

Key Success Factors Study of Nintendo Switch in Gaming Console Market

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Abstract. Nintendo Switch, also known as “NS”, is a video game console released by Nintendo in 2017. This product received worldwide accreditation with its multi-functionals as both home console and handheld device. NS is marked as the fifth best-selling consoles of all time. This study analyses the key success factors of NS, by collecting the factors of upturns and downturns of each significant product release in Nintendo history, and comparing horizontally to same generation of products owned by industry rivals. Aside from competitive advantages analysis from products perspective, the management strategy of Nintendo in 21st century – including innovative culture management and Blue Ocean market strategy – is also evaluated as another important factor for NS success. In the end of the study, several proposals are raised for possible business transformation for Nintendo.

Keywords: Gaming Console Market; Nintendo Switch; Innovation.

1. Introduction

Until 2022, video games market wealth is accumulated to \$100 billion globally – take American household entertainment tools as an example, nearly two-thirds of American families own at least one entertainment product each home, varying from home consoles, to handheld consoles and mobile devices, to personal computers. Nowadays the market shares of global video games industry can be divided into three large sectors – Personal Computer games, mobile phones games and console games. Then, within the console market, Nintendo, Microsoft and Sony are the three magnates with dominant advantage. Nintendo, one of the most successful and influential video game company in modern era, has witnessed its phenomenal growth in profit since the release of Nintendo Switch (“NS”) in 2017. Although NS is a landmark in both console market and entertainment industry globally, Nintendo has not always been the champion in the entertainment industry. In fact, being the long-lasting company with over a century of history and a classic case study subject in corporate management area, Nintendo has not been studied systematically for its revolutionary success in 2017 with NS release. Therefore, this article will breakdown the success factors of NS, with cross analysis of both internal factors and external factors. Internal factors are focused on Nintendo product history and management strategy, while external factors focused solely on competitive advantages of powerful opponents of Nintendo during same time period.

2. Nintendo Product history

2.1 Company Early History

In 1889, Nintendo was initially founded as Nintendo Karuta by craftsman Fusajiro Yamauchi and originally produced handmade hanafuda playing cards – the “flower cards”. By 1929, when Nintendo was assigned its second president Sekiryō Kaneda, it had become the largest card game company in Japan^[1]. From 1929 to 1949, before the presidency shifted to Hiroshi Yamauchi, the grandson of prior president Sekiryō Kaneda, Nintendo continued its operation in cards manufacturing business despite the declining recreational interest of Japanese society under the impact of World War II. After Hiroshi took over Nintendo in 1950, he initiated series of important decisions for the organization, in which the decision of integrating with Walt Disney’s animated characters brought considerable profits to the company. Naturally, it led to a trade-off between growing reputation within children’s market and shrinking market share that is targeting the adult’s group. Finally, in 1964, after slumping

sales of Disney cards, Nintendo encountered its first significant financial crisis in which its stock price plumed to the lowest point since it became a listed company in Kyoto and Osaka Stock Exchange.

With the hope of saving the company from distress, Nintendo spent 4 years from 1964 to 1968 in exploring several different business sectors, including taxi service, hotel service and instance rice manufacturing, all of which were proven to be unsuccessful. Hiroshi finally decided that Nintendo should remain operational focus in entertainment industry, therefore he started to increase investment in Research and Development department and game development. Gunpei Yokoi, the legendary innovator of video game history, was hired and assigned the head of game department in 1969. Subsequently, during early 1970s, a variety of electronic toys were invented by Yokoi and his team; two of the most popular products were Nintendo Beam Gun and Ultra hand, both sold for over 1 million units [1]. Success of electronic toys marked the turning point of Nintendo history after which it started to pursue further engagement in electronic products of entertainment business.

2.2 Product Development in Electronics Industry

In 1979, Nintendo extended footprint both globally and cross functionally. In the same year, it opened its first American subsidiary in New York as well as its first development department for arcade [2]. In 1980, inspired by the advanced technology of portable calculator, Nintendo Japan developed the first handheld video game systems, the Game & Watch. It was the breakthrough invention in video game business, reaped the global market by 43.4 million of unit sales. On the contrary, the failure of arcade with game “Radar Scope” in American market caused financial crisis for Nintendo subsidiary of America, leading to distress call from Nintendo’s American president to Japan headquarter. As a result, Gunpei Yokoi was assigned to develop new game to promote sales of the arcade machines, and then in 1981, the famous Donkey Kong was invented, along with the supporting jumping character who will later become Mario. In 1983, Family Computer, also known as “FamiCom” was released in Japan. It was such a success that the product was rebranded as “Nintendo Entertainment System” (NES) and release in America. Nintendo switched its marketing strategy this time – despite critics claimed that American video game industry is “a dead end”, Nintendo opened the market entrance through the arcade games’ door [2]. Then, with limited test market release, Nintendo steadily paved the way for nationwide success of NES in the US. This revolutionary product saved the video game industry of America at the time.

1980s was watershed period in Nintendo history, especially from corporate management strategy’s perspective. After its downfallen legacy cards manufacturing business, and various failed attempts in food, hospitality, or transportation business, Nintendo finally committed to the strategic direction of the home entertainment consoles business. Since then, Nintendo started to introduce a series of home-owned, family entertainment consoles with original games invention. Popularity of its home consoles empowered Nintendo to dominate collaboration terms with third-party game publishers; this trend of absolute predominance led to short-term prosperity for Nintendo, but eventually caused challenges and rebellions from other market participants [3].

2.3 Competitions in Consoles Industry

Two of Nintendo’s strongest competitors in 1990s were Sega and Sony, one challenged NES with 16-bit console and iconic character “Sonic the Hedgehog”, the other rivalled Super NES with 32-bit CPU, advanced photographic techniques and loose contract terms with third-party game developers. In 1989, Sega released “Sega Genesis” in the US, and then the original game “Sonic the Hedgehog” in 1991. This product outsold NES briefly, and allowed Sega to become the first real competitor for Nintendo during 1990s.

There are three significant advantages of Sega that facilitate its success: 16-bit technology, advanced algorithms to facilitate fast movement of characters, youth marketing strategy. All of them were challenging Nintendo’s weakness directly. The 16-bit technology was used along with advanced algorithms that enables characters to run faster than Nintendo roles on the screen; the fast-moving

character “Sonic the Hedgehog” was also invented to adapt to the new technology framework. These features coupled with Youth Marketing strategy of Sega, had allowed Sega to attract adolescent client group. This put Nintendo in disadvantage position because the Youth Marketing strategy was picturing Sega Genesis as the “cooler generation of home console” while NES was outdated device. However, in the following years, internal competitions within Sega of Japan and Sega of America led to series of management decision errors, which eventually caused Sega to fall on the trailing end of the console development race.

The struggles of Sega Saturn in North American market during 1994 to 1998 created breathing room for Sony PlayStation, which was provided with cheaper price and larger CD-ROMs capacity for customers in 1995. Pricing advantage, CD format, and more flexibility for third-party contractors have pushed Sony PlayStation to become the most popular product in home-owned entertainment section. By end of 1999, Sony still held 60% of the overall video game market share in North America [4]. PlayStation series signals the rise of Sony in console market and its continuous success in 21st century even with more competitors entering the industry.

Nintendo, on the other hand, upgraded and invented various consoles in response to the fierce competition in the market. There were some revolutionary yet not-so-successful products, such as Nintendo 64 (“N64”) with 64-bit 3D capabilities, or Virtual Boy with peripherals and haptic device. The high-end technology infrastructure of N64 caused disconnect between the device and supportable games development lifecycle; the decision to stick to cartridge format further elongated project duration for third-party developers, hence higher price and less competitive advantage. This mismatch in product delivery caused N64 sales to fall behind Sony PlayStation during holiday season of 1997 [4], because new games of Nintendo were postponed to 1998 due to coding difficulties for adaptation to the new framework. For Virtual Boy, it is claimed by the critics as total “commercial failure”. The reviews criticized its lack of evaluation for graphics quality, poor synchronizations of characters movements display, and possible health hazard because of the discomfort while using the device. In 2001, with PlayStation 2 appearance, Nintendo introduced GameCube to global market. This product was largely praised for hardware design like the controllers and optical discs adoption, and software design like online games feature and high-quality games, meanwhile it was still criticized because of its lack of multi-media functions like CD and DVD support [5]. Although GameCube was able to bring profits from the development investment, it was still not close to its design target which is to take market share back from Sony PlayStation 2. By 2003, it reached to 13% market share, tying with the Xbox in sales but far below the 60% of the PlayStation 2 [6].

Satoru Iwata’s succession as Nintendo’s fourth president in 2002 is a landmark in 21st century of Nintendo history. Iwata conducted market data analysis and concluded that instead of continuously competing on hardware performance with other competitors like Sony and Microsoft, Nintendo should focus on “Game User Expansion” and award the innovations that could bring performance improvement of consoles games [7]. Under Iwata’s leadership, Nintendo went through top-down reformation in areas including department reconstruction, corporate culture transformation, and development strategy shift, leading to series of successful releases like Nintendo DS with dual screens design (2004) and Wii with wireless motion sensing controller (2005), both proven to be big commercial success in Nintendo’s history. Surprisingly, successors of both NDS and Wii, Nintendo 3DS (2011) and Wii U (2012) were both considered commercial failures – this result was due to combined reasons of loose marketing strategy, imbalance between hardware and software development, and negligence of portable gaming platform trend in markets, which is rise of iPhone and iPad [8].

Failures of Nintendo 3DS and Wii U did not stop Nintendo from bouncing back with new ideas. In fact, in 2017, the release of NS was such a success that it clearly shows the level introspection of Nintendo as a company. It absorbed and enhanced the best ideas from Nintendo products history and avoided the downsides or erroneous decisions which caused the company profit loss in history.

3. key success factors of nintendo switch

3.1 Consoles Markets Overview

News for NS was not revealed to public until October of 2016. Back then, Nintendo announced the secret code of “NX” which marked the company’s strategy to venture into mobile games section. This product was Nintendo’s response to the continues fiscal losses due to unsuccessful 3DS and Wii U; it was also the strategic resolution to aggressive market competition posted by mobile game industry and advanced multi-media functions supported by Sony PlayStation 4 and Microsoft Xbox consoles.

There are three types of competitive forces in global video game market for Nintendo to consider during the design phase of NS; specifically, the three forces are the traditional competitors from console markets, and personal computers game industry, and mobile game industry.

Firstly, traditional competitors from console markets like Sony PlayStation 4 (2012) and Microsoft Xbox One family (2013) continued with their hardware upgrade strategy, aiming at user experience enhancement in legacy areas provided by their predecessor products. The processing speed, graphics and sound quality, and storage capacity are improved compared to previous generation of consoles. Furthermore, Sony pioneered in Virtual Reality technique to develop and release PlayStation VR in 2016 with forward and backward compatibility to other PlayStation products. All combined together, as of 2016, console market occupied \$28.88 billion, which is 29% out of \$99.6 billion in total of global games market, according to an annual report released by Newzoo [9].

Secondly, the personal computers game industry took up \$26.89 billion, which is 27% from the total \$99.6 billion market [9]. The prosperity of personal computers game arose with development of online connectivity and digitalization of entertainment. Computer games, which are without dependency or cost on CD-ROMs or cartridges, have liberated both consumers and game developers from physical constraints like supply chain disruptions or inventory costs. Uniform distribution platform including Steam or online websites have significantly decreased the duration for iterative development of new versions, also provided precise and relatively cheaper marketing expense comparing to traditional distribution channel.

Thirdly, the largest market share was consumed by the mobile game industry, which was the latest emerging industry but also the fastest growing section of the business, occupying \$36.9 billion, which is 37% out of the total \$99.6 billion market [9]. The invention of portable device coupled with instant communication technology has pushed the new online business model – business to customer model to thrive. It opened up the space for independent game developers to contact customers and earn revenue directly from ads or embedded services in gaming applications. Since the rise of iPhones and iPad, online games have been transformed from form of service into form of media, the way of profit realization has been changed for mainstream companies as well. Consumers have shifted expectation for gaming expense as well – during 1990s, when games were produced as products in CD-ROMs or cartridges, the expense will be solely on consoles hardware and each games software. With popularity of personal computers, games became the subsidiary online service that can be purchased at a relatively low price free of hardware dependency. Then, in modern era where mobile gaming becomes dominant in video game market, consumers expected to play games for free, and companies would profit from advertisement or subscription fees for membership.

In summary, Sony PlayStation series remains rooted in its multi-media functions, high-resolution graphic, and strong relationships with first-party developers of good-quality games. Microsoft Xbox is highly praised for its refined controllers design, its lighter weight compared to PlayStation 4, also gradually introduced online game store service with cheaper games for membership holding customers; Xbox is also only a fraction of Microsoft business, therefore is backed up by abundant funds to support its hardware competition with Sony [10]. As for the mobile phones market, the portability, internet connectivity, and customized design are incomparably efficient for consumers, therefore it remains to be most profitable section until 2022.

Nintendo, compared to these rivals, has both apparent advantages and disadvantages. It owns series of classic game IP through over 30 years of cultivation, which guaranteed loyalty of certain customers group. It runs an over 100 years of history in entertainment business, witnessed financial crisis internally and externally but still managed to survive, and has summarized management innovation strategy and business direction from practical experiences. Furthermore, its blue ocean strategy and innovation culture has constantly pushed the business to be dynamic and ingenious. The disadvantages are obvious as well. Lack of multi-media functions, failure of two predecessor products, disadvantageous hardware capacity including graphics quality, battery and memory due to limitation of handheld device, etc. The full adoption of above advantages and cognitive consideration of disadvantages contributed to the birth of Nintendo Switch (“NS”), the iconic product that brings around \$60 million sales revenue until 2022, which has surpassed the sales of Sony PlayStation 1 and become the fifth best-selling product in console market [11].

3.2 Nintendo Switch Advantages

NS is released in March, 2017. From the hardware perspective, it is a hybrid console with combination of home console and portable device functions, with detachable Joy-Con controllers that support local multi players on one device. The Joy-Con can also be attached to grip accessory to form traditional home console controllers. From the software and marketing strategy perspective, Nintendo avoided majority of its previous mistakes that led to commercial failures in product history: negligence of market trend (Nintendo 3DS), disconnect between supportable games and advanced hardware techniques (N64), imbalance between hardware design and software game (Virtual Boy), lack of support from third-party game developers (Wii U), vague marketing strategy (Wii U), etc.

NS absorbed the most predominant advantage in Nintendo history: blue ocean strategy, iconic IP, good quality games, innovative players mode, motion sensing controllers, all-ages client target group. Its initial release was escorted by remake of two most famous IP, “Super Mario Odyssey”, and “Zelda: Breath of the Wild”. Both games absorbed feedback from fans to give users the freedom to explore the open world with puzzle-solving or side quests, with new technical elements including chemistry and physics engines, and both received worldwide acclaim for its novelty, originality, and playability. Breath of the Wild is best-selling video games of all time, selling over 26 million copies by 2022 [12]. The innovative Joy-Con controllers not only cover the traditional controllers’ functions, but also introduced more flexibility to players mode in both local connection and online connection. Nintendo also migrated the motion sensing feature from Wii to Switch, encompassing the widely acclaimed “remote control” designed to attract elderly customers. The adequate collaboration with third-party companies also contribute to the substantial online game stores resources, making sure there is no mismatch between hardware and software resources, the mistake that N64 used to make. On high level, although the design of NS was carrying out its corporate strategy which is to “expand game values instead of competing on hardware upgrade”, it still managed to achieve the balance between hardware and software, in which hardware upgrade and innovation is sufficient enough to support the design ideas of NS.

Overall, pricing strategy and marketing strategy also contributed greatly to success of NS. Compared to Sony PlayStation 4 and Xbox One that were actively traded at the same time, NS was priced as \$299.99 per unit, this is lower than PS4 or Xbox One of same level of functions within their series of products respectively. With regard to marketing strategy, NS adopted a refined strategy which was improved from the epic failure of Wii U release; back then, Wii U was positioned to the market so poorly that no one was even clear about what the difference was between Wii U and Wii, nor did they understand what benefits they could get from this new product. For NS, Nintendo committed to heavy but concise marketing activities to avoid similar mistake. The trailer of NS showcased the most important and most revolutionary features of this new product: a portable home console. The advertisement emphasized on the portability of NS to as a distinguishment from PS4 and Xbox, also spotlighted several players mode of NS to set aside from generic mobile games. The university of applications, the classic red and blue color matching design, the simple but precise

advertising, made sure that every unique innovation idea of NS was broadcasted to the market. The good public relation was another critical factor that contributed to NS success. Even though parents were not target client group for NS, Nintendo still managed to maintain good reputation among the group by adding “parent control” feature of the product [13]. This was the generous gesture that differentiated Nintendo from other consoles producer or game developers – they showed genuine concern for customers well-being instead of focusing on profit maximization.

4. Nintendo Strategy analysis

4.1 Innovation Management Strategy

Innovation ideas are the invisible wealth that any technology company would be craving to have. Regardless of innovation ideas on software like games, online functions, or algorithm of coding, or on hardware like outlook of product, hybrid player mode, or motion sensing controllers, any type of invention could become the lifesaving factor which companies can profit from. This is particularly the case for video game industry, where technology is iteratively fast-changing and competitive advantage can be flipped overnight because of an inspiration from a different perspective [14]. In fact, throughout Nintendo’s history, it managed to seize critical opportunities thanks to the loyal innovative talents at that time.

The innovation strategy of Nintendo can be summarized into three parts: product innovation, organizational structure innovation, and technological innovation. For product driven innovation, Nintendo strategy is to ensure it is centered around products original features, with hardware and software subordinating to such innovation ideas. “Product innovation” essentially refers to the originality, playability and user experience that are highly valued in designing process, of which developers can wield a significant power in budgeting or project planning if their innovation ideas were compellingly attractive to board of management. The award of revolutionary thought, the openness to user feedbacks and employee opinions, the inclusiveness of simple but fun ideas, the sense of diversification to embrace needs from non-core players, all constitute the healthy innovative environment of Nintendo nowadays. Amiibo is a typical product of such strategy. It essentially is the combination of new-area communication and anime character kits, but is fully assessed from different angle to the extent that new way of application is developed out of a “drained technology”.

The second priority would be organizational structure innovations. As a traditional Japanese corporation, Nintendo departments were reformed and restructured several times within its over 100 years of history. Until 2022, it has adopted a relatively stable structure in modern age: the progressive three layers of departments. First layer would be fundamental studies and data analysis, to provide decision support for the second layer department, which is responsible for product design and development. The third layer would be the core center of Nintendo innovation and inspirations, which is the market research and development department, concentrating on studying and improving core products of Nintendo IP, in both software and hardware [15].

For technological innovation, it has not been the strong side of Nintendo company compared to Sony, Microsoft and Apple Inc. Before 1990s, Nintendo traditionally was relying on imitation and purchasing of other advanced technology at their time. The stale 8-bit technology once caused Nintendo considerable amount of loss when being forced to compete with Sega Genesis console. However, after Nintendo grew mature in electronics industry, it actively explored in new technology areas such as VR, dual screens design, motion sense controls etc. This aspect is evaluated as the least priority because of “Blue Ocean Strategy” adoption by Nintendo – to never compete with existing products on hardware and technological advancement, but to explore in new markets. This is the reason why Nintendo innovation management is evaluated as product driven, organization structure directed, technological upgrade supplemented strategy.

4.2 Blue Ocean Theory

The notion of Blue Ocean Strategy was raised by W.Chan Kim and Renée Mauborgne in their published book in 2004. As a marketing theory that is raised to serve the purpose of increasing market values of companies, Blue Ocean strategy refers to companies' pursuit of differentiation and low cost in products to open up new market space and create new demand [16]. One of the underlying assumptions of this theory is that the market structure is subject to changes posted by market participants, so that market participants are able to find or create new market demands when the level of sheer competition in an existing market is too high. The core of this theory lies in "Innovation" – through innovation, companies are able to breakthrough existing structures and expand client base with low cost, hence profit and growth will accelerate [16]. This is in contrast with Red Oceans theory – in Red Oceans market, existing markets space is crowded with costly competitions, forcing participants to excel in existing functions without exploring new demands. In summary, Blue Ocean focuses on value via innovation, while Red Ocean focuses on growth via competition.

In early 21st century, Nintendo was trapped in classic red sea predicament, in which they are forced to compete with rivals on their disadvantages while neglecting its core values and unexplored business opportunities. For instance, N64 was invented to take down the rival at that time – Sony PlayStation – however, the rushed hardware upgrade of N64 was too advanced for software to catchup, causing loss of market share because of delayed delivery. Virtual Boy, and GameCube were another two failed attempts to fight Sony PlayStation2, but neither's performance was as expected. The rigorous challenges posted by Microsoft and Sony pushed the company to release generations of consoles too fast, without enough quality evaluation on new technology and without emphasis on innovations.

The disastrous result from this unsuitable strategy was that Nintendo lost significant amount of market shares to Sony PlayStation series. Luckily, the stop loss management concept governed by its fourth president Satoru Iwata was "blue ocean strategy" saved the company by introduction of two of the most successful products in history, Wii and NS. The strategy shift of Nintendo under governance of Satoru Iwata directed the product development to focus on value adding design, especially on customer base expansion. Unlike previous generations of products, Nintendo avoided to continue competing with Sony or Microsoft on graphical quality or multi-media functions but started investing in innovation ideas like remote controllers for "non-expert" consumers. At that time, competition in consoles market was so severe that game producers tend to invest in challenging games for dedicated, core players. Concerns from parents, criticism from public, restrictions from government were emerging for video game industry. Release of Nintendo Wii was a clever turn in Nintendo's product history – the motion sensing controller along with handful of mini-games attracted clients with its friendly design, cheap price, and more importantly, the simple fun in video games. Wii was a classic application of Blue Ocean strategy – instead of continuously competing on existing functions, a company chooses to look for uncovered customers and unexplored area. The design of NS inherited this concept of Wii to build "quality of life" products, and enhanced with other features like portability of device, online store membership, multi-players mode, and delicate design of challenging mode of games for core players. The backward compatibility was nicely accommodated by NS as well, with game versions from legacy generations of Nintendo consoles available in online store, which is another application of Blue Ocean Strategy guidance – to fully investigate the value of Nintendo owned IP and remake classic games to break the boundaries of value-cost trade-off situation.

5. Conclusion

Success of NS is a collective result of product development strategy, marketing strategy, and corporate innovation culture. In summary, NS carries forward the legacy from Nintendo IP, and meanwhile, avoids the mistakes drawn from previous unsuccessful releases. From product development perspective, NS absorbs advantages of Wii as home console and develops portability to

be more competitive to challenge mobile phones. From marketing strategy, NS continues Blue Ocean strategy to position itself as “gaming platform for everyone”, instead of focusing on core gamers only. From corporate innovation culture’s perspective, Nintendo undergoes department reorganization and innovation strategy shift to help company thrive in new generation. NS is the representative output of these transformations.

Looking into the future, there are more open areas for Nintendo to explore, and certain resolutions have been called upon to tackle pending issues. Although originality and innovation of games are equally important, hardware upgrades are of the frequent requests from the market: audio social functions add-in for the most popular games, memory increasing of the device, redesign of Joy-Con to fix the drifting issue, etc. On a broad side, Virtual Reality games are worthy of consideration for development. From marketing strategy side, it is highly recommended to reveal subsequent products information more frequently and communicate with consumers with more transparency. The current market reflection is that clients do not have timely notifications of upcoming games and devices – this might cause loyalty loss when new generation of Xbox and PS are being advocated frequently.

The open area of business for Nintendo will still be in entertainment industry, but of different sections. For example, the movie industry, theme park, or collaboration with Disney IP for gaming series – the last one is mentioned in this study because of similar target clients’ group and company positioning in entertainment industry – all-age, family friendly products. Although opportunities and likelihood of success in those areas are unknown, they still represent possible strategy direction to create Nintendo IP universe and provide cash flows independently from video game industry. With aggressive upgrade in hardware and low price competition in online games from PS and Xbox, Nintendo could consider to utilize its IP value and diversify business in various sections of entertainment business.

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