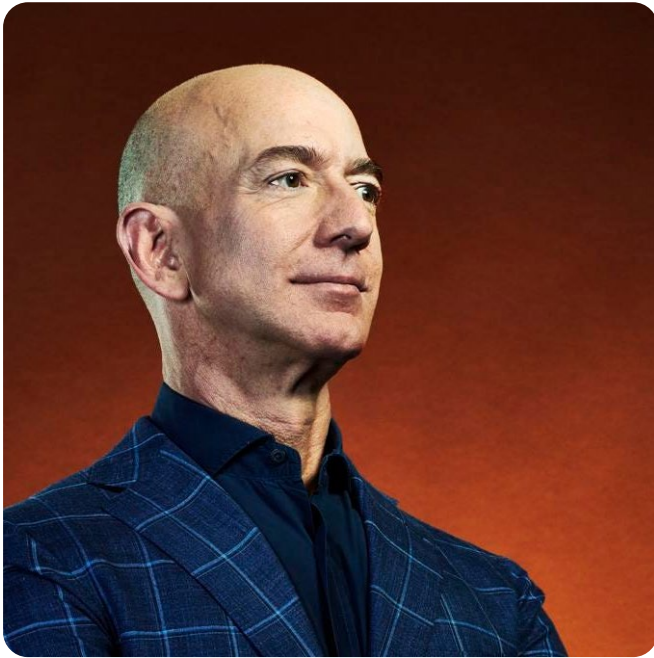


The background of the slide features a dark blue, cloudy night sky. In the lower center, there is a silhouette of a large, leafy tree on a hill. A person is sitting on the ground at the base of the tree, looking down at a device in their hands. The word "kindle" is written in a white, lowercase, sans-serif font at the top center of the slide.

kindle

Introduction to Innovation Management Montgomery Group Presentation

Malvin Gonzales, Christopher Davies,
Aista Phillips, Sudhir Mahadikar



Introduction to Amazon

Jeff Bezos founded Amazon.com in 1994 as a virtual bookstore

The development of the site provided a platform for online retailing of books which later evolved into what it is today

The service was opened 24-hours a day with a user-friendly site

The success of Amazon impacted other book retailers to establish their own online stores

Amazon's business model evolved in 2005 by offering vast array of products from consumer electronics to hardware

In 2007 Amazon shifted back to their roots and released a handheld reading device called the Kindle

(The Editors of Encyclopaedia Britannica, 2005)



Amazon Kindle

The Kindle was launched with one real aim: **to bring people books.**

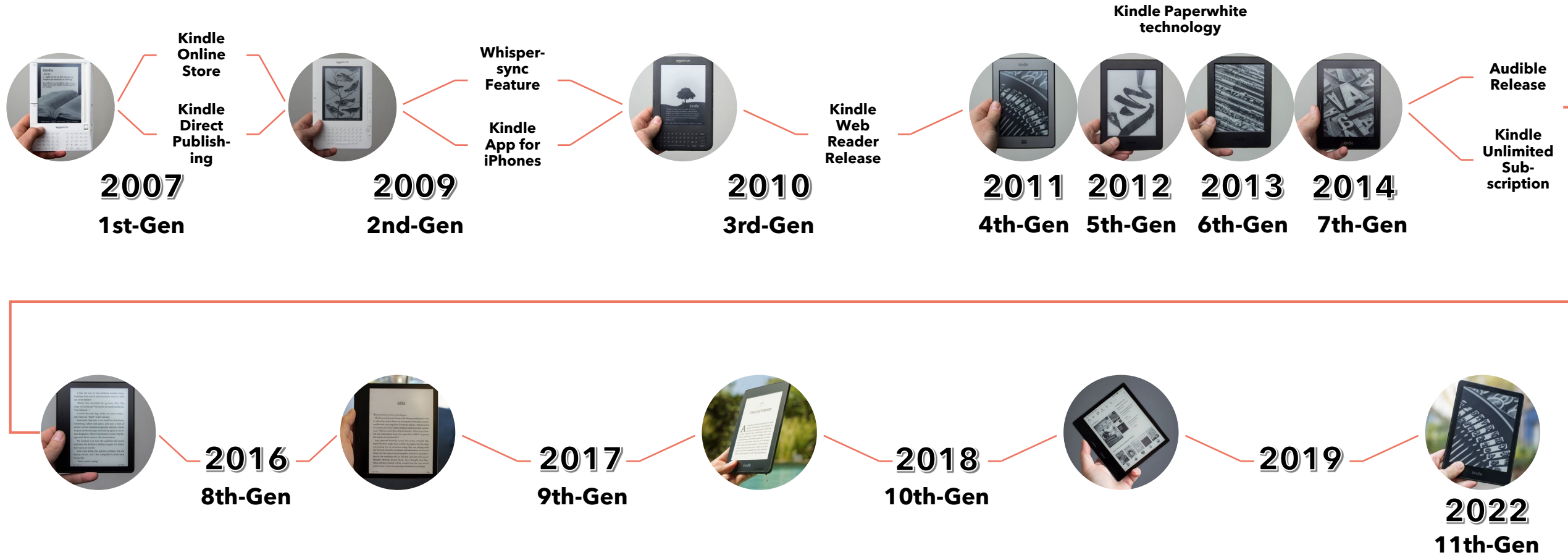
The Kindle gave access to digital books and provides the best method for reading them.

(Hall, 2020)

Why We Chose the Amazon Kindle

- The idea originated from the company's existing focus on selling physical books and the Kindle story provided fascinating insights into how innovation works including how and why it became so successful
- It has disrupted the physical book market by making way for digital books to be accessed easily and affordably
- It provided a new solution and platform for accessing and reading e-books which was unique at the time of its launch
- It provided a place for beginner authors to gain an audience for their books
- It has evolved from its original groundbreaking first generation to where it is today
- It has provided Amazon the backbone to be a leading e-commerce and consumer electronic company

Timeline



(Hall, 2020)

Technology Dependency (Satell's Matrix)

Zero base beginning!

- Amazon had no prior knowledge of manufacturing and in this respect the domain was unknown (**not well defined**). Indeed, this was completely new territory!
- The very suggestion of manufacturing was met with significant doubt and consternation amongst Amazon's senior management team

Lab 126 - The Mission

- Lab 126 was formed to deliver Amazon's inhouse solution: an e-reader that met the well-defined product requirements (**problem definition**)
- This required: recruiting the right level of expertise; acquiring a French SME software company called Mobipocket; making an arrangement with 3G Cellular Carriers for 'Whispersnet' and negotiating a deal with E-Ink (developed by MIT Media Lab)

Innovation Matrix

Amazon Innovation Matrix

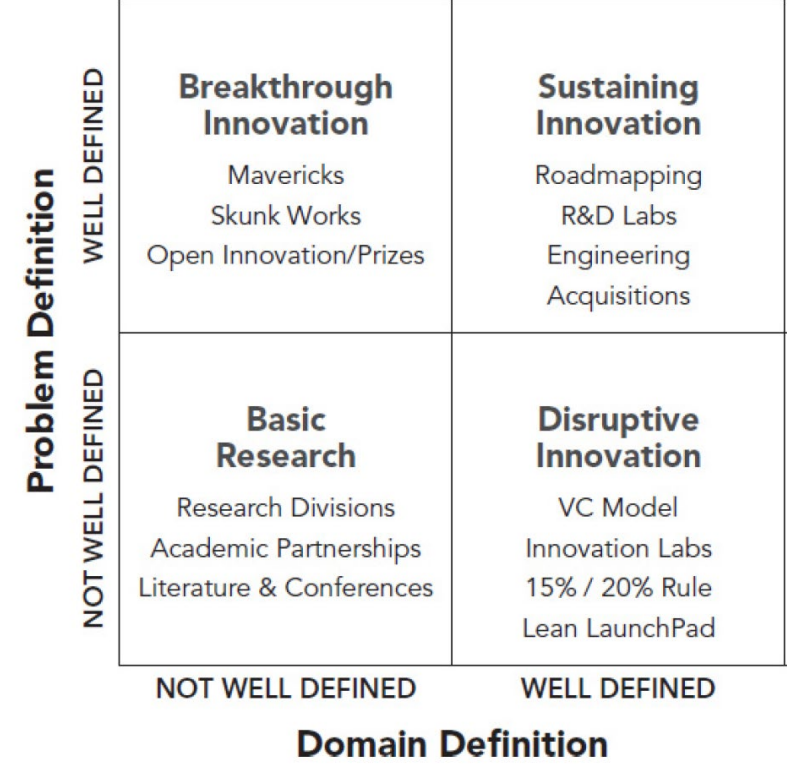
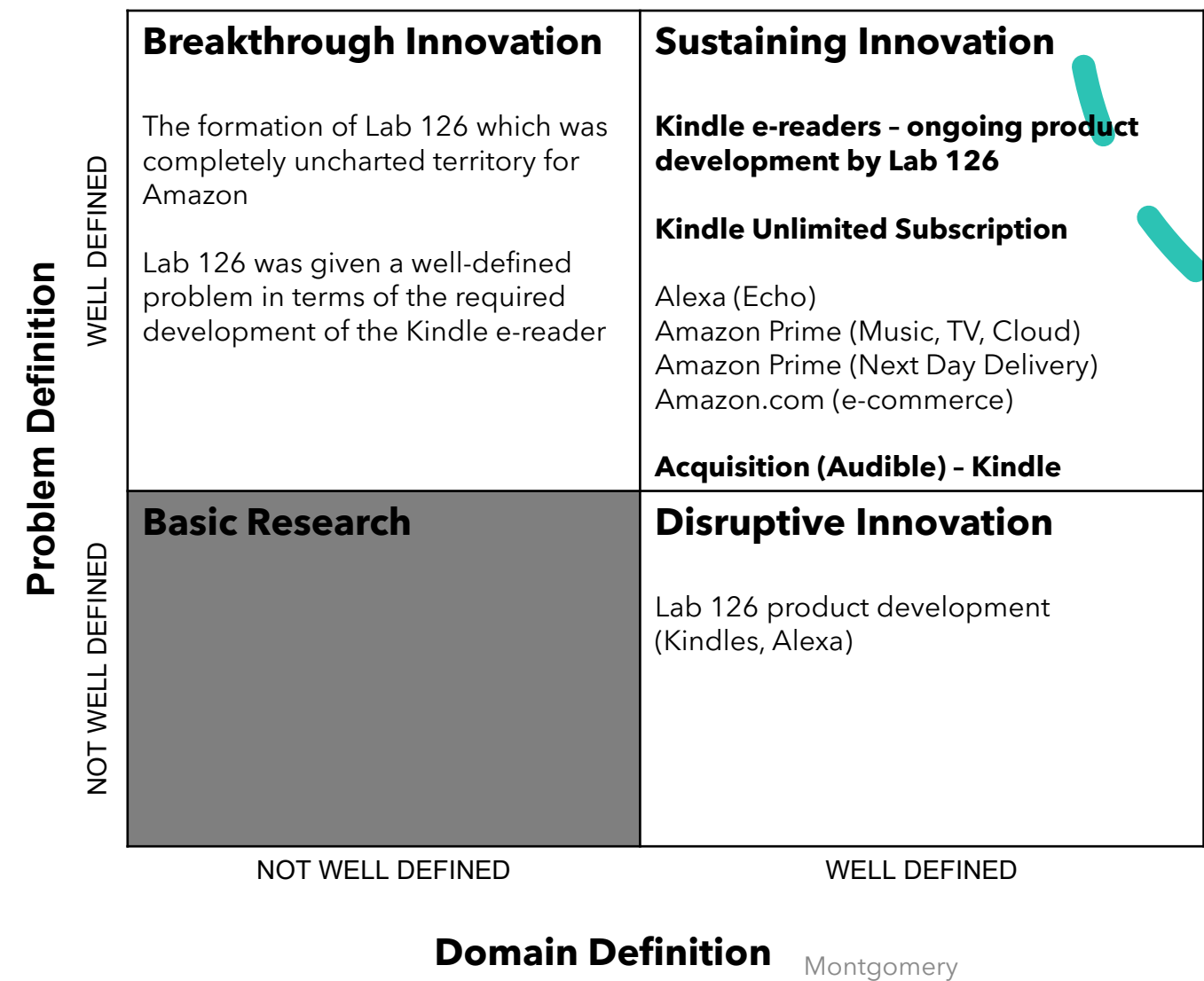


FIGURE EM.1 Innovation Matrix

(Satell, 2017)

Technology Development (Moving On)

Later Technology Requirements

- In 2010 Amazon (quietly) acquired a business called OY Modilis which was based in Helsinki, Finland (businesswireindia.com, 2004)
- OY Modilis had developed a totally unique lightguide with controlled viewing angle for TFT-LCDs, resulting in less display components, and thinner, cheaper display solutions. (businesswireindia.com, 2004)
- This technology results in very light display solutions (less weight) and allows for single film lightguide solutions for display lighting, with integrated keypad lighting. (businesswireindia.com, 2004)

Sustaining Innovation (in Satell's matrix)

- Various releases of the Kindle offered a range of additional features and benefits including higher resolution displays, waterproofing, extended battery life and lighter weight devices (Kozlowski, 2013)
- Amazon was the first company to license the new generation of E Ink Carta displays which were a new electronic ink formulation and technology providing a dramatic 50% improvement in contrast ratio and over 20% improvement in reflectance over previous generations of E Ink. This was first incorporated into the Paperwhite 2 version of the Kindle (Kozlowski, 2013)

Innovation Model – Kindle

The introduction of a radical, technological innovation by Amazon for the e-reader market has resulted in organizational focus:

Product innovation →

Development of the Kindle

Oriental Innovation →

New venture into consumer electronic devices

Commercial Innovation →

Direct marketing strategies

Service Innovation →

Development of an e-book online store for the Kindle device

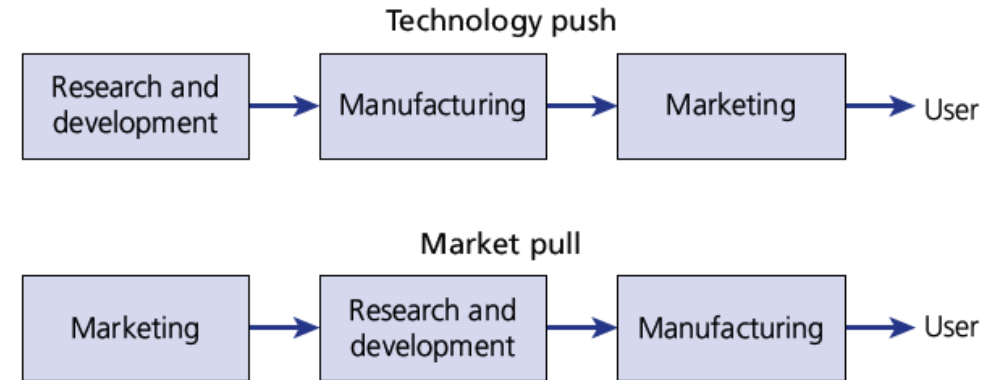
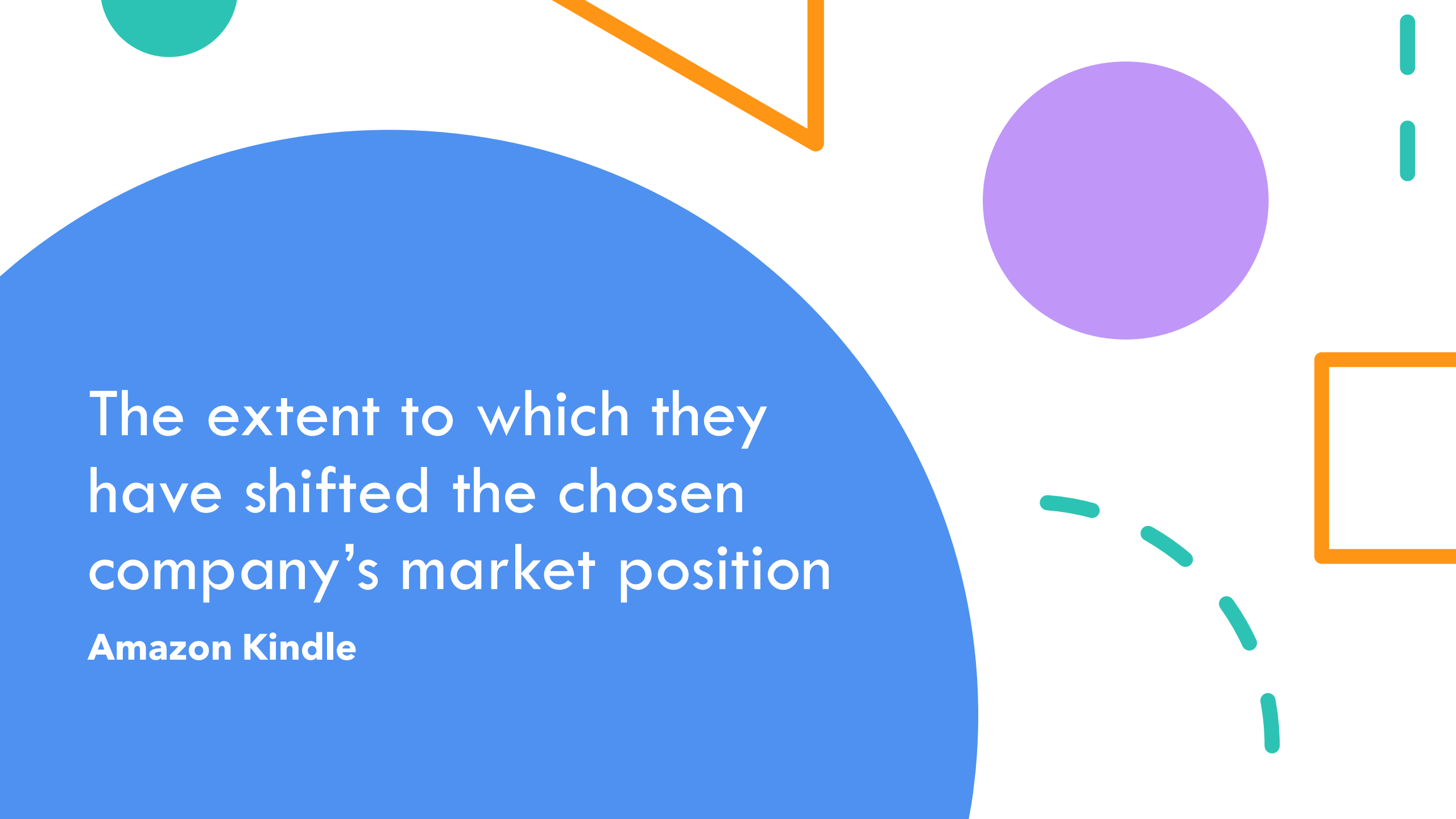


Figure 1.5 Linear models of innovation

(Trott, 2017)

- **Technology Push** - Initial development of the Kindle was heavily focused on R&D
- **Market Pull** - As the device developed in the market, a more Market Pull approach has since been considered

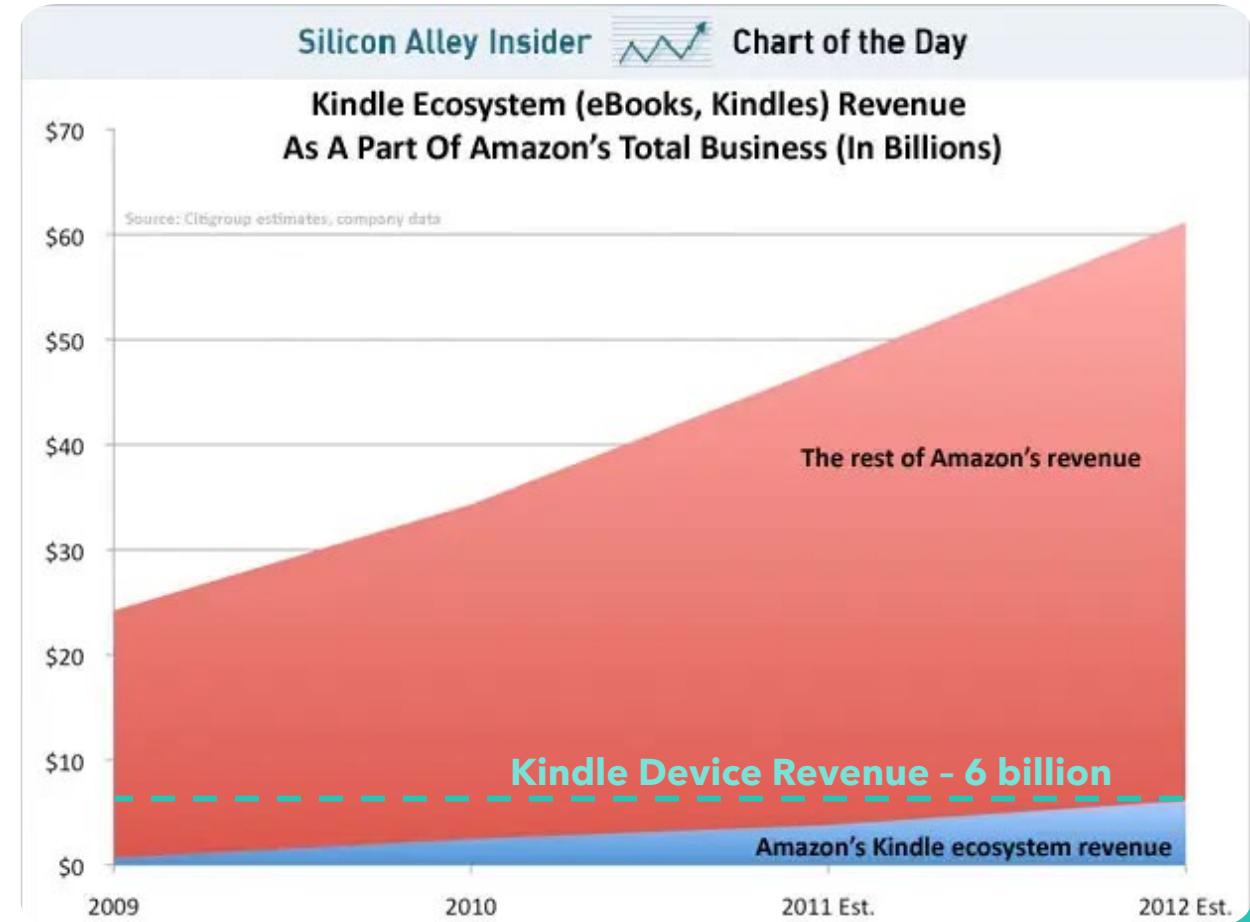


The extent to which they
have shifted the chosen
company's market position

Amazon Kindle

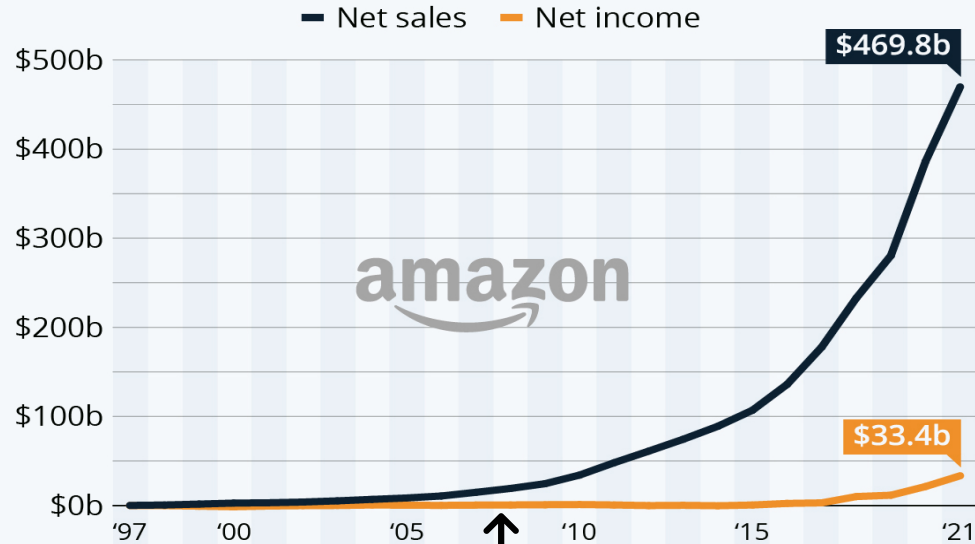
The extent to which they have shifted the chosen company's market position

- Amazon stated they have sold **10 million** Kindles since **2007** (Kozlowski, 2018)
- They have sold between **20 million** and **90 million** e-readers in the past 10 years (Kozlowski, 2018)
- Between 2016 and 2017, Amazon has sold over **490 million** Kindle books (Kozlowski, 2018)
- Amazon currently controls between **67%** to **85%** of the eBook market (about.ebooks.com, 2022)
- Amazon pays 35% to 70% of its sales revenue in royalties to publishers (Kozlowski, 2018)
- Amazon's revenue from the kindle became **10%** of Amazon's total revenue around 2012 – est. **6 billion** (Gobry, 2011)



Amazon's Incredible Long-Term Growth

Amazon's revenue and net income from 1997 through 2021



Source: Amazon



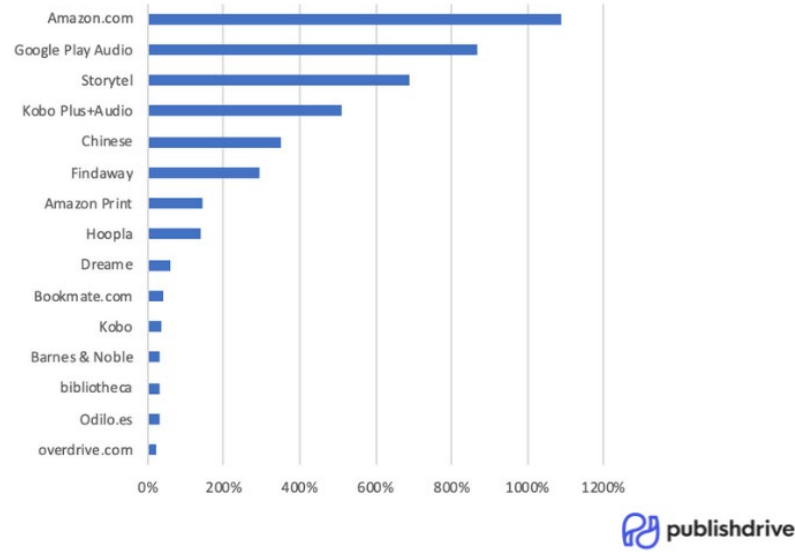
1st-Gen
Kindle Release

statista

Business Growth

- Bezos's leadership has helped cement Amazon as the leading online retailer in the world (Richter, 2022)
- Built an industry-leading cloud computing business (Richter, 2022)
- Established itself as one of the leaders in digital media and consumer electronics (Richter, 2022)
- The Kindle has further help pushed Amazon's growth around 2007
- The company has since kept growing with net sales and income still at around the billions

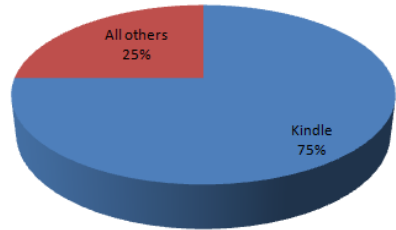
Bestselling Stores' Growth



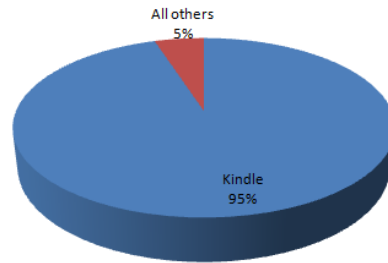
E-book Store Growth

- In 2021, Amazon was still the bestselling e-book store with sales of more than **30%** (Jentetics, 2021)
- Amazon as a major eBook retailer has further grown considerably (Jentetics, 2021)
- E-reader **US** market share estimated at **75%** to **83%** with the **UK** at **95%** (Kozłowski, 2018)
- Amazon had **90,000** e-book titles in their catalogue in 2007 (Justpublishingadvice.com, 2022)
- In **2018**, it has grown to **5.9million** (Justpublishingadvice.com, 2022)
- It expected to reach **9million** in 2021 (Justpublishingadvice.com, 2022)

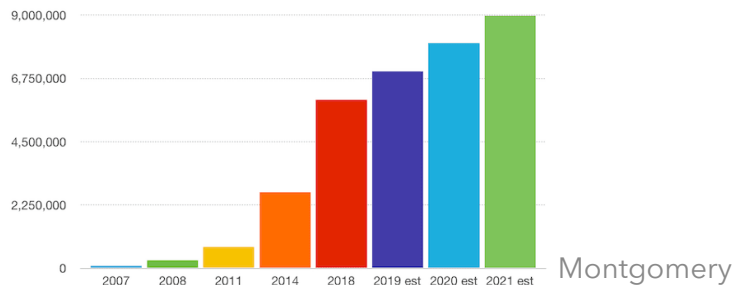
USA e-reader Market Share



The UK e-reader Market Share



Total Number of Kindle Ebooks



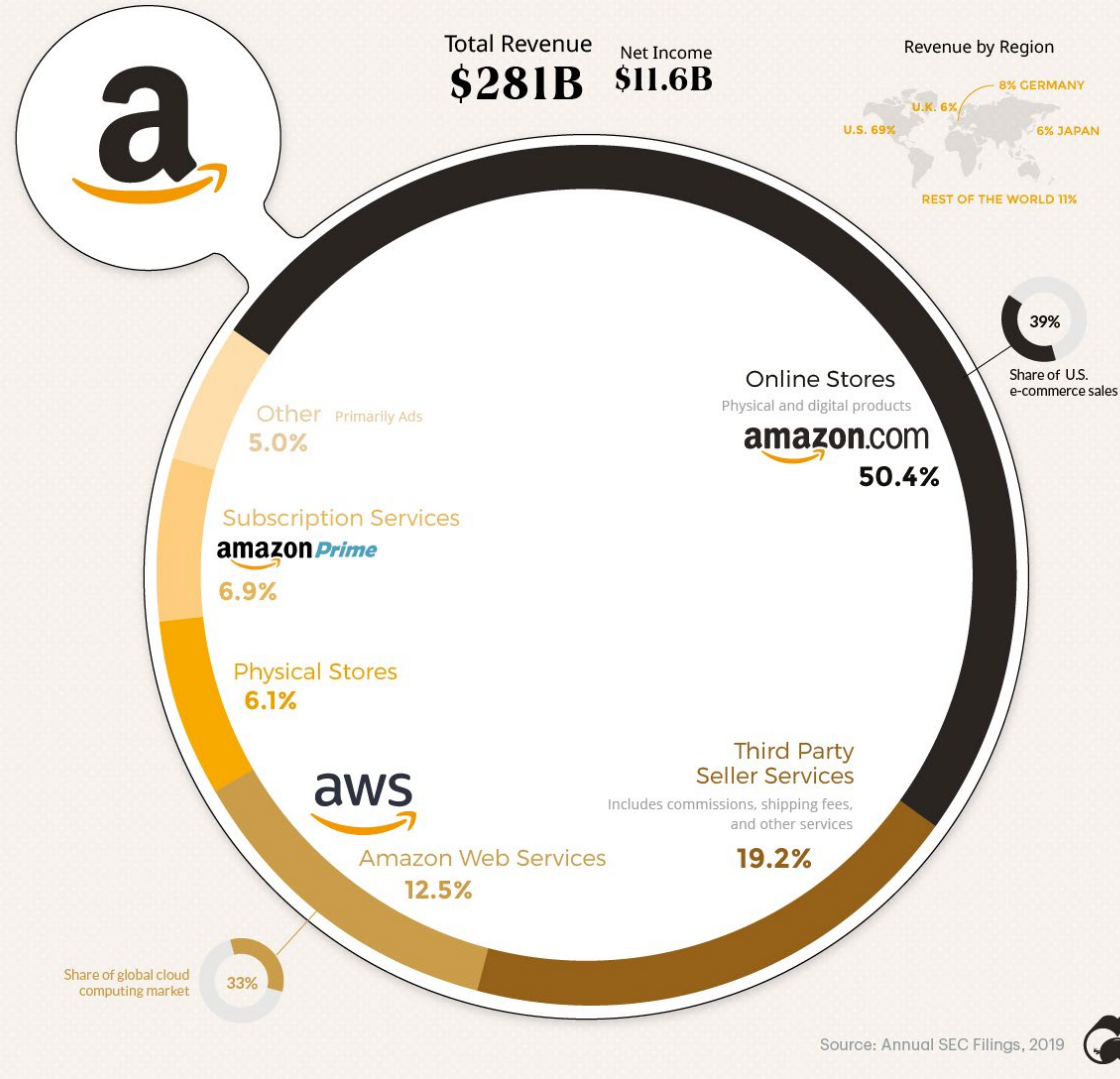
Amazon Kindle

AMAZON REVENUE BREAKDOWN

Total Revenue
\$281B

Net Income
\$11.6B

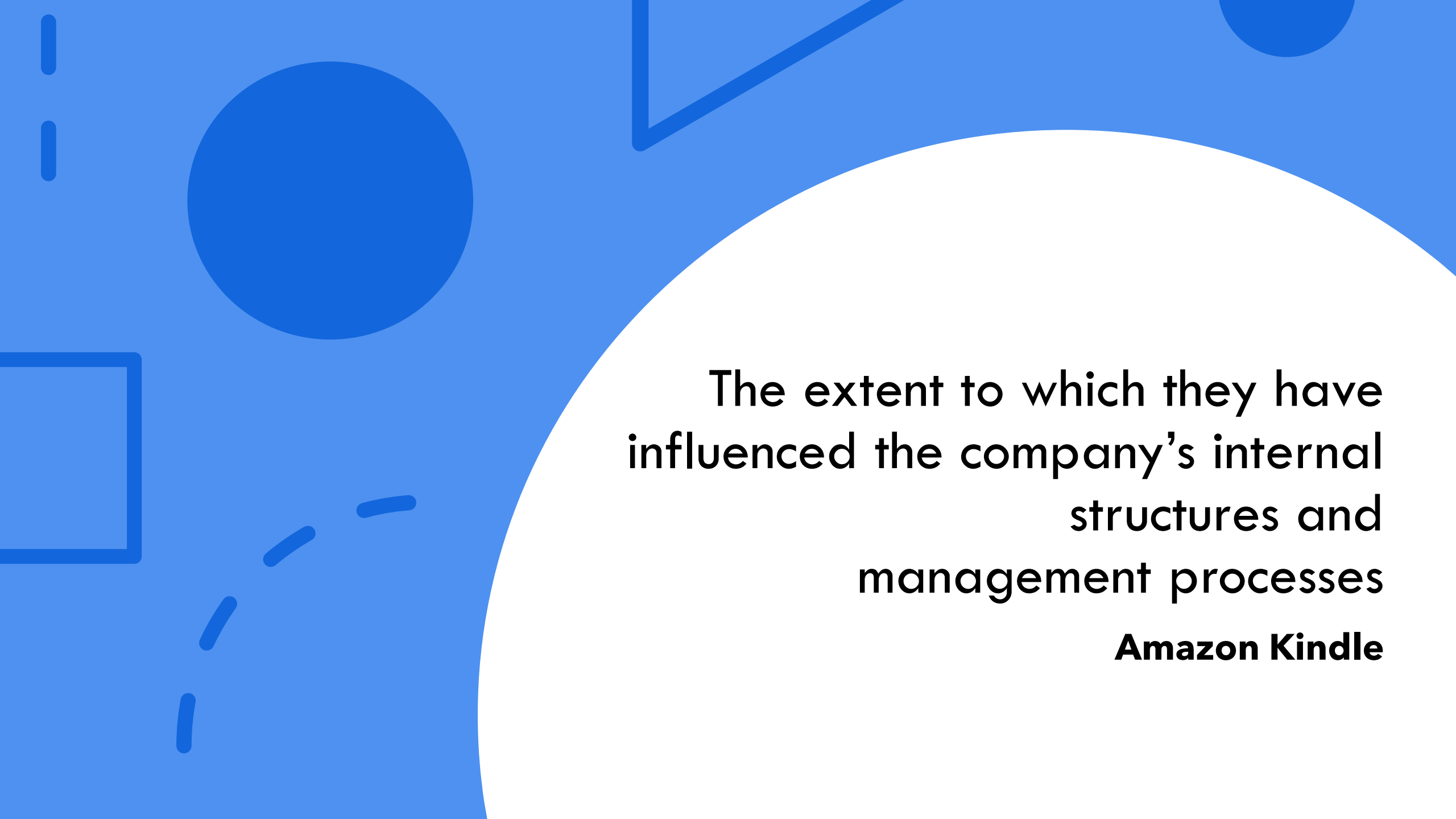
Revenue by Region



(Ang, 2020)

Business Revenue

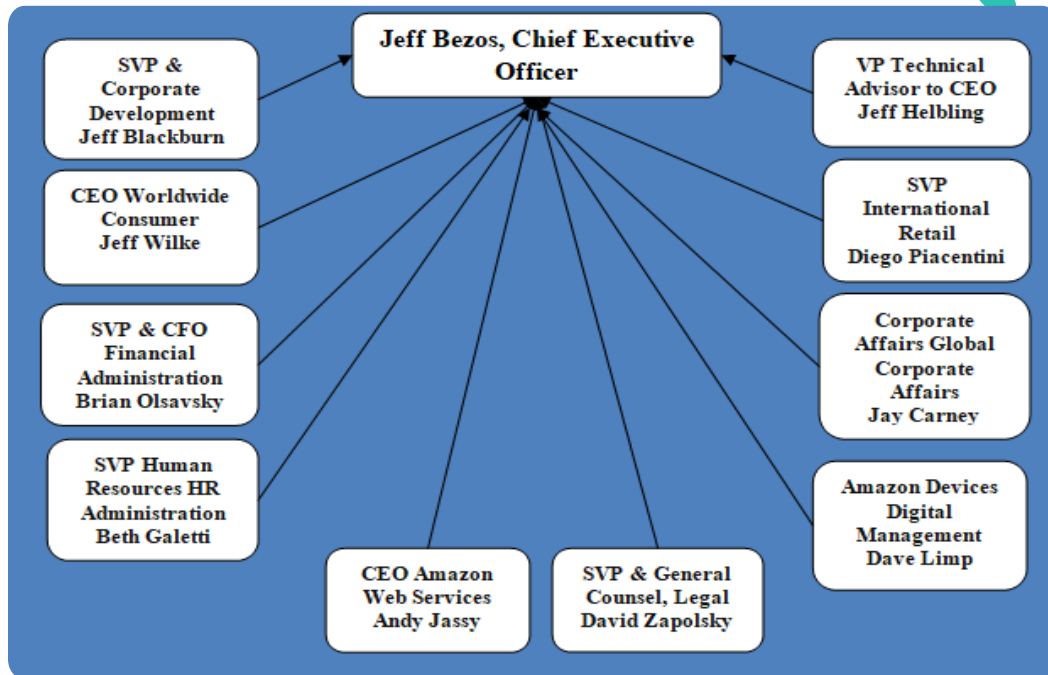
- Physical and digital products specifically including Kindle makes up **50.4%** of Amazon's revenue (Ang, 2020)
- 6.9%** are within its Subscription Services with its success starting with the Kindle Subscription services and evolved with the Prime service (Ang, 2020)

The background is a solid blue color. It features several abstract geometric elements: a large solid blue circle in the upper left, a smaller solid blue circle in the top right, a blue square outline on the left side, and several blue dashed lines of varying lengths scattered across the left half. A large white semi-circle is positioned on the right side of the image, containing the text.

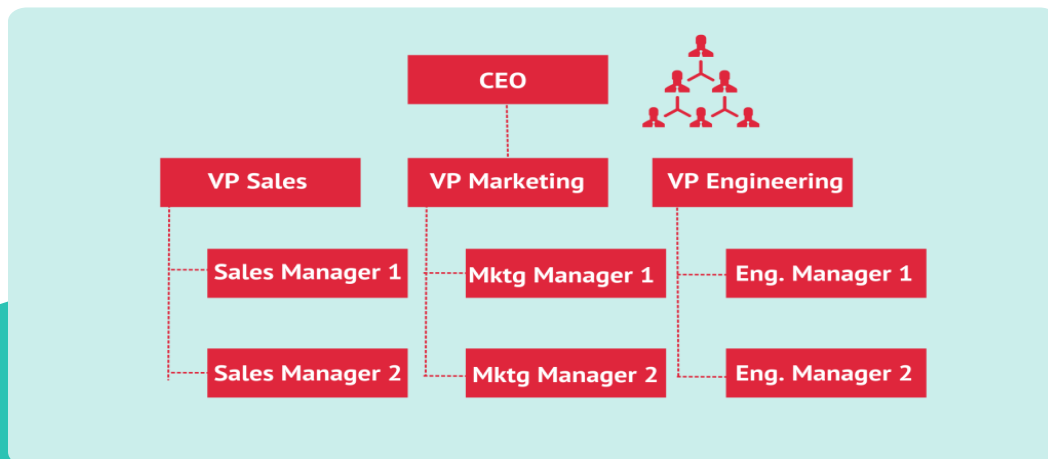
The extent to which they have
influenced the company's internal
structures and
management processes

Amazon Kindle

Organization Structure

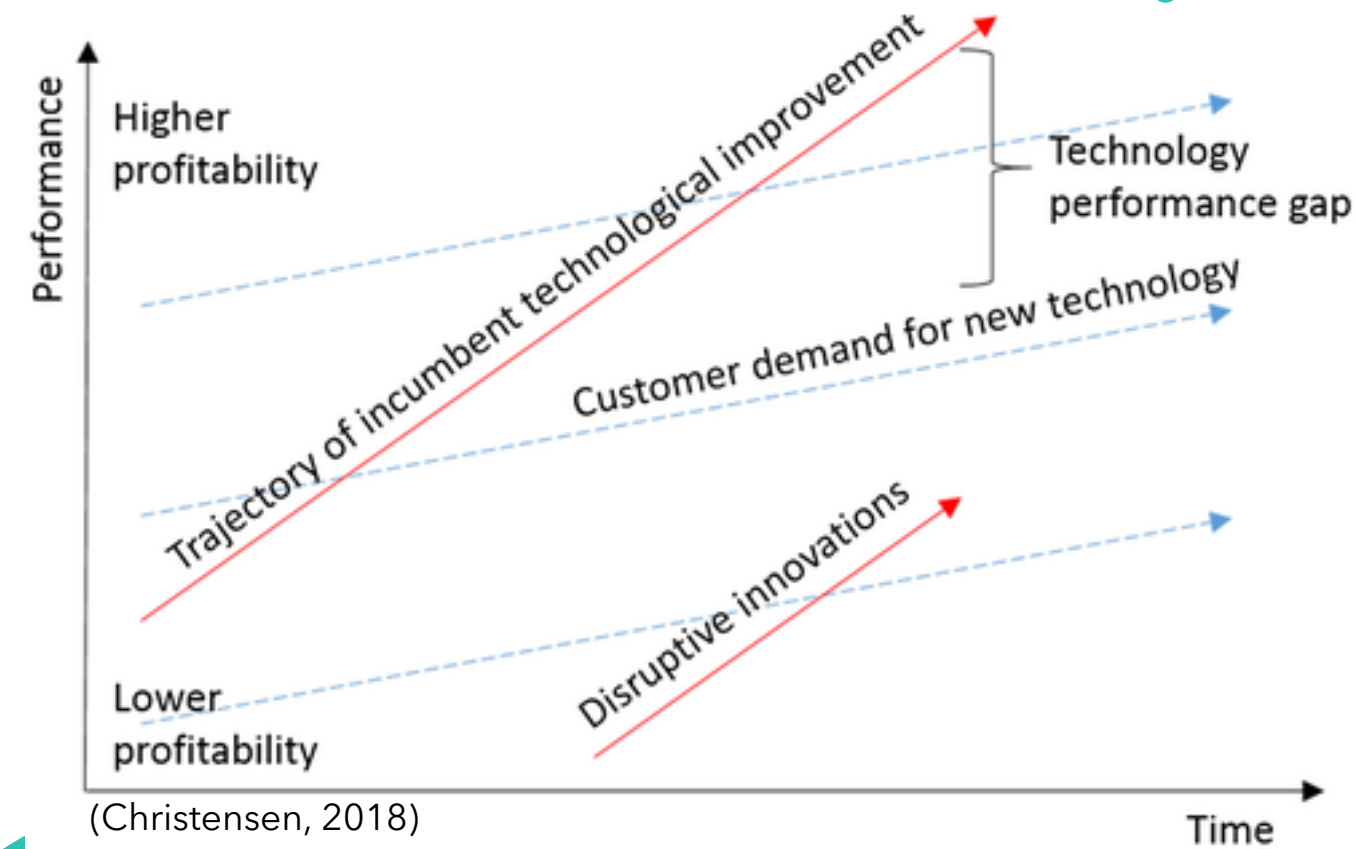


- Shift in structure has evolved within Amazon
- In the early years, it followed a lean, flat origination structure
- It transitioned into following a hierarchical organization structure ensuring jobs and functions are well defined at each level
- Jeff Bezos prioritized the move to digital market which led to the internal organization change within the company
- Steve Kessel was promoted to build the 'digital business focus' of the company and to report directly to Jeff Bezos



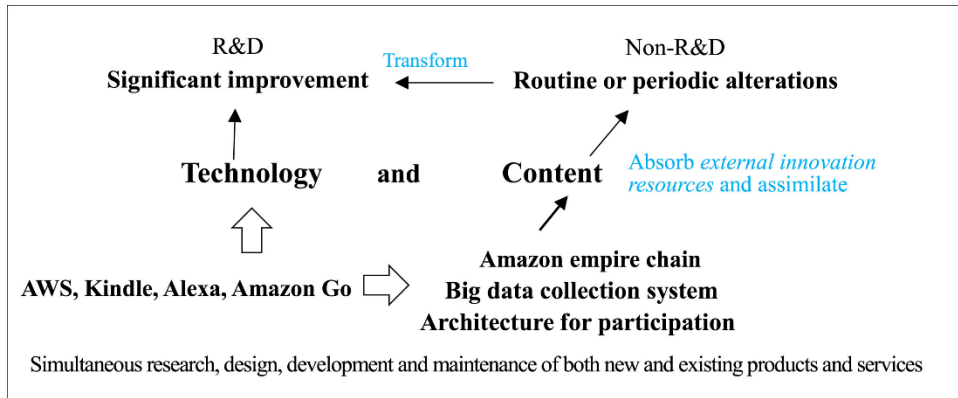
(Bryar & Carr, 2021)

R&D Investment and Focus

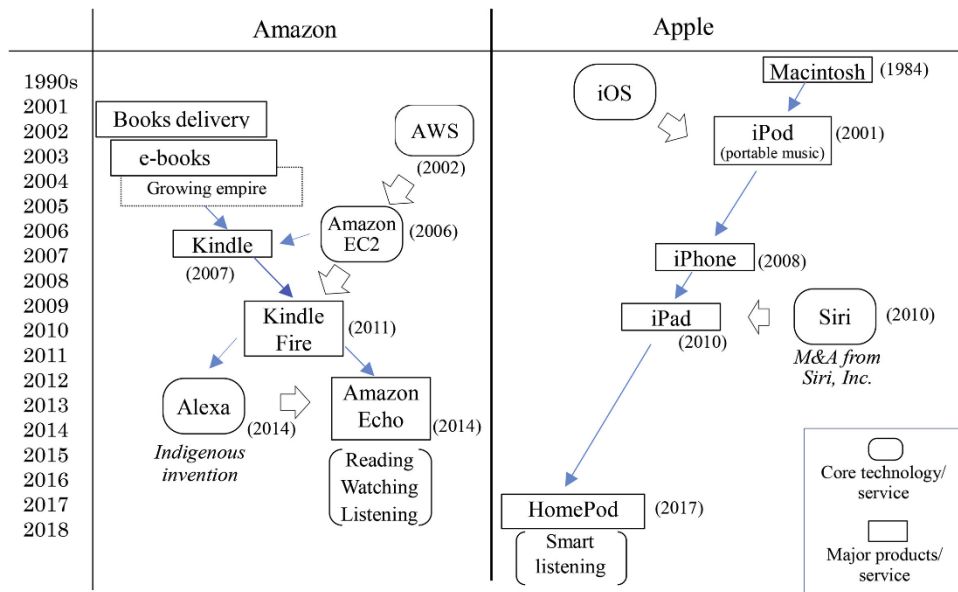


- Move upmarket to the most profitable segment, ignoring low-end competitors at the bottom of the market (Christensen, 2018).
- Introduce a product with a scalable technology or business model advantage at its core that has the potential to displace the functionary (Christensen, 2018).

R&D Investment and Focus



- Amazon has developed a high level of capacity, supported by a rapid and notable increase in R&D investment (Tou, et al., 2019)
- Amazon provided multi-functional products and services to its customers using R&D driven business model (Tou, et al., 2019)



(Tou, et al., 2019)

- R&D-driven innovation-seeking strategy, Amazon offered customers a lot more choice, speed, reliability and superior customer service (Tou, et al., 2019)

R&D Focus Business Model

Amazon	Apple
Multi-functional products/services	High-functional products/services
Not fixated on a tightly designed ecosystem of interlocking apps and services	Tightly designed ecosystem
Provide new experiences to customers	Provide best experiences to customers
Hardware/software are less capable but the most suitable/fastest services	Improve hardware/software every year
Much more attainable	More expensive
Explore new types of customers via AWS	Rely on creating additional value from existing customers

Dedicated Research and Development Lab

- The first Kindle was known as project Fiona
- It was developed at a newly established R&D facility called Lab126
- It was given unlimited resources by Bezo's to hire engineers, designers, and manufacturing experts
- The conception of project Fiona i.e., Kindle has created a shift in focus for the company
- It propelled the focus on the development of consumer electronic products
- The establishment of Lab126 aimed at generating and exploring ideas and facets to which Amazon can provide new products in the market

(Amazon.com, 2020)



Montgomery

Amazon Kindle



The extent to which they have
been technology dependent -
and if so which
technologies.

Amazon Kindle

Technology Dependency (Reasons Why?)

Amazon's Customer Obsession

- A review of letters to shareowners from Jeff Bezos included in Amazon's annual reports provide some great insights into 'Amazonian Culture' and the development of the Kindle product (amazon.com, 2008)
- 'In this turbulent global economy, our fundamental approach remains the same. Stay heads down, focused on the long term and obsessed over customers. Long-term thinking levers our existing abilities and lets us do new things we couldn't otherwise contemplate. It supports the failure and iteration required for invention, and it frees us to pioneer in unexplored spaces.' (amazon.com, 2008)

Desire to build competencies

- 'Working backwards from customer needs often demands that we acquire new competencies' amazon.com, 2008)
- 'Kindle is a good example of our fundamental approach. More than four years ago, we began with a long-term vision: every book, ever printed, in any language, all available in less than 60 seconds. Amazon had never designed or built a hardware device, but rather than change the vision to accommodate our then-existing skills, we hired a number of talented (and missionary!) hardware engineers and got started learning a new institutional skill, one that we needed to better serve readers in the future' (amazon.com, 2008)

Technology Dependency (Key Features)

First Generation Kindle Key Technology Requirements

- 'Whispernet' 3G network allowing continuous connectivity without the requirement for customers to register for access to books and downloads
- E-Ink technology enabling high resolution text to be read easily and with very low power requirement thereby extending charging intervals to more than 1 week

Key Design Features

- The Kindle had to 'get out of the way' of the reader when using the device
- Jeff Bezos had stated he wanted the device to be constantly connected (in the same way as his beloved Blackberry smart phone)
- The device had to have an 'easy to read' display which provided the user with an experience that felt as close as possible to reading a physical book

Technology Drivers – Complementary e-books, Content Growth and Sustaining Innovation

Evidence of Customer Focus

- Perhaps Jeff Bezos had exposure the well-known 'Martini' advertising slogan: anytime, any-place, anywhere.....because this was the manifest goal for the development of the Kindle range of products. Perhaps we might add 'anyone' as there were several pricing/model options too!
- 'Jeff was a student of history and regularly reminded us that if a company didn't or couldn't change and adapt to meet shifting consumer needs, it was doomed. "You don't want to become Kodak," that had missed the turn from film to digital. We weren't going to sit back and wait for this to happen to Amazon.' (Bryar & Carr, 2021)

Desire to improve the Kindle

- Improving device functionality included: portability, battery life, screen quality (E-Ink), waterproofing; always connected (Whispernet), illuminated screen for night-time reading, 3G and Wi-Fi connectivity.....and so it goes on
- Increasing the quantity of complementary e-books by developing a business model for self-publishers has been another stroke of genius in boosting content and further strengthening the Kindle's future. (Schilling, 2022) explains the benefit of building a large installed base with access to many complementary products
- The overriding desire to improve the Kindle customer experience even extended to obtaining permission from the FAA to allow passengers to read their Kindles during take-off and landing

A consideration as
to the outcome and
the success of the
innovation.

Amazon Kindle



Outcome and the Success of the Innovation



Switch between listening and reading
with **Whispersync for Voice**

Now you don't have to put a good book down - even if you're cooking, driving or commuting. Switch back and forth between the Kindle book and the Audible audiobook without ever losing your place.



How it Works

- 1 Buy the Kindle book
- 2 Add narration
- 3 Switch between reading and listening

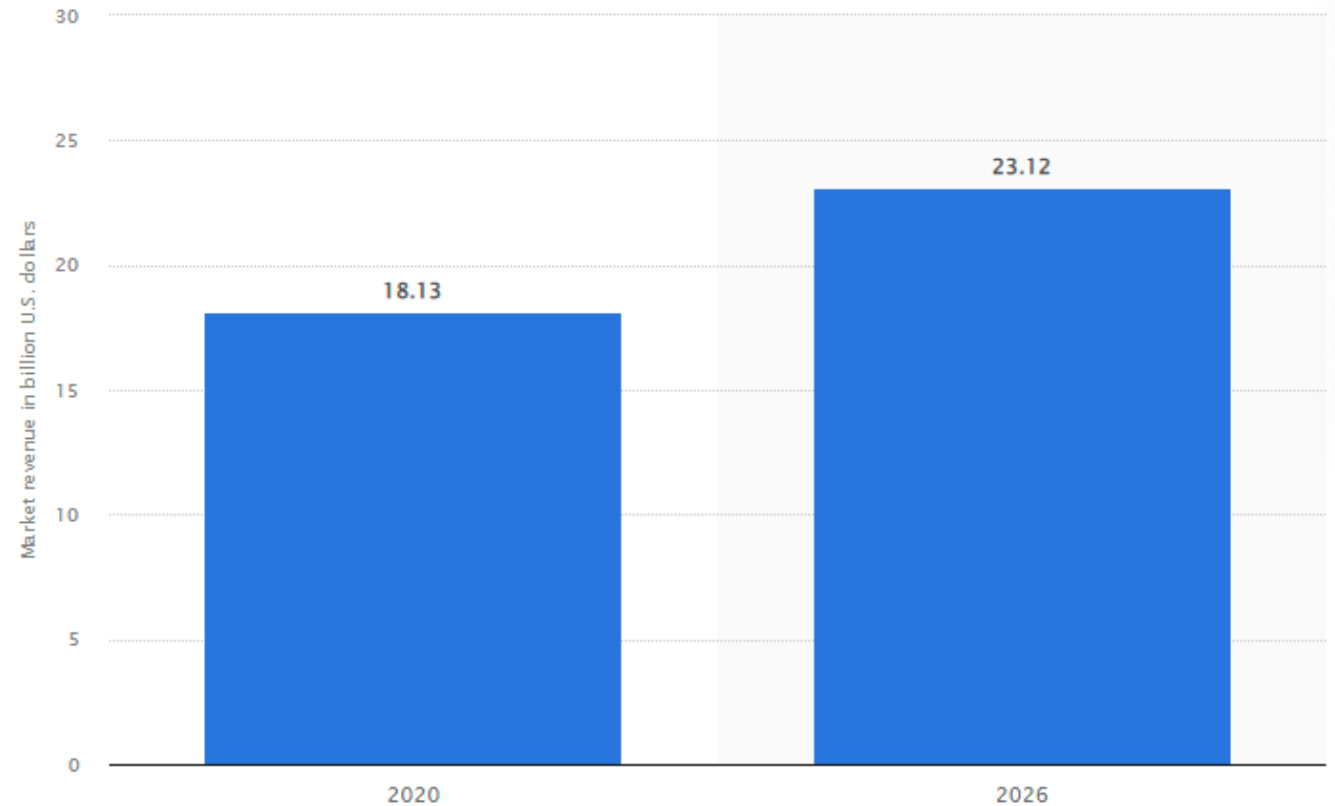


1. **Kindle Online Store** - Provided eBooks, newspapers, & magazines readable within devices
2. **Whispersync Technology** - Allowed to sync content between devices registered to the same Amazon account (Kindle, Devices with the Kindle App)
3. **Kindle Mobile App** - Apple Store and Android - access to already bought library synced from the users Amazon accounts
4. **Kindle Cloud Reader** - Web-based reading application which allowed users to read and manage existing Kindle library without the need of downloading the books
5. **Paper White Technology** - Patented built-in front light feature which allowed users to read in total darkness without the need of an external light source
6. **Kindle Unlimited** - An eBook subscription service with unlimited access to an ever-growing library of kindle eBooks and audiobooks
7. **Kindle Oasis** - Development a IPX8 rated waterproof e-reader

(Kowalczyk, 2021)

Outcome and the Success of the Innovation

- **191 million** e-books sold in the **USA** in **2020**
(Errera, 2022)
- **72%** of the e-reader market belongs to Amazon Kindle (Errera, 2022)
- Global e-reader market valued at **19.13 million** in the **US** in **2020** and is projected to reach **23.12 billion** by **2026** (Laricchia, 2022)

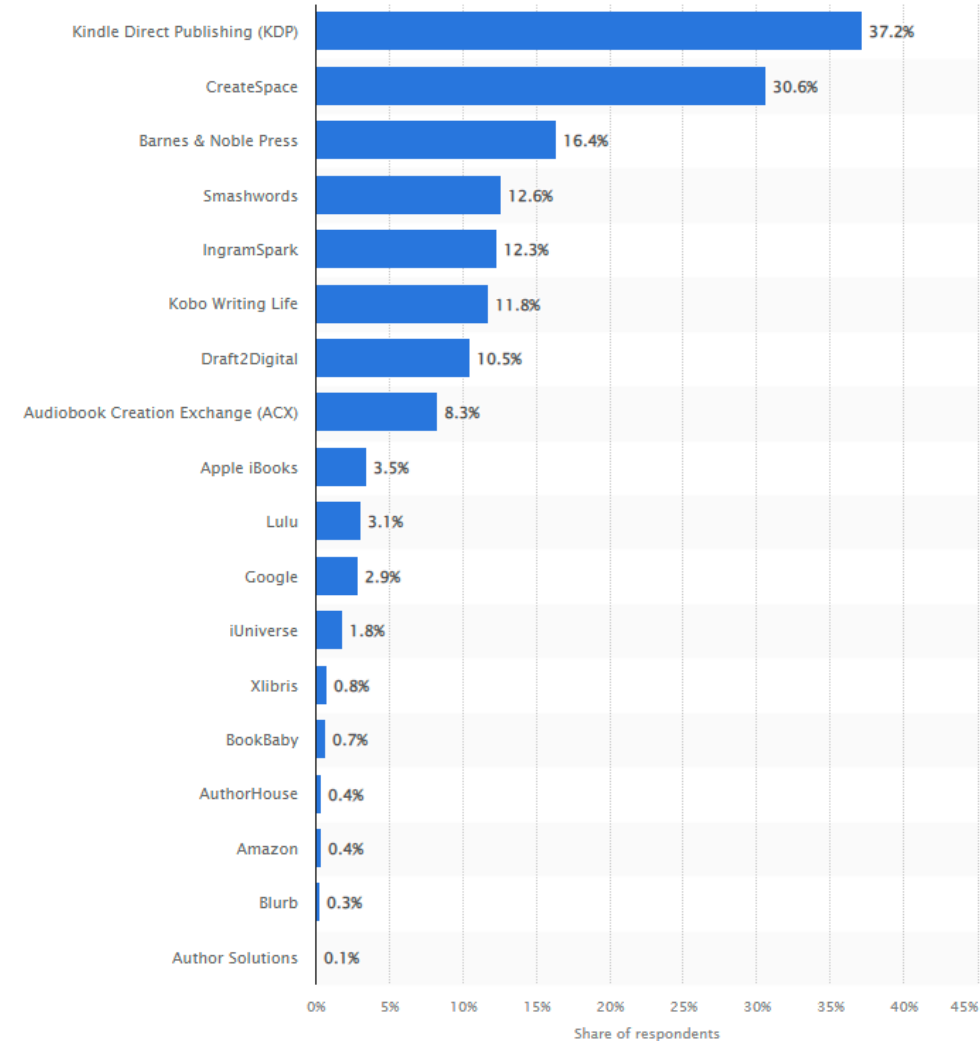


© Statista 2022

(Laricchia, 2022)

Outcome and the Success of the Innovation

- **Kindle Direct Publishing** has become a **major** player in the publishing industry, holding **80%** of the **eBook market**. (Dunbar, 2020)
- **37.2%** of surveyed **U.S. authors** said that they used **Kindle Direct Publishing** (Watson, 2020)
- **Kindle Direct Publishing** is the most used self-publishing platform among authors (Watson, 2020)



(Watson, 2020)

Work Contribution

Malvin Gonzales

- Coordination of Research
- Presentation Design and Layout
- Introduction to Kindle
- Outcome of the Innovation
- Management of Team Meetings
- Finalisation of Presentation

Christopher Davies

- The background to creating LAB126 as described by 'Amazonians'
- Review of Kindle related acquisitions by Amazon
- Summary of key technologies aimed at improving customer experience
- Review of Amazon annual reports for comments relating to Kindle in letters to shareholders

Aista Philips

- The transformation of R&D triggered by Amazon
- Organization structure
- LAB 126
- Business Growth
- Kindle vs Book Statistics

Sudhir Mahadikar

- Market statistics on current and future trends for e-readers and e-books
- Kindles' popularity assessment in USA and UK marketplace
- Review of Kindle ecosystem's sales and revenue trends
- Study of Kindle ecosystem's contribution towards Amazon's revenues and brand equity building

Summary: What have we learned?

1

Shift from Disruptive Innovation to Sustaining Innovation Approach.

2

How an Innovation can lead to many branches which stem out of the success of the product / system

3

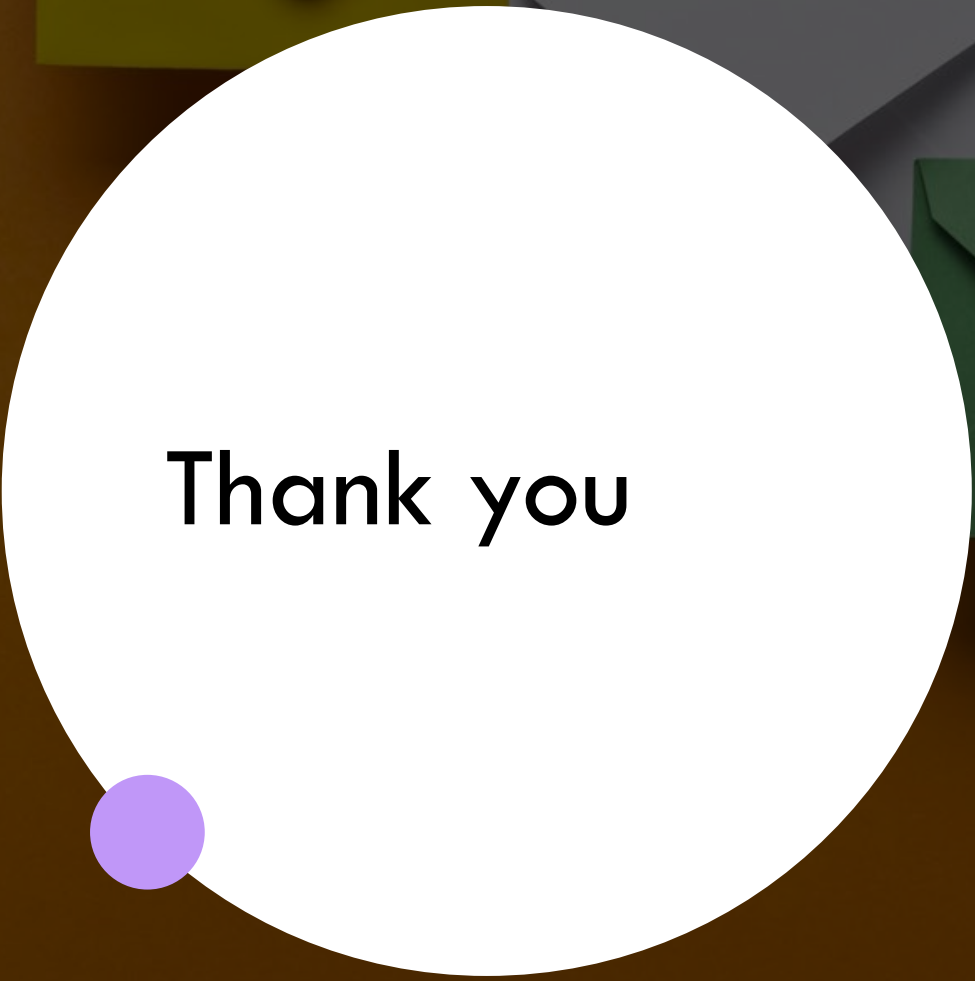
Jeff Bezos saw the need to develop the installed base for Kindle e-books to mirror what Steve Jobs had achieved with iPod and iTunes

4

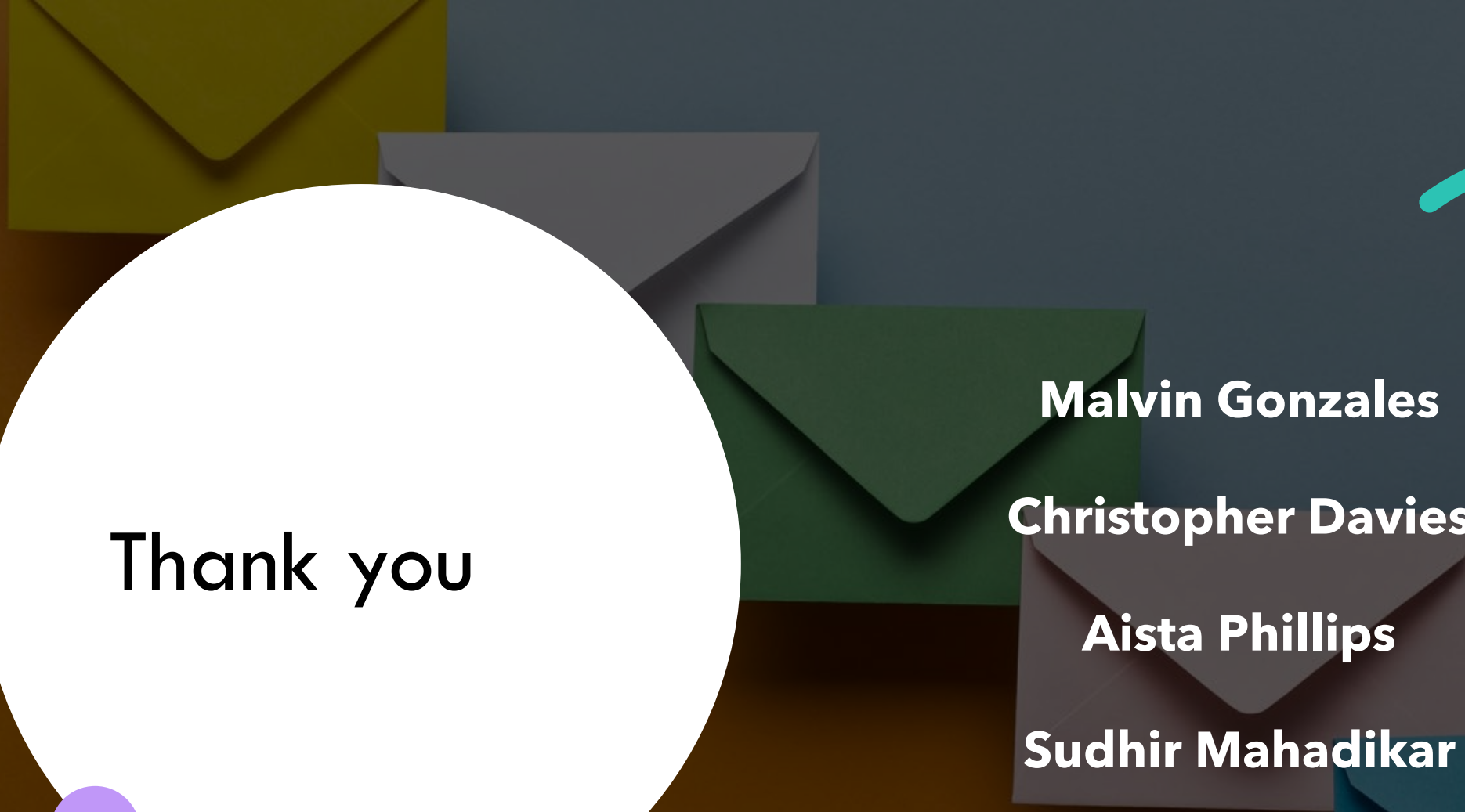
Sustaining innovation' sought to make the Kindle useable anywhere and at anytime

5

We have learned that working together as a team can sharpen our focus and deliver a balanced and informed perspective



Thank you

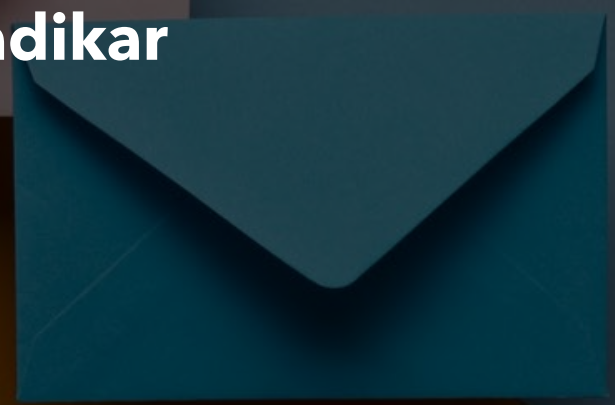


Malvin Gonzales

Christopher Davies

Aista Phillips

Sudhir Mahadikar



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