From Retail to the Cloud: Strategic Reinvention and Competitive Advantage at Amazon

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Abstract

This paper examines Amazon's strategic evolution from an online retailer to a global technology and information powerhouse. Using VRIO, SWOT, and financial analyses, it explores how Amazon leveraged data, cloud infrastructure, and platform integration to build sustainable competitive advantages beyond retail. The study identifies Amazon's shift toward a broad and focused differentiation strategy through innovations such as AWS, Prime, and its recommendation systems, all underpinned by massive data utilization. However, it highlights critical strategic challenges, including overreliance on legacy products, misalignment with Whole Foods' premium market positioning, and rising competition in the cloud sector. Recommendations include adopting open-source integration, expanding Prime internationally, and divesting Whole Foods to refocus on higher-margin digital businesses. The analysis concludes that Amazon's long-term success depends on continuous innovation, strategic alignment, and maintaining leadership in the global data-driven ecosystem.

Analysis

What is Amazon's business?

Amazon's industry scope may initially seem too broad. How could it be relevant for an online retailer to produce movies and provide software services?

The comparative VRIO analysis of a "classic retailer" (Walmart) and Amazon, along with its business model canvas (Exhibits 1 and 2), highlighted that limiting Amazon to the retail industry would be erroneous. Indeed, Amazon's competitive advantage and business model elements are not specific to the retail sector.

Since the company opened the platform to third-party merchants in 2000, it has been in the **information business**:

- It leverages its Big Data to determine its customers' needs and offer them quick access to what they want to purchase (Exhibit 3).
- It provides its partners with the same ability (economies of scope, via AWS and Webstore).

Exhibit 4 contains additional evidence supporting that Amazon is no longer a retail-only business.

Consequently, Amazon's main competitors today are companies such as Google and IBM, with a strong presence in the Big Data market. Amazon's advantage over these companies is its superior amount of first-hand consumer data (Rao, 2014).

What is Amazon's strategy?

Amazon has been a disruptor in each sector it has entered. For example, it reinvented the retail and 500-year old book industries, in only a few years. The company adopts a blue ocean strategy, where it consistently creates whole new market spaces, making the competition mostly irrelevant.

Today, only a handful of companies can compete at Amazon's scale, which creates an oligopoly. Amazon utilises its technology to achieve operational efficiency and minimise costs, but a cost-leadership generic competitive strategy would not suffice in this context. Therefore, Amazon focused its competitive strategy around differentiation (Exhibit 5.2):

- **Broad differentiation** for its website (e.g. seamless purchasing experience, fast delivery, rich content and product selection).
- **Focused differentiation** for its services to meet software developers and companies' needs (e.g. platform as a service, cloud computing power, targeted ads, tailored e-commerce websites).

Moreover, it broadened its industry scope by applying its Big Data strategy to various industries.

Recently, Whole Foods' acquisition broke the company's historical pattern of investing in hardware and physical assets only when required to support its online services (e.g. warehouses, kindle, dash button).

Is the strategy working?

Financial performance

Revenues raised steadily over time, including during the economic recessions (Exhibit 5), but the profit margin increased only after the company decided to shift its focus on leveraging its data.

AWS, Prime and the Kindle supported the profit margin until 2011. Then, substantial investments and poor decisions made this margin drop substantially (Exhibit 6). However, these investments eventually paid off: revenues are still witnessing a two-digit growth, and the net profit margin reached a point unseen since 2004.

The working capital and long-term debt-to-capital ratio are both showing favourable trends. The former has almost tripled to reach nearly $7B, while the latter decreased to 35% (Exhibit 7). These trends indicate that Amazon has currently an exceptional ability to invest.

Strategic performance

Amazon overtook its rivals on customer service (Rao, 2014), product selection (Gupta & Rodriguez, 2019) and distribution capabilities.

However, the company suffers from several strategic issues:

- Revenues from **new products** are not significant, forcing the company to rely heavily on old ones (Exhibit 8). This situation is suboptimal for a company focused on innovation.
- **Whole Foods' acquisition** does not seem aligned with the company's strategy, especially given the premium it had to pay for it (Gupta & Rodriguez, 2019). Indeed, this chain is selling high-end organic products to a high-income consumers niche, which diverges from Amazon's retail mass-consumption segment (Exhibit 2). From this point on, Amazon will dilute either its image or Whole Foods', depending on whether it decides to keep the chain's current strategy or downscale its products.
- Amazon had a seven years head start in the **cloud platform industry**, but other companies will eventually catch up (Exhibit 9). Therefore, in this fast-moving industry, Amazon must continuously innovate to generate short-term temporary competitive advantages rather than relying on any hypothetical sustainable advantage.

Exhibit 10 summarises Amazon's SWOT analysis.

Recommendations

Amazon's strategic customers are:

- **Prime subscribers** (spend four times more than other customers).
- **AWS customers** (suffer from vendor lock-in and spend exponentially on AWS as they grow).

The recommendations below aim to increase strategic customers' loyalty and focus on higher-profit-margin activities to address the identified issues. Exhibit 5.14 provides a timeline with the related milestones.

Embracing open-source software (OSS)

Software developers and tech companies are highly sensitive to ethics. Thus, Amazon's image suffers when the company develops and sells closed-source versions of popular OSS projects (Campbell, 2019). Amazon should instead integrate these projects into AWS.

With the rise of containerisation and the DevOps culture, Amazon would benefit from acquiring Docker, a pioneer and industry world-leader struggling to be profitable (Vaughan-Nichols, 2019) despite its 83% market share (Sysdig, 2018) and $1.3B valuation (Shieber, 2018). Amazon has the investment capacity for this acquisition, which would provide its customers with a reliable platform while capitalising on Docker's image in the OSS space.

Moreover, focusing on creating a consistent set of interoperable services from OSS building blocks (Exhibit 11) would be a significant competitive advantage against competitors still trying to implement AWS's basic features.

Penetrating underperforming markets

Most Prime services are only available in the US. As a result, 95% of Amazon Prime's subscribers live in the US (Gupta & Rodriguez, 2019), and only 3% of the non-US customers have a Prime account. If Amazon achieved the same subscription ratio globally, with the existing customer base, revenues (excluding AWS and Whole Foods) would rise by 32% (Exhibit 12). Moreover, if Prime were to be more attractive for non-US customers, Amazon could expect a surge in the overall number of customers.

This recommendation would require opening warehouses in strategic locations (e.g. Australasia, South-East Asia) to cut shipping time and get closer to the '2-day delivery' goal. The $61B potential increase in revenue should cover the costs (e.g. building a warehouse costs around $100M (Coombs, 2017)).

Selling Whole Foods

As stated above, acquiring Whole Foods was not aligned with Amazon's overall strategy. Moreover, if Whole Foods' net income stays at its past average

value, it would take this investment 33 years to be profitable (Exhibit 13). This timeframe is incompatible with Amazon's constant innovation agenda. As such, Amazon should sell Whole Foods.

This sale would also send the signal that Amazon and traditional retailers are not competitors but rather partners. As a result, Amazon would encourage retailers to utilise its platform to sell their products, creating a win-win situation.

Conclusion

Amazon is relying on AWS to drive its financial performance. However, the company's competitive advantage might not be enough in the years to come. Amazon should now shift its position towards open-source software, develop its global Prime subscriptions and sell Whole Foods to focus on its online higher-profit-margin core business.

Exhibits

1. Comparative VRIO analysis of Amazon and Walmart

Amazon has built unique capabilities over the years. The company's business model can be reproduced, but the capabilities and scale enable sustainable competitive advantages.

Core competency	V	R	I	O	Retail-specific?
Amazon					
Product catalogue	Yes	No			Yes
Distribution network	Yes	Yes	No		Yes
Brand image	Yes	Yes	Yes	Yes	No
Global partnerships (Amazon Associates Program)	Yes	Yes	Yes	Yes	No
Big Data (curation and usage)	Yes	Yes	Yes	Yes	No
Walmart					
Product catalogue	Yes	No			Yes

Core competency	V	R	I	O	Retail-specific?
Inventory management	Yes	Yes	Yes	Yes	Yes
Brand image	Yes	Yes	Yes	Yes	No
Bargaining power	Yes	Yes	Yes	Yes	Yes

As opposed to Walmart, Amazon's sustainable competitive advantages are not retail-specific.

2. Amazon's business model canvas

Value Proposition

- World leader in cloud infrastructure
- Offer the ability to purchase whatever the customer needs in a few clicks (compulsive shopping)
- Provide other companies with access to Amazon's infrastructure and data

Customer Relationships

- Facilitate and speed up the purchase process (fast checkout, fast delivery)
- Make the platform feel intimate despite its overwhelming size
- Create a 360-degree customer profile to enhance customer service
- Provide recommendation and reviews
- Offer largest product selection

Channels

- Websites
- AWS
- Conferences
- Physical stores
- Internet of Things (e.g. Echo)

Customer Segments

- Mass-consumption market
- Developers
- Readers
- TV shows enthusiasts
- Companies

Key Activities

- Platform as a Service

- Software development
- Distribution
- Customer service
- Automation
- Innovation

Key Resources

- Platform
- Brand
- Third-party merchants
- Global presence
- Data
- Patented algorithms

Key Partners

- Sellers
- Content providers
- Amazon Associates Program
- Acquisitions

Revenue Streams

- Sales from the website
- Prime subscriptions
- Advertising network
- AWS
- Hardware (Kindle, Echo)
- Amazon Associates Program

Cost Structure

- Fixed costs
  - Datacentres
  - Marketing
  - Warehouses
  - Employees
  - R&D
  - Content generation
- Variable costs
  - Shipping costs
  - Commissions
  - Customer service

3. Place of Big Data in Amazon's operations

Big Data refers to the growth and availability of large volumes of data, which cannot be analysed by traditional databases. The Big Data process includes five components: collect, store, organise, analyse and share (Rao, 2014). The

end goal is to extract valuable information (e.g. recommendations, patterns of behaviours) from the gathered data. Information is at the heart of Amazon's business since its inception, even before it was called 'Big Data'. One of its first usages was the recommendation system, but today it is also used to:

- Help customers find what they want readily
- Make the platform more intimate and less intimidating
- Mitigate risks (e.g. theft)
- Create precise customer groups (e.g. for targeted marketing campaigns)
- Improve customer support
- Create new sources of income by providing data-related services to other companies

This data offers Amazon in-depth knowledge about its customers, which helps the personnel with its day-to-day activities and allows the company to make sound decisions.

4. Amazon is no longer a retail-only business

The timeline below displays facts illustrating that Amazon is no longer a retail-only business. The subsequent figures and tables provide evidence to develop these facts.

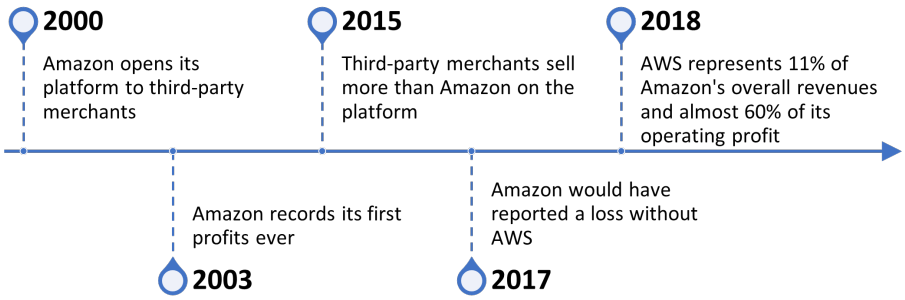

Figure 1: Timeline inferring that Amazon is not a retail-only business.

Net profit margin (1999-2004)

Evolution of market share on Amazon's website

AWS impact on Amazon's financial results

Sales

	AWS	Other	Total
2016	12,219 (9%)	123,768 (91%)	135,987

	AWS	Other	Total
2017	17,459 (10%)	160,407 (90%)	177,866
2018	25,655 (**11%**)	207,232 (89%)	232,887

Operating income

	AWS	Other	Total
2016	3,108 (74%)	1,078 (26%)	4,186
2017	4,331 (105%)	**-225 (-5%)**	4,106
2018	7,296 (**59%**)	5,125 (41%)	12,421

5. Net revenues

Amazon's revenues' continuous growth during economic recessions is a strong indicator of strategic performance.

6. Net profit margin (2002-2018)

Despite being a tech giant, Amazon only witnesses profit margins within the retail industry average (0.5%-5% (Ross, 2019)).

7. Amazon's investment capacity

	2017	2018	YTY evolution
Current assets	60,197	75,101	+25%
Current liabilities	57,883	68,391	+18%
Long-term debt	24,743	23,495	-5%
Total stockholder's equity	27,709	43,549	+57%
Working capital	**2,314**	**6,710**	**+190%**
Long-term debt-to-capital ratio	**47%**	**35%**	**-26%**

The working capital represents the internal funds available to pay the current liabilities and finance potential investments without having to borrow and raise money. The long-term debt-to-capital ratio indicates the percentage of capital investment funded by creditors and bondholders. Source: https://ir.aboutamazon.com/annual-reports?c=97664&p=irol-reportsannual

8. Amazon's revenues breakdown by product

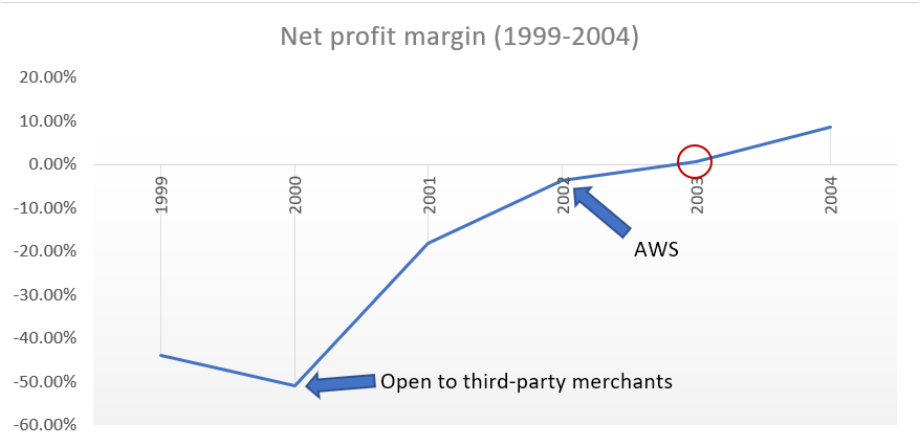

Figure 2: Amazon's net profit margin between 1999 and 2004. Source: https://www.statista.com/statistics/266282/annual-net-revenue-of-amazoncom/.

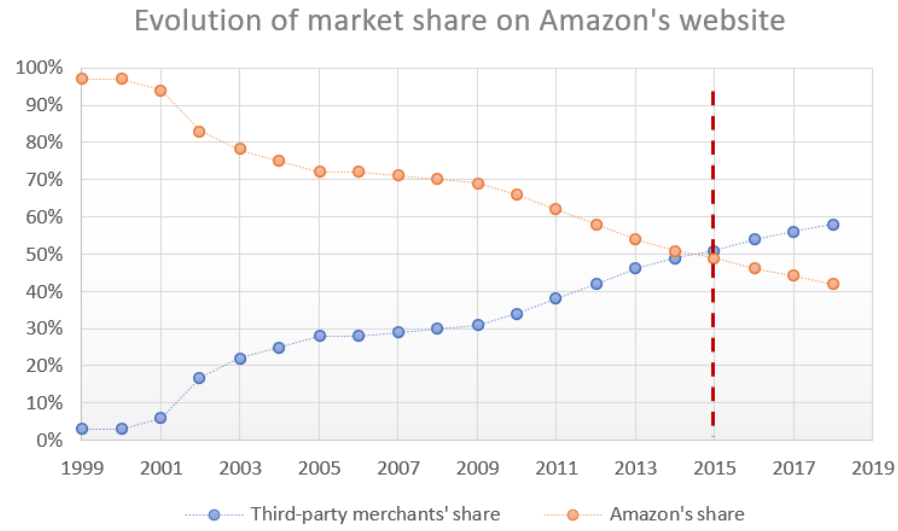

Figure 3: Evolution of market share on Amazon's website. Source: https://ir.aboutamazon.com/annual-reports?c=97664&p=irol-reportsannual.

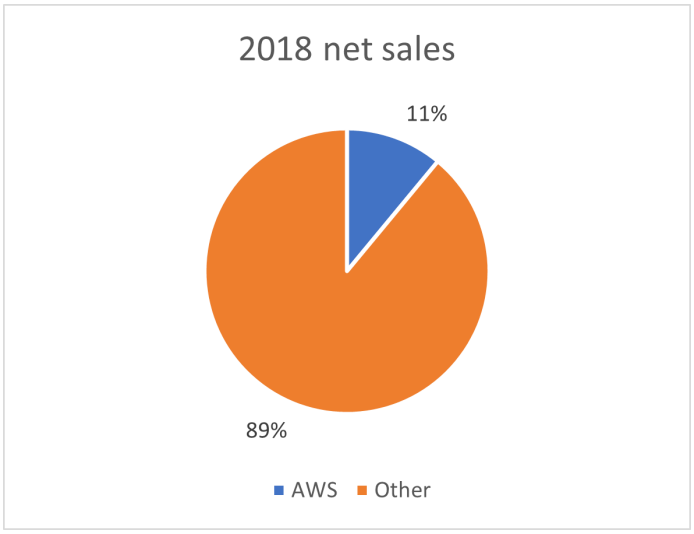

Figure 4: AWS's impact on Amazon's overall net sales (in millions of $). Source: https://ir.aboutamazon.com/annual-reports?c=97664&p=irol-reportsannual

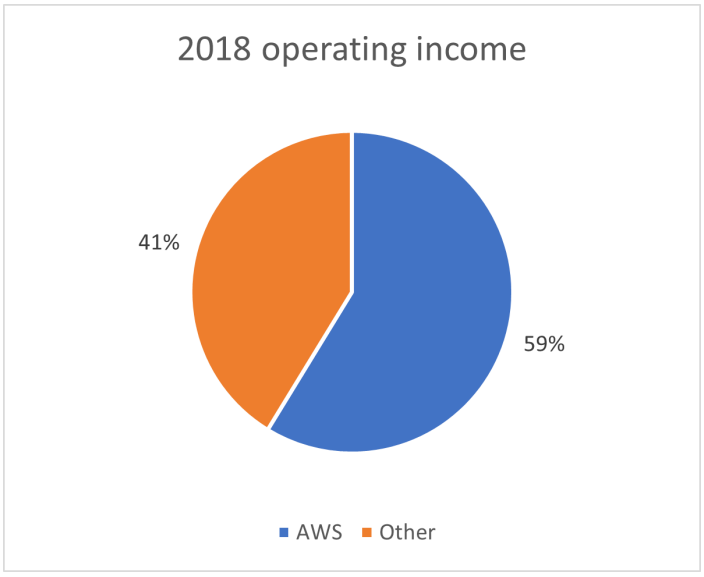

Figure 5: AWS's impact on Amazon's overall operating income (in millions of $). Source: https://ir.aboutamazon.com/annual-reports?c=97664&p=irol-reportsannual

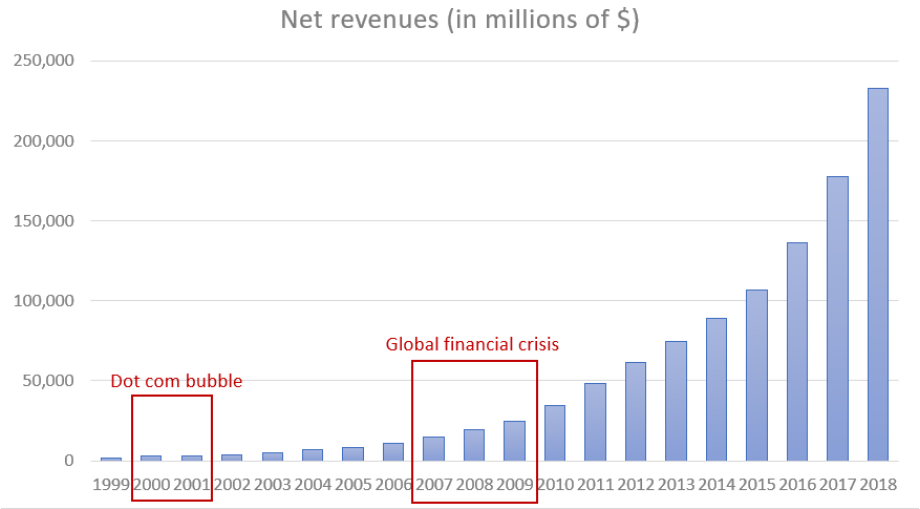

Figure 6: Amazon's net revenues. Source: https://www.statista.com/statistics/266282/annual-net-revenue-of-amazoncom/

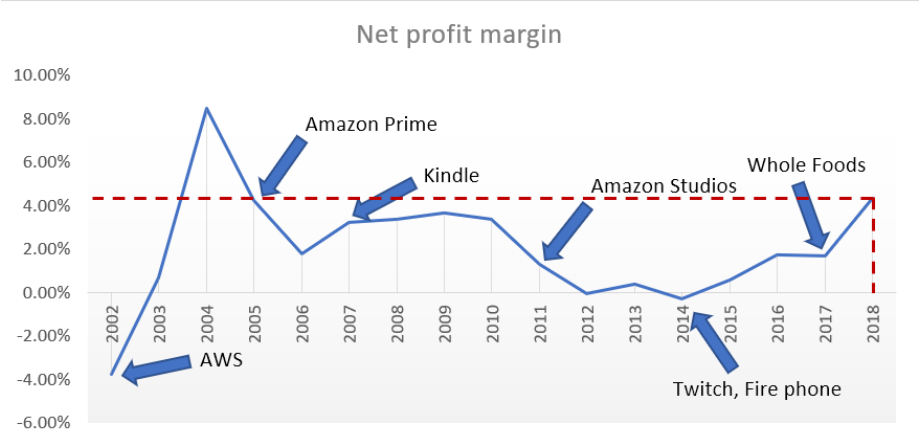

Figure 7: Amazon's net profit margin between 2002 and 2018. Source: https://www.statista.com/statistics/266282/annual-net-revenue-of-amazoncom/

	Revenues 2018 (in millions of $)	Revenue share	Launch year
Amazon website	122,987	53%	1995
Third-party merchants	42,745	18%	2000
AWS	25,655	11%	2002
Physical stores (Whole Foods)	17,224	7%	2017
Amazon Prime	14,168	6%	2005
Other	10,108	4%	-
Total	**232,887**	**100%**	

It appears that old products yielded most revenues. Source: https://ir.aboutamazon.com/annual-reports?c=97664&p=irol-reportsannual

9. Cloud providers' market share

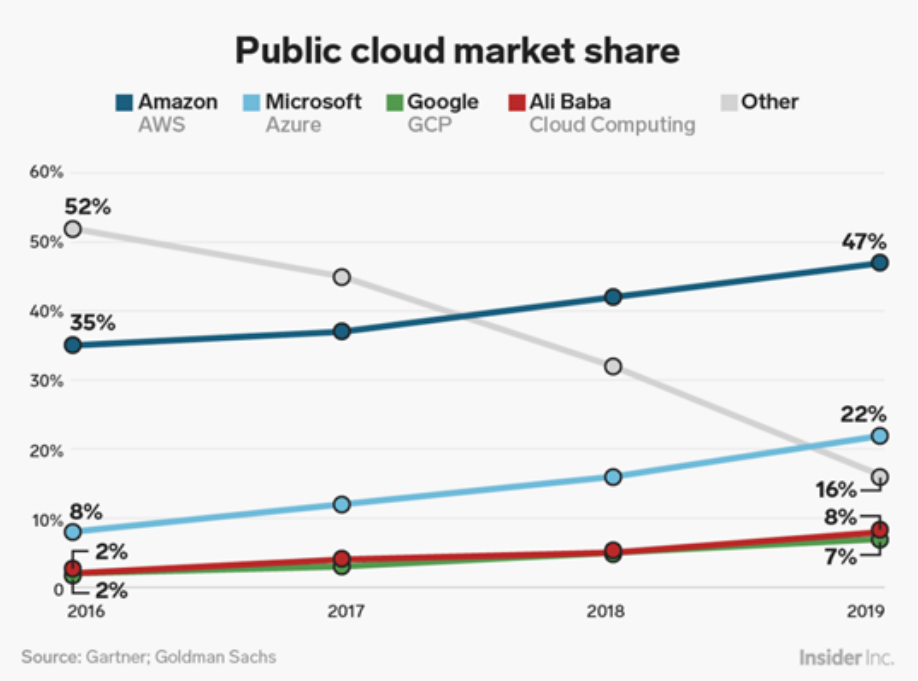

Figure 8: Primary cloud providers' market share. This graph shows that Amazon's competitors are starting to fill the gap in the cloud sector. Source: https://www.parkmycloud.com/blog/aws-vs-azure-vs-google-cloud-market-share/

10. Amazon's SWOT Analysis

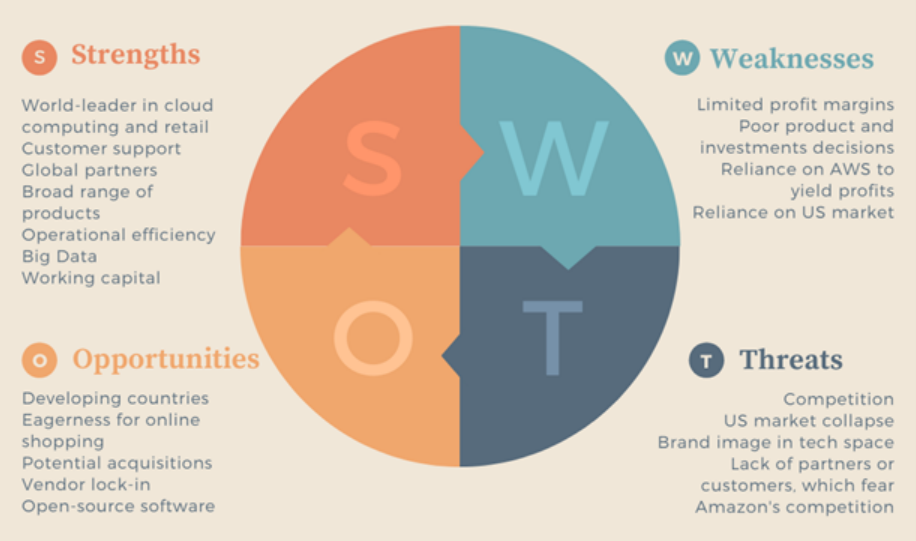

Figure 9: Amazon's SWOT analysis.

11. Open-source projects AWS could integrate

Project name	Description
Elasticsearch	Cloud-ready search engine
Hazelcast	Distributed cache
Datadog	Cloud application monitoring

12. Projection of revenues with more non-US Prime subscribers

The following tables display Amazon's 2018 revenues (excluding AWS and Whole Foods) as well as the number of prime subscribers for the US and the rest of the world (Sources: https://ir.aboutamazon.com/annual-reports?c=97664&p=irol-reportsannual and https://marketingland.com/report-prime-members-now-represent-63-percent-amazons-us-customers-226573)

	Net sales 2018	Share
US	124,142	**65%**
International	65,866	**35%**
Total	190,008	100%

	Prime	Non-prime	Total	% of prime
US	95	56	151	**63%**
International	5	154	159	**3%**
Total	100	210	310	32%

Since Prime subscribers spend four times what non-Prime customers spend (Gupta & Rodriguez, 2019), it is then possible to calculate the average yearly purchase for each type of customer.

	Average purchase (non-prime)	Average purchase (prime)
US	284.86	1,139.46
International	378.09	1,512.37
Total	311.49	1,245.95

If Amazon managed to achieve the same ratio of Prime subscribers (i.e. 63%) for non-US customers, the repartition of Prime customers would be as follow:

	Prime	Non-prime	Total	% of prime
US	95	56	151	63%
International	**100**	**59**	**159**	**63%**
Total	195	115	310	63%

Then, the 2018 revenues (in millions of $, excluding AWS and Whole Foods) would be:

Fictive net sales	Share	Difference with actual value	
US	124,142	**49%**	+0	+0%
International	127,011	**51%**	+61,145	**+93%**
Total	251,153	100%	**+61,145**	**+32%**

13. Whole Food rentability analysis

The table below details Whole Foods' net income during the years before its acquisition.

	Net income
2009	147
2010	246
2011	343
2012	466

	Net income
2013	551
2014	579
2015	536
2016	507
2017	245
Average	402.22

With an acquisition value of **$13.4B** (Gupta & Rodriguez, 2019), it would take **33** years for this investment to be profitable.

14. Recommendations milestones

Recommendations milestones.

Figure 10: Recommendations milestones.

Action	Resource implications	Expected benefit(s)
Integrate Datadog and Hazelcast into AWS	Changing the company's mindset towards OSS	A higher brand image within the tech community
Launch marketing campaign around the importance of OSS for AWS	Shifting existing campaigns focus, to involve OSS	A higher brand image within the tech community
Acquire Docker Inc.	Investing approximately $1B (covered by working capital)	A higher brand image within the tech community and a more reliable platform
Deploy warehouses* to enable Prime globally	Building and operating warehouses (cost covered by expected benefits)	Market penetration by increasing consumerism (up to 30% increase in revenue)
Sell Whole Foods	Finding a buyer	Capital gains and strategy re-alignment

* Alibaba's presence in China, along with Chinese regulatory pressures, may significantly inhibit Amazon's ability to penetrate this market. Consequently, Amazon should target more accessible South-East Asian countries first.

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