Ram: 8GB
Sensors: Face ID, Three-axis Gyro, Accelerometer, Barometer, Ambient Light Sensor
Operating System: Windows OS
Connectors: USB-C
Screen Size: 6.5"
Resolution: 2388 x 1668
Screen Features: 6.5 inch (diagonal) LED-backlit Multi-Touch display with IPS technology 2388-by-1668-pixel resolution at 264 pixels per inch (ppi) ProMotion technology Wide color display (P3) True Tone display Fingerprint-resistant oleophobic coating Fully laminated display Antireflective coating 1.8% reflectivity 600 nits brightness
Camera: 12 MP Rear UHD 4K Camera, 7 MP HD Camera
Wireless and Cellular: UMTS/HSPA/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz); GSM/EDGE (850, 900, 1800, 1900 MHz) / Gigabit-class LTE (Models A2013 and A2014: bands 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14, 17, 18, 19, 20, 21, 25, 26, 29, 30, 34, 38, 39, 40, 41, 46, 66, 71)
Wireless Technology: 802.11a, 802.11b, 802.11g, Wi-Fi 4 (802.11n), Wi-Fi 5 (802.11ac)
Bluetooth Support: Bluetooth 5.0
Location: Digital compass, Wi-Fi, iBeacon micro-location, Assisted GPS, GLONASS, Galileo, and QZSS Cellular
TV and Video: High Profile level 4.2 with AAC-LC audio up to 160 Kbps, 48kHz stereo audio or Dolby Audio up to 1008 Kbps, Simple Profile with AAC-LC audio up to 160 Kbps, PCM stereo audio in .avi file format, 48kHz stereo or multichannel audio in .m4v .mp4 and .mov file formats, MPEG-4 video up to 2.5 Mbps 640 by 480 pixels 30 frames per second, Motion JPEG (M-JPEG) up to 35 Mbps 1280 x 720 pixels 30 frames per second, H.264 video up to 4K 30 frames per second
Audio Format Support: AIFF, WAV, MP3 (8 to 320 kbps), Audible (formats 2 3 and 4), Audible Enhanced Audio, AAX and AAX+), AAC (8 to 320 Kbps), HE-ACC, User-configurable maximum volume limit, Dolby Digital (AC-3), Dolby Digital Plus (E-AC-3)
Mail attachment support: .jpg, .tiff, .doc, .docx, .htm, .html, .key, .numbers, .pages, .pdf, .ppt, .pptx, .txt, .rtf, .vcf, .xls, .xlsx, .zip, .ics
Accessibility: VoiceOver screen reader, Switch control, Zoom, Siri and Dictation, Speak Screen
Operating Temperature: 32 to 95 F (0 to 35 C)
Non-operating Temperature: -4 to 113 F (-20 to 45 C)
Relative Humidity: 5% to 95% noncondensing
Maximum Operating Altitude: 10,000 feet (3000 m)
Battery Life: Up to 10 hours of surfing the web on Wi-Fi, watching video, or listening to music
Battery Type: Built-in 29.37-watt-hour rechargeable lithium-polymer battery
Charging System: Charging via power adapter or USB-C to computer system
What's In The Box: Motion, USB-C Charge Cable, 18W USB-C Power Adapter

LAPTOP-LIKE DEVICE

I. Screen Size: 13”
II. Mouse: Optical touchpad
III. Keyboard: Scissor-Key Keyboard
IV. Battery: 5000mAh
V. Connectors: 2 USB-C connectors

Marketing: We plan to market this first as the best and economical electronic productivity device for students in schools and colleges. With time and technological advancement we want to improve the technical specifications and bring it to everyone in the world.

We plan to have kiosks in schools and educate students about our products and offer special student discounts. We will have competitions and will give away our product for prizes.

A hidden motive is also develop customers from the very beginning. As we proceed with our products and make them better every year, we want the students to get used to our technology and adopt this in their professional world too. This will ensure growth for our company and a stable customer base for the coming years.

Launch Strategy

The launch will be done by lay endorsers. Product will be promoted via social media through Facebook, Twitter, Instagram and YouTube tech reviews celebrities, tv-advertisements, newspapers, magazines. Promotion schemes will be provided to the customers and also promotion through official websites.

SWOT Analysis

	Helpful	Harmful
Internal Origin	**Strengths** ● Being a flanker brand of Microsoft, we would have all the resources we would need to develop a perfect product. ● The acceptance in the market will not be a major hurdle because we would be a partner of a world-recognized brand.	**Weaknesses** ● Since the brand is a flanker brand, it will take a little more time to gain traction in the market. ● Due to the insufficiently developed technology, our product might lack in performance initially.
External Origin	**Opportunity** ● The device can be steadily brought with better specifications with research and development. ● We want to get a patent on the design get a competitive advantage	**Threat** ● The fast imitation in the electronic industry leaves the product vulnerable to other companies. ● Trying to make the device as cheap as possible might compromise on the quality from the outsourced manufacturer's end.