

# From Leader to Laggard: An Analysis of Blackberry's UI/UX Missteps and the Decline of a Tech Giant

**Bharath P . Damodhar D B . M Venkatesh . Prasanna Kumar Shetty .  
Syed Thouheed Ahmed**

School of Computing and Information Technology  
REVA University, Bangalore, India

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**Abstract** – The failure of BlackBerry in the smartphone market is a cautionary tale about the importance of UI/UX design in the success of mobile devices. This research paper examines the impact of UI/UX design on BlackBerry's decline, including its failure to adapt to changes in the mobile landscape, poor design strategies, and a lack of innovation. By analyzing industry trends and BlackBerry's history, this paper argues that the company's focus on physical keyboards, its failure to recognize the importance of touch screen devices, and its slow pace of introducing new features and applications resulted in a subpar user experience that led to declining sales and a loss of market share. Despite attempts to rebrand and reposition the company, BlackBerry was unable to recover its once dominant position in the smartphone market. This paper highlights the importance of UI/UX design in creating a positive user experience that resonates with consumers and emphasizes the need for mobile companies to continuously innovate and adapt to changing user needs and behaviors.

**Index Terms** – BlackBerry, Smartphone UIUX, BlackBerry Design Failures.

## I. INTRODUCTION

Because of the rising reliance on mobile devices for communication, entertainment, and business, the importance of UI/UX design in mobile devices has grown. Creating a successful UI/UX, on the other hand, is not a one-size-fits-all solution, and organizations must adapt to match the wants and preferences of their consumers in order to remain competitive. The decline of BlackBerry in the mobile technology market serves as a reminder of the importance of UI/UX design in a company's success. Poor design processes, an inability to innovate, and a failure to respond to market changes all contributed to declining

sales and market share. The purpose of this research is to investigate the role of UI/UX design in BlackBerry's downfall by providing an overview of the mobile technology industry, discussing BlackBerry's early success and design strategy, and investigating the effect of UI/UX design on BlackBerry's sales and market share using a combination of quantitative and qualitative methodologies. By sharing findings with researchers, practitioners, and policymakers in the area, the goal is to increase understanding of the role UI/UX design plays in the success of mobile devices and to build a more inventive and user-friendly mobile environment.

Mobile technology, which includes smartphones, tablets, wearables, and mobile apps, is a competitive and fast increasing business. It is critical to succeed in this industry by offering users with an amazing experience. UI/UX design is the process of building visually appealing and easy-to-use interfaces for mobile devices and services, resulting in improved engagement and income. To stay ahead of the competition, industry leaders such as Apple and Samsung have made major expenditures in UI/UX design. A well-designed interface and user experience can also help to build a positive brand image and consumer loyalty. Mobile firms must emphasize UI/UX design to preserve their competitive edge and match the ever-changing user expectations.

## **II. HISTORY**

BlackBerry, formerly known as Research in Motion (RIM), is a Canadian firm that originally aspired to build commercial wireless data technology. BlackBerry launched its first product, the BlackBerry 850, in 1999, with a QWERTY keyboard and email features, and it soon became popular among businesspeople. In 1999, RIM created a new way to send and receive emails on mobile devices and made a keyboard that was easy to use for texting with two thumbs. This was popular among executives and leaders in both the public and private sectors.[1] The company continued to innovate and expand its product line with smartphones that had colour screens, cameras, and BlackBerry OS, known for its security and productivity features. By the mid-2000s, BlackBerry had a substantial share of the enterprise market, but it faced increasing competition from consumer favourites like the iPhone and Android operating system. BlackBerry's focus on email and physical keyboards became outdated in the age of touch screens and mobile apps, and its response to this competition was slow and ineffective. The company was also criticized for its lack of creativity and slow introduction of new features and applications.

As a result, BlackBerry's market share began to decline, and the company struggled to maintain its leadership position in the mobile sector. In 2013, BlackBerry announced that it was exploring strategic options, including the possibility of going public. In an effort to change its image, the company shifted its focus to creating corporate software and services for businesses, unveiling a new operating system called BlackBerry 10. While these initiatives helped BlackBerry remain in the market, the company was never able to fully regain its status as a significant player in the mobile industry. Today, BlackBerry is a much smaller company than it once was, with a greater emphasis on software and services rather than the once-dominant consumer market. Despite its decline in the mobile industry, BlackBerry remains a respected player in the enterprise software and cybersecurity markets, with a focus on providing secure and innovative solutions to businesses

### III. DESIGN STRATEGIES

BlackBerry's early success in the smartphone industry was largely due to its design strategies that focused on creating dependable, user-friendly devices with robust security measures for business users. Key design tactics included a physical keyboard that distinguished BlackBerry from its rivals, an enterprise focus with strong security protections, robust email connectivity, and messaging features that allowed users to connect without costly SMS or MMS messages. Additionally, BlackBerry smartphones had a reputation for dependable and safe devices due to their secure and encrypted construction. The user-friendly interface of the first BlackBerry smartphones received high praise, especially for business customers who needed to access emails and other information on the go. However, the enterprise concentration made the business less enticing to a larger consumer market.

### IV. DESIGN CHALLENGES

Problems with design were a major factor in BlackBerry's slide in the smartphone market. These are some of the company's design issues.

- Resistance to touchscreens
- Poor user interface design
- Lack of app ecosystem
- Slow pace of innovation
- Failure to adapt to changing user needs.

There were several design issues that contributed to BlackBerry's downfall, including resistance to touchscreens, poor user interface design, lack of app ecosystem, slow pace of innovation, and failure to adapt to changing user needs. BlackBerry was known for its physical keyboards, which were a distinguishing characteristic of its products. However, the business was reluctant to adopt touchscreens, which became more common in smartphones. The company eventually made touchscreen smartphones available but did so after its rivals, giving them a substantial edge. BlackBerry's resistance to touchscreens made it difficult for the company to adapt to changing user tastes and behaviors, which led to lower sales and a loss of market share.

The user interface of BlackBerry devices was criticized for being unnecessarily complex and confusing, making it challenging for users to discover what they were looking for. The interface was inconsistent across different devices and versions, making it difficult for users to transition between devices or update to newer software versions. BlackBerry's user interface lacked customization choices, making it challenging for users to make their smartphones unique. Additionally, the interface was not touch optimized, which made it challenging for users to do tasks using touch gestures. Due to these issues, users had a poor experience, resulting in decreased sales and a loss of market share. The absence of a strong app ecosystem for BlackBerry was another fundamental design issue that contributed to its failure in the smartphone market. BlackBerry's app ecosystem was small compared to its rivals, which led to a subpar user experience. BlackBerry struggled to attract users and developers to its app store due to a

limited user base, complex development process, limited monetization opportunities, and lack of popular apps. Despite being a pioneer in the field, BlackBerry couldn't keep up with rivals when it came to adding new capabilities to its products. The company overlooked the value of touchscreen technology, which constrained its capacity for innovation. BlackBerry was slow to integrate new technologies like 4G and LTE, and it took a while to roll out new features like bigger displays, better cameras, and voice assistants. Since BlackBerry's design aesthetic remained mostly unchanged for a number of years, people found its products to be less appealing and out-of-date, which led to a loss of market share. [5] In the end, BlackBerry lagged behind its competitors because it was unable to keep up with people's evolving preferences for more intuitive and user-friendly smartphones. A clear example of BlackBerry's incapacity to change with the requirements of its customers is the company's slow response to the rising popularity of touchscreen devices. The company fell behind its rivals and lost market share as a result.

### ***Motivation to our Work***

This study aims to investigate and comprehend the factors contributing to BlackBerry's downturn in the smartphone market. This study tries to investigate how BlackBerry's subpar design tactics, dearth of innovation, and inability to adapt to changes in the mobile market contributed to the failure of the firm. We are interested in finding out more about the mobile market, the characteristics of a successful mobile device, how technology affects society, and the reasons why a once-dominant smartphone player fell out of favor. We also want to know what makes great mobile devices successful. The goal of this project was to get more knowledge of UI/UX design concepts and how they affect user experience and, ultimately, the success of a product.

## **V. DESIGN STRATEGIES**

### ***How did BlackBerry get the idea of QWERTY keyboard?***

Blackberry, formerly known as Research in Motion (RIM), is a Canadian company that revolutionised the cell phone and smartphone industries with their cutting-edge approach to cell communication. The company is famous for its unique feature, the QWERTY keyboard, which has come to be associated with the name. The QWERTY keyboard has its roots within the typewriter, a system that became invented within the nineteenth century for the motive of printing letters and documents. The keyboard on a typewriter became organized in a selected way, with the maximum often used letters organized in a selected pattern, that allows you to growth the velocity of typing and decrease the probability of the keys getting stuck.

Christopher Latham Sholes added the QWERTY keyboard in the 1870s as a result of his search for a keyboard layout that would prevent the keys from jamming. For typewriters, the QWERTY layout quickly became the norm, and it is still the norm for keyboards today. In the late 1990s, as cell phones became popularity, RIM saw an opportunity to develop a device that would enable people to communicate while on the go, without the need for a computer or a landline. Customers could send and receive emails, as well as messages from many unique sources, using RIM's initial tool, the Interactive Pager, which was

released in 1996. RIM quickly discovered, however, that the tool was no longer very user-friendly and that using the little keyboard that came with it was difficult. The first Blackberry tool, which included a full QWERTY keyboard and a thumbwheel for navigation, was introduced by RIM in 1999. It quickly became the preferred tool for entrepreneurs that needed to conduct their daily operations while on the go after becoming an instant hit.

The QWERTY keyboard, which allowed users to type quickly and precisely even on a small device, became a crucial component of the Blackberry's success. Large, evenly spaced keys that were easy to press were part of the keyboard's smooth-use design. The increased backlighting on the keys made them easier to see in dim light. The concept to position a QWERTY keyboard within the Blackberry became a stroke of genius, and it became one of the key elements that contributed to the tool's achievement. The keyboard allowed customers to kind quick and accurately, even on a small tool, and it made the Blackberry the tool of desire for businesspeople and specialists who had to live related whilst at the go.

### ***How did BlackBerry create a Persona about the QWERTY Keyboard?***

In the 2000s, Blackberry was a dominant force in the mobile phone market, thanks in large part to its QWERTY keyboards. The company created a persona for QWERTY keyboards by positioning them as a tool for productivity and efficiency, which was particularly appealing to business users. Blackberry's marketing efforts emphasized the keyboard's ability to help users type out messages and emails quickly and accurately, allowing them to stay connected and productive on the go. The company also touted the physical keyboard's tactile feedback as a unique advantage over other devices that relied on touch screens or numerical keypads. In addition to its practical advantages, Blackberry phones' QWERTY keyboard contributed to a feeling of belonging and community among its users. Among business users, the keyboard came to be recognised as a defining characteristic of the Blackberry brand and a sign of success and status.

Users of Blackberries frequently referred to themselves as "Blackberry club" members and proudly displayed their devices to signify their membership. The QWERTY keyboard, which distinguished Blackberry from its rivals, contributed to the strengthening of this sense of identity and community. By positioning the QWERTY keyboard as a unique feature that set their phones apart from rivals, Blackberry gave the QWERTY keyboard a persona. They promoted the physical keyboard as a representation of efficiency and productivity, luring businesspeople and those who valued speed and accuracy in their typing. Blackberry also emphasized the satisfying "click" of each keystroke while promoting the tactile experience of typing on a physical keyboard. They worked to develop a device that was especially well-suited for typing because they understood that it was a crucial part of how smartphones were used. In addition to marketing the keyboard as a functional tool, Blackberry also positioned it as a status symbol. By offering phones with sleek designs and high-end materials, they created a perception of exclusivity and sophistication that appealed to luxury consumers.

Blackberry's persona for the QWERTY keyboard was reinforced by the fact that their phones were used by high-profile figures in the business and political world, further cementing the image of the physical keyboard as a tool for serious professionals. Blackberry's marketing efforts helped to create a strong

persona for QWERTY keyboards in the 2000s. The keyboard became synonymous with productivity, efficiency, and professionalism, which appealed to business users and professionals who valued these qualities in their mobile devices. This, in turn, helped to make Blackberry phones a popular choice among this demographic and cemented the QWERTY keyboard as an iconic feature of the Blackberry brand. Blackberry's success in creating a persona for the QWERTY keyboard was due to a combination of effective marketing, a focus on functional optimization, and the ability to position the physical keyboard as a status symbol. However, as market trends began to shift towards touchscreen devices, this persona ultimately became less relevant and the brand suffered as a result.



**Fig. 1: QWERTY Keyboard of blackberry represented as a persona**

### ***Initial Products***

In this part of the report, we'll see the early designs and personas created by blackberry phones, Design Drawbacks, How the superseding models had improved the designs and functionalities based on the feed-backs.

#### ***BlackBerry 5810 - Released in: 2002***

Even at the time, the boxy 5810, the first BlackBerry device with a phone, wasn't particularly attractive. Although you had access to workplace e-mail, text messaging, and a WAP browser, you had to use a headset to make calls because there was no built-in speaker or microphone. That was obviously a disadvantage.

#### ***BlackBerry 6210 - Released in: 2003***

The 6210 integrated the speaker and microphone inside the phone. The new hardware design subsequently persisted in a number of variants that were offered in both basic black and blue (as seen in this image), while a colour display wasn't available for another few months. The useful scroll wheel was also made popular by these early devices

#### ***BlackBerry 7100t - Released in: 2004***

With its smaller design and 20-button Sure Type keyboard, the 7100t set new standards. The first devices in the series to come equipped with 3G were later variants. Up-and-coming features like Bluetooth are still absent. Instead, the BlackBerry 7290 would introduce that capability later in the same year.



### ***BlackBerry Curve 8300 - Released in: 2007***

With the 8300, which launched the Curve series, BlackBerry introduced their "smallest and lightest" full-QWERTY ever. A few new features have been added, including an improved spell-checker for emails and memos and audio technology that automatically adjusts call volume in noisy settings. But now we'll see what happened in 2007.

### ***A turning point in Blackberry's fortunes***



**Fig. 2: iPhone (1st Gen)**

In 2007, BlackBerry faced tough competition from the launch of the iPhone (1st generation). The iPhone's popularity was due to several factors that made it more appealing than BlackBerry. The iPhone had a touch-based interface that was more user-friendly and intuitive than BlackBerry's physical keyboard-based interface. The iPhone also had a dedicated App Store that allowed users access to a wide range of third-party applications, which was not available on BlackBerry until much later. In addition, the iPhone was designed as a multimedia device, with a large screen and built-in support for music and video playback, while BlackBerry was primarily focused on messaging and email. Apple's strong brand appeal and effective marketing efforts also contributed to the iPhone's success. All of these factors combined made the iPhone a more attractive option for many consumers in 2007.

The iPhone's popularity over the Blackberry was due to its touch-based interface, dedicated App Store, multimedia capabilities, strong brand appeal, and effective marketing. The iPhone's user-friendly interface was intuitive and easy to use, making it accessible to more people than Blackberry's physical keyboard-based interface. The App Store provided users access to a wide range of apps, while the Blackberry did not have a dedicated app store. The iPhone was also designed to be a multimedia device, which was a major departure from the Blackberry's focus on messaging and email. Apple's strong brand appeal and effective marketing created a buzz around the iPhone, making it a more attractive option for many consumers.

### ***Blackberry's initial response to the iPhone:***

Blackberry was caught off guard when the iPhone was released in 2007. Despite being the dominant player in the smartphone market, Blackberry was slow to respond to the iPhone's innovative

design and features. Initially, Blackberry continued to focus on its strengths in messaging, email, and business productivity, but as the iPhone's popularity grew, the company began to feel the pressure. Blackberry launched several new devices to compete with the iPhone, but they were often outdated compared to Apple's offering. Additionally, Blackberry's corporate culture hindered its response, and its market share declined significantly over the following years.

### ***Blackberry's co-CEO Jim Balsillie's Response:***

At first, Blackberry's co-CEO Jim Balsillie dismissed the iPhone, saying that it wouldn't appeal to business customers because it lacked a physical keyboard and other features that were important to Blackberry's core users. He said that, "The recent launch of Apple's iPhone does not pose a threat to Research In Motion Ltd.'s consumer-gear Blackberry Pearl and simply marks the entry of yet another competitor into the Smartphone market." [3] He also criticized the iPhone's high price point and the fact that it was only available through one carrier, AT&T. Other executives at Blackberry echoed these concerns, suggesting that the iPhone was more of a consumer device than a serious business tool. However, as the iPhone's popularity grew, Blackberry began to feel the pressure to respond to Apple's innovations.

### ***What did BlackBerry do to compete with the first iPhone?***



**Fig. 3: Blackberry Torch**

Blackberry released several phones to compete with the iPhone, including the touch screen Blackberry Storm and the slide-out keyboard Blackberry Torch [3]. However, none of these devices were able to match the success of the iPhone. Blackberry also released other devices, such as the Blackberry Bold and Curve, which were targeted at business users. Blackberry's attempts to compete with the iPhone were unsuccessful, and the company struggled to remain relevant in the smartphone market.

### ***What happened when blackberry actually released a Full Touch Screen phone?***

When BlackBerry released the full touch screen Z10 in 2013, Samsung and Apple had already established themselves as dominant players in the smartphone market. Samsung had released the Galaxy S4, while Apple had released the iPhone 5 a few months earlier. Nokia, on the other hand, had partnered with Microsoft and was promoting its Lumia line of smartphones running on the Windows Phone



operating system. Despite its impressive features, the BlackBerry Z10 as shown in Fig. 4 struggled to compete with its rivals. Samsung and Apple had already gained a strong foothold in the market, and consumers were increasingly choosing between those two brands. Additionally, Nokia had a strong partnership with Microsoft and was aggressively promoting its Lumia line of smartphones.



**Fig. 4: BlackBerry Z10**

Another issue was the BlackBerry 10 operating system. While it had some unique features, it was a completely new platform that lacked the same level of developer support and app ecosystem as iOS and Android. This made it difficult for BlackBerry to attract customers who were already invested in other platforms. BlackBerry also faced internal management and financial issues, which may have distracted from its ability to fully promote and support the Z10. Ultimately, these factors contributed to the Z10's failure to gain traction in the market and helped Samsung, Apple, and Nokia to dominate the smartphone market. Other competitors and their best products in 2013, that contributed to the downfall of BlackBerry Z10: The Galaxy S4 was released in 2013 and featured a 5-inch Super AMOLED display, 13-megapixel rear camera, and 2-megapixel front camera. It ran on the Android 4.2 Jellybean operating system and featured Samsung's TouchWiz UI. It also had S Voice voice recognition software and unique features such as Air Gesture and Air View. The iPhone 5, also released in 2013, had a 4-inch Retina display, 8-megapixel rear camera, and 1.2-megapixel front camera. It ran on Apple's iOS 6 operating system and featured the Siri voice recognition software.[7]



**Fig. 5: iPhone 5 from Apple Inc.**

The Blackberry Z10, released in 2013, featured a 4.2-inch display, 8-megapixel rear camera, and 2-megapixel front camera. It ran on Blackberry's own operating system and featured the Blackberry Hub for managing all of a user's messages and notifications. The Nokia Lumia 520, also released in 2013, had a 4-inch display, 5-megapixel rear camera, and no front camera. It ran on Microsoft's Windows Phone 8 operating system and featured the Live Tiles interface.

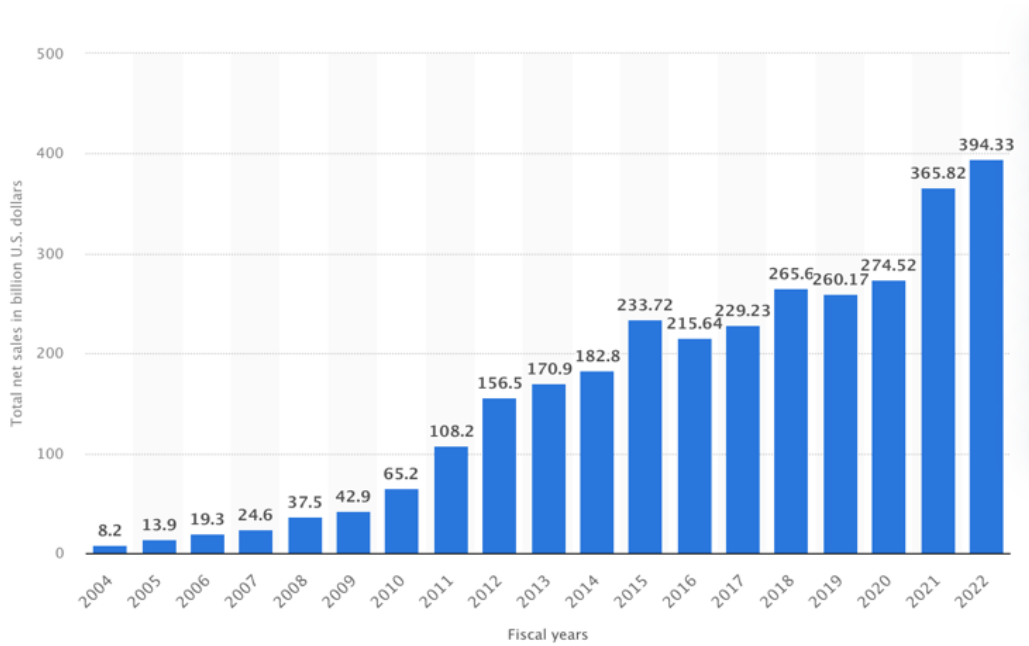


**Fig. 6: Nokia Lumia 520**

Compared to the Blackberry Z10, the Galaxy S4, iPhone 5, and Nokia Lumia 520 all had more advanced and modern operating systems, larger and higher-quality displays, and better camera technology. These features may have been attractive to Blackberry customers who were looking for more advanced and modern features in their smartphones. Additionally, the TouchWiz UI on the Galaxy S4 and Live Tiles interface on the Nokia Lumia 520 may have been seen as more user-friendly and visually appealing than Blackberry's own operating system,[6] which could have also attracted Blackberry customers looking for a better UI/UX experience.

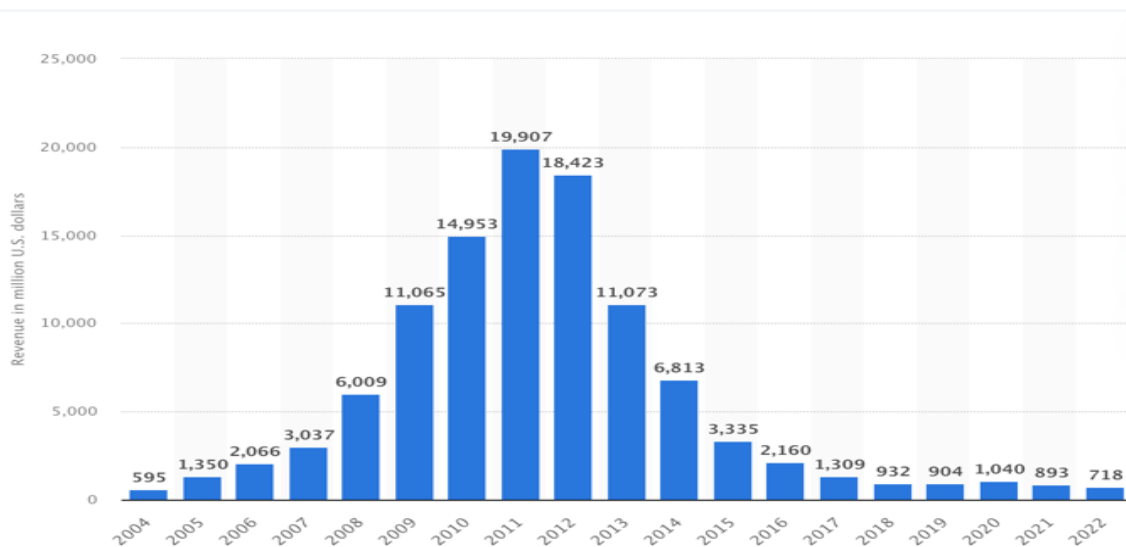
### ***The sales graph comparison between Apple and Blackberry***

Apple's sales have shown a significant increase over the years, particularly after the launch of the iPhone in 2007. The company has consistently experienced a rise in sales of its mobile products, including iPads, iPhones, and Macs. Apple reported net sales of \$274.5 billion in the fiscal year 2021, which was an improvement from the year 2020, and made around \$394 billion in 2022. One of the main reasons of this kind of improvement is Apple was always coming up with new and innovative ideas, even surpassing their own achievements year after year. However, BlackBerry, a technology brand that used to be dominant with their globally popular cellphone, didn't make any progress and remained unchanged. As a result, their lack of product development caused consumers to lose interest and eventually led to a decline in their popularity and usage. [2]



**Fig. 7: Sales representation FY 2004 to 2022: Source: Apple Inc**

On the other hand, BlackBerry, which was once a dominant player in the smartphone industry, has been experiencing a decline in sales since the introduction of Apple and Android smartphones. In 2013, BlackBerry had a net loss of \$4.4 billion, and the company has been trying to maintain its market share ever since. As of 2021, BlackBerry's net sales amounted to \$893 million, The sales declined even more to \$718 million in 2022.

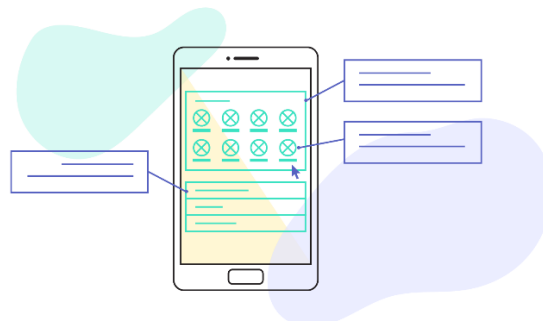


**Fig. 8: Sales representation of BlackBerry FY 2004 to 2022**

## VI. CONCLUSION

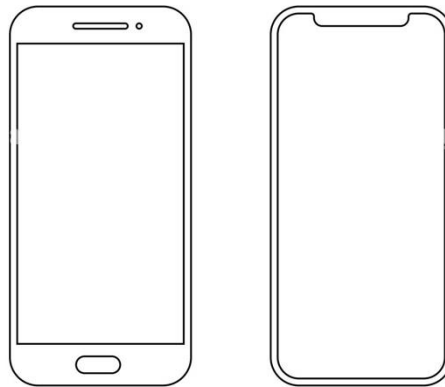
Blackberry, once a market leader in mobile phones, failed to adapt to changing technology trends, which ultimately led to their demise. To remain relevant, they had to change their design strategies, overcome design challenges, and keep up with the pace of innovation. Blackberry's failure to adopt touchscreen technology in the early 2010s was one of the main reasons for their decline in the smartphone market. If they had adopted touchscreen technology earlier, they could have stayed more relevant and competitive. To improve their UI/UX and attract more customers, Blackberry could have redesigned their user interface to be more modern and intuitive.

They could have focused on making their operating system more user-friendly and visually appealing, with larger icons and more intuitive gestures for navigating the phone. In terms of hardware design, Blackberry could have made their devices thinner and lighter, with larger and higher-quality displays. They could have also focused on improving the camera technology in their devices, as this is an important feature for many smartphone users. Another area where Blackberry could have improved their design is in their app ecosystem. They could have worked to attract more developers to create apps for their platform, which would have made their devices more attractive to consumers. They also needed to create a robust app ecosystem and encourage developers to develop apps for their devices. Blackberry needed to listen to their customers and create devices that catered to their needs to adapt to changing user needs. They needed to keep up with the pace of innovation by releasing new and improved devices with new features and technology on a regular basis. Failure to do so resulted in a drop in sales and, ultimately, their demise.



**Fig. 10: Touchscreen Wireframe**

Taking the design challenges and strategies into account, Blackberry should have created wireframes that included touchscreen displays and intuitive user interfaces. They needed to create wireframes that catered to the needs and preferences of their customers. The wireframes should have prioritized simplicity, ease of use, and seamless integration with the hardware and software of the device. Blackberry needed to focus on making their devices more modern and competitive with other smartphones on the market. By improving their design and user experience, they could have attracted more customers and stayed relevant in the smartphone market.



**Fig. 11: Modern design wireframe**

To create successful wireframe designs for their smartphones, Blackberry could have studied the wireframes of their competitors and identified the best practices and design elements that made their smartphones successful. They could have analyzed the layout, the placement of buttons and icons, the color scheme, and the typography used in their competitors' designs. Based on this analysis, Blackberry could have created wireframe designs that incorporated the best elements of their competitors' designs while also adding their own unique features and design elements. For example, they could have focused on creating a simple and intuitive user interface that was easy to use and visually appealing.

In terms of hardware design, Blackberry could have made their devices thinner and lighter, with larger and higher-quality displays, similar to their competitors. Blackberry's failure to adapt to changing technological trends eventually led to their demise. They needed to invest in research and development to create wireframes that incorporated touchscreen displays and intuitive user interfaces to remain relevant. Blackberry could have created a seamless user experience that catered to their customers' needs and preferences, allowing them to remain competitive in the mobile technology sector.

### ***What Should Blackberry Have Done to Improve UI/UX and Avoid Failure in the Smartphone Market?***

***Simplify the User Interface:*** One of the main reasons for Blackberry's decline was the complexity of their user interface. They could have simplified their user interface by reducing the number of menus and options, making the icons larger and easier to understand, and creating a more intuitive design.

***Improve the Touchscreen:*** They could have improved the touchscreen experience by focusing on gestures that were more natural and intuitive, similar to their competitors. They could have also improved the responsiveness and accuracy of their touchscreen technology, which would have made using their devices more enjoyable and user-friendly.

***Enhance the Multimedia Experience:*** Blackberry could have focused on enhancing the multimedia experience of their devices. This could have included improving the quality of the camera and video recording, enhancing the audio quality of the device, and providing better multimedia editing tools.

**Streamline App Navigation:** App navigation was a weak point for Blackberry. They could have streamlined app navigation by making it easier to find and launch apps, and by providing a more intuitive app switching experience.

**Focus on Personalization:** Personalization is an important aspect of the smartphone user experience. Blackberry could have allowed for greater personalization of the device, such as allowing users to customize the look and feel of the interface, change the colors and fonts, and create custom profiles for different settings and environments.

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