The Strategies of Piano Manufacturers: Crafts, Industry and Marketing

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The IAFOR International Conference on Arts & Humanities – Hawaii 2017
Official Conference Proceedings

Abstract

The piano was invented at the beginning of the 18th century in Europe, and thereafter was developed chiefly in Great Britain during its Industrial Revolution. New manufacturers appeared in the latter half of the 19th century to challenge the older makers such as Bösendorfer of Vienna and Érard and Pleyel of France. The advent of these new makers—Bechstein, Blüthner and Steinway & Sons—led to expanding intense competition. With Steinway's technological innovation, however, the centre of piano manufacture shifted to the United States. In fact, Steinway pianos are still loved today by professional pianists. Meanwhile, the latecomer, Yamaha, adopted a system of mass-manufacturing using automated assembly-line production. Yamaha, enabled by its marketing strategies, soon became a pioneer in the market of Japan and abroad. It went on to become the largest maker of musical instruments in the world, in terms of production quantities. Yamaha has a broad fan base, and it has been to some extent a threat to the Steinway business.

Steinway was established at a favorable time, when America's piano market was already expanding. Building on the piano manufacturing technologies already established in Germany, Steinway & Sons' technical innovations perfected the piano as a musical instrument, and the company successfully protected its patent rights. Yamaha, meanwhile, was founded when the piano was already a fully developed musical instrument, and the company successfully focused on how best to mimic manufacturing methods, and efficiently standardize and mass produce its products.

Keywords: marketing strategy, top artists, middle-level users, mass production, hand craft

Introduction

The piano was invented at the beginning of the 18th century in Europe, and thereafter was developed chiefly in Great Britain during its Industrial Revolution. New manufacturers appeared in the latter half of the 19th century to challenge the older makers such as Bösendorfer of Vienna and Érard and Pleyel of France. The advent of these new makers—Bechstein and Blüthner in Germany and Steinway & Sons in the United States, etc.—led to expanding intense competition. With Steinway's technological innovation, however, the centre of piano manufacturing shifted to the United States. In fact, Steinway pianos are still loved today by professional pianists. Meanwhile, the latecomer, Yamaha, adopted a system of mass-manufacturing using automated assembly-line production. Yamaha, enabled by its marketing strategies, soon became a pioneer in the market of Japan and abroad. It went on to become the largest maker of musical instruments in the world, in terms of production quantities. Yamaha has a broad fan base, and it has been to some extent a threat to the Steinway business.

Though there have been a number of prior researches in Steinways & Sons and YAMAHA, there are no comparative studies on the two leading musical instrument makers, Steinways & Sons and YAMAHA. Prior studies on Steinways & Sons have focused on a historical perspective (Lieberman, 1995), on its manufacturing processes (Barron, 2006), and on innovation (Oki, 2010). Studies on YAMAHA have focused on the strategy of the electric piano (Suzuki and al., 2011), on marketing strategies during a high economic growth period (Tanaka, 2011), and on its architecture analysis (Oki and Yamada, 2011). This research on musical instrument makers, being conducted since 2006, is a part of our experimental case studies.

The research framework was developed by conducting an extensive study on various research methods, which included both primary research (undertaking interviews and extensive readings of internal material), and secondary research (synthesis of various existing statistical and other data). In line with this research framework, we have combined qualitative research targeting a small number of other cases with quantitative research. This research style, employing both qualitative and qualitative methods, has the advantage of approaching both hypothesis discovery and hypothesis verification. We expect that our triangulation methods, which involve the simultaneous use of two or more research methods, will strengthen the objectivity of our results. As part of the qualitative research, we conducted interviews at length with Steinway & Sons, both in New York and Hamburg, and with YAMAHA Corporation in Japan. Interview conversations were recorded and transcribed.

1. Steinway & Sons

1-1. Early Stage

Steinway & Sons (hereinafter this is called "Steinway") was established in 1853 in Manhattan, New York, by Steinway and his sons, immigrants from Germany. New York at that time was already a cultural and manufacturing hub, and a centre for musical activities and piano sales stores[1]. In the same year the Steinway's immigrated, Chickering and Sons established a large-scale factory in Boston, and their mass production of 2,000 pianos per year helped to diffuse the piano throughout the United States.

Henry and his sons were craftsmen, and Steinway incorporated engineering technology into its business. The family made numerous improvements to the piano, including rim, bridge, and "action" assembly, keyboard structure, and soundboard innovations. By employing metal plates and overstrung strings (strings that crossed obliquely over other strings), and placing the bridge at the centre of the soundboard, etc., Steinway pianos produced strong and rich notes. Action response was also improved by enabling speedy hammer flow and simple repetitive striking.

An essential method of promoting and advertising their business in the early years was the participation in exhibitions and fairs, and the acquisition of gold prizes therefrom. In 1855, a semi-grand Steinway piano took first prize[2] at the Metropolitan Mechanics Institute Fair in Washington, D.C., and a Steinway square piano[3] was also awarded a gold medal at a New York Crystal Palace exhibition the same year. The judges described the piano as “having wonderful tonal strength, deep and rich low tones, gentle middle tones, and high tones with a pureness that practically shines”[4]. The square piano, which took up little space, became popular among the American middle classes, and Steinway & Sons captured 90% of the share of the American piano market[5]. The company also continued to make improvements on the grand piano, achieving a product that could produce, even in a large hall, sufficient volume, clear tones, with speedy and intricate touch action.

1-2 Growing Stage

Steinway considered its grand piano its main product, and in 1860, the company moved its factory to the northern part of Manhattan, and changed from hand- to factory-production. The Steinway overstrung grand piano was awarded a gold medal at the London Exhibition in 1862, together with eight (8) piano manufacturers, ensuring Steinway's reputation as America's top piano maker[6]. Earning medals in the piano's original home region, Europe, contributed greatly to its marketing activities in the United States.

William Steinway, who succeeded to his father's business, played the piano and loved music, and was a patron of opera, orchestras, and pianists. Like his customers, William lived in a mansion, had friends in the upper classes, and sold them Steinway pianos to place in their parlors and promote his business. In 1866, the Steinway Hall, with capacity for 2,000 persons, was constructed next to the Steinway showroom, such that persons had to pass by the showroom to get to the Hall. Steinway also had deep relationships with musicians, as represented by his invitation of Rubenstein, active at that time in Europe, to the United States. In 1872, Rubenstein began a tour of the United States with the Steinway piano; the example of his all-America tour was followed by other famous pianists, Paderewski in 1891, Rachmaninoff in 1909, Horowitz in 1928, and others. Classical music flourished in the late 19th and early 20th centuries, and pianists of the time loved Steinway pianos. Famous musical performers tended to avoid Europe due to political instability there in the late 19th century and looked for the opportunities in in the United States, plus the lack of arts patrons due to the decline of the nobility. Steinway continued to improve the musical tone and touch of its pianos to meet the needs and desires of these great pianists.

William Steinway further evinced his marketing genius, selling pianos to Alexander II of Russia and to the banking Rothschild family, among other notables. In the midst of repeated intense competition from Chickering, the placement on its pianos of certificates of quality from European royal families and famous musicians from every country enabled Steinway to advertise itself as Purveyor to Imperial Households, and rapidly increased its sales. All of its materials except for ivory for keyboards were made at its own factory; a second factory was established, and the introduction of scientific analysis of wood seasoning helped to improve Steinway's quality control.

The Steinway invention of the regulation action pilot (capstan screw) is said to be the birth of modern grand-piano action[7]. Around half of the 114 Steinway patents were acquired in the first 40 years after the company's founding, with 55 patents received, including overstrung strings and hammer improvements, etc., in the period from 1857 to 1887. European makers also adopted the "Steinway System," which included the metal frame and crossed strings invented by Steinway. Steinway invented metal for plating that could withstand 34 tons of strength, which was adopted in Europe, and America became the world centre of piano production.

1-3 Mature Stage

While 25,000 pianos were made in America in 1869, at the peak in 1905, 400,000 pianos were manufactured[8]. Manufacturers of cheap mass-produced pianos increased, and pianos were found in the homes of ordinary families. Although there were ups and downs in the market, thereafter followed a declining trend, until in 1927, only 200,000 pianos were made. Steinway, however, had specialized in selling expensive grand pianos to the luxury market, and was thus not largely affected by economic downturns; in fact, sales of its grand pianos themselves increased to double. While Steinway added small-sized pianos to its medium-sized pianos for the family market, and aggressively marketed these, it also emphasized its ability to manufacture upright models. However, with the diffusion of television, people's interests rapidly turned away from the piano, and orders fell far short of production capacity.

As for Europe, Steinway made London its base with the purchase of a sales company there in 1877, and it also established its factory in Hamburg. Germany was selected for a number of reasons, including monetary exchange rates, a rise in labor wages in the United States, different atmospheric humidity from America, lower transportation costs, etc. While at the beginning, the same parts and the same design plans and manufacturing methods were used to make pianos in Europe as those used in New York, gradually different parts were used, and pianos made in Hamburg became to have different tonal qualities than those produced in New York. Most of Hamburg's pianos were shipped to European and Asian markets, which helped to support Steinway profits throughout the firm.

Family control of the firm ended with the fifth generation of Steinways, and the company was sold to CBS in 1972. CBS strongly sought income from the company, seeking efficiency by reducing inventory and via firm shrinkage during "dry" periods, and once again concentrated on the production and sales of profit-generating grand pianos. In 1985, a group of investors[9] bought several companies in the CBS musical instruments domain, and established Steinway Musical Properties. Nevertheless, demand for pianos declined, and nationwide production in the United States declined to less than 100,000 units[10], and the company was sold again, this time to investment bankers[11]. Management rights were transferred to the Selmer Company, a wind instrument maker, in 1995, which changed its name to Steinway Musical Instruments. With group brand reorganization in 2003, Conn-Selmer, Inc., was launched, and with other purchases of musical instrument companies—United Musical Instruments in 2000 and the LeBlanc Group in 2007—the world's largest general musical instruments manufacturer and sales group was formed. But again in 2013, the investment management firm Paulson & Company acquired Steinway Musical Instruments, Inc. for $512 million.

Under CBS, Steinway collaborated with Kawai Company in 1991 for the company's second brand, Boston Piano, and from 2007, there have been aggressive business partnerships for the company's number three brand, Essex Piano, with Young Chang of Korea and Pearl River of China, all with the aim of improving brand image and presence[12].

Steinway did not adopt the automated assembly line production method that had been developed in the late 19th and early 20th centuries to increase productivity; rather, Steinway produced pianos carefully by hand using minimum equipment. Thus, annual production for shipments to North and South American companies at the American factory were 2,400 units by 600 employees, and for shipments to other regions, including Japan, annual production of 1,300 units by 450 workers at the Hamburg Factory[13]. Altogether, Steinway has provided less than 590,000 pianos to the market. Design plans are kept in a safe, with piano-making know-how shared with workers on-site. Including painting, there are just less than 20 processes performed to make a piano, with Piano Masters (Meisters)[14] located in each company department.

It is said that 99%[15] of professional pianists around the world use a Steinway piano, as its high quality is guaranteed. Around the world, the company recognizes 1,300 pianists and musical ensembles as Steinway Artists. When performing, a Steinway Artist may select any one of numerous Steinway pianos from the company's Piano Bank, and selected pianos are tuned and set in place by a Steinway representative office. This thorough service aims at keeping top artists within the Steinway sphere.

2. Yamaha

2-1 Early Stage

Yamaha's history began in 1887, when Torakasu Yamaha successfully produced a reed organ. In 1889, he established Yamaha Fukin Seizosho (literally, "organ manufacturing firm"), the forerunner of today's Yamaha Corporation, which proceeded with mass production for customers related to education (schools)[16]. The firm began manufacturing upright pianos in 1900, with the first production of grand pianos in 1902. As the economy and culture of Japan had a major boost from the Russo-Japanese War (1904-1905), Yamaha sales enjoyed remarkable growth. Woodworking and painting technologies were performed in-house, enabling Yamaha to also begin manufacturing high-class wooden furniture in 1903. The company began producing harmonicas in 1914, which it exported to countries in Europe and America, and it further added production of xylophones, tabletop pianos, and tabletop organs, as well as other instruments.

In 1927, as a part of a company reorganization, Yamaha's third president became Kaichi Kawakami, who came to the firm from Sumitomo Electric Wire & Cable Works. Under Kawakami, the company moved towards rational production, changing its emphasis from personal knowhow to scientific methods. An acoustic laboratory was established in 1930, and the company developed until it finally supplied 85% of Japan's domestic demand for Western musical instruments[17]. Although wartime production was shifted to military demand, such as the manufacture of wooden propellers for aircraft, its piano and harmonica business once again flourished after the war, and the company established a diverse market base. Yamaha expressed its realization that "musical instruments could be used semi-permanently, that only persons who would play an instrument would buy an instrument, that there were limitations to the wood used as a raw resource, and that cost increases could not be reflected as is in product prices"[18]; the company thus added production of products other than musical instruments, including the motorbike. Yamaha Motor Co., Ltd. was established in 1955. Work also progressed on research of fiber-reinforced plastics (FRP) at the company's R&D Laboratory, with development of FRP bathtubs and sporting goods. The accumulation of various technologies within the firm also contributed to piano manufacture.

2-2 Growing Stage

Genichi Kawakami became company president in 1949, and constructed company headquarters in the Ginza, Tokyo, a complex that may well be called a "temple of music." Yamaha Hall was opened in 1953, and it, too, became a symbol of the company's cultural image in Ginza. Kawakami stressed the need to create good products at low prices, to increase general demand as well as at schools, to succeed in competition even against overseas products, and to increase exports[19]. In 1954, Yamaha opened a Music Experimental School for children, precursor to the Yamaha Music School that followed in 1959, (originally called the Organ School, established in 1956). By 1963, there were 200,000 students at 4,900 school sites, with 2,400 teachers. Yamaha Music Schools were established in the United States in 1964, followed in 1966 in Thailand, Canada, and Mexico, and then in West Germany, Singapore, Taiwan, the Philippines, Australia, the Netherlands, Norway, Hong Kong, South Africa, Italy, and Austria. The Yamaha Music School thus became a worldwide presence. The Yamaha Music School differed from past music schools, with their strict educational methods and insistence on technique; the Yamaha classes focused on the enjoyment of music, a novel concept in that field, helping in the rapid diffusion of these schools around the globe. To help ensure that school pupils would also purchase Yamaha products, the company rapidly established a nationwide Japan system of sales stores and exclusively licensed sellers. Yamaha provided thorough instructions and guidance to these stores to ensure that all shared a focus on the same Yamaha mission. Yamaha Music Schools were established in the stores, which became hubs for both sales and public relations for full penetration of the YAMAHA brand. The company also established subsidiary companies overseas, beginning with Dalian, China, in 1908, followed by Mexico in 1958, Los Angeles in 1959, and Singapore and Hamburg, Germany, in 1966. These subsidiaries thus covered Yamaha business actively together with music schools. Yamaha also used competitions as a means of promoting musical activities, starting with an electronic organ (Electone) competition from 1964, followed by a Light Music Contest from 1967, a Musical

Composition Contest from 1969, an International Popular Song Festival from 1970, and the Popular Song Contest (POPCON) and Junior Original Concert from 1972, and so on. Thus Yamaha strove to promote music other than just Western classical music.

Scientific quality-control methods were introduced in musical instruments production, and advances were made in assembly-line piano manufacture, helping to place Yamaha among the world leaders of musical instrument production. The construction of a wood-drying facility in 1956 enabled a major reduction in wood-drying time, and other research and development efforts led to the establishment in 1960 of a piano technology school, for the training of next-generation piano specialists. Pianos have high tensile strengths, meaning that they must be regularly tuned and maintained. By training its own piano tuning specialists, the company was able to maintain direct, long-term communications with consumers.

Yamaha manufactures a variety of musical instruments. Yamaha entered the wind instruments business with its purchase of and merger with Nippon Kangakki in 1970, and further boosted its reputation in that market via collaborative development with the Vienna Philharmonic Orchestra. Today its chief products are flutes and saxophones, which it markets by sending instructors of brass band to schools throughout Japan for the diffusion of wind instruments. Yamaha was a late entrant in the stringed instruments market, which began with the production of the "silent" violin in 1997 and violins in 2000. Meanwhile, Yamaha had an early start in electronic instruments. Sales of the Electone electronic organ began in 1959, after which it began to apply its accumulated knowledge in the audio and audio speakers markets.

2-3 Mature Stage

In these ways, Yamaha has challenged a wide variety of diverse domains, but with Japan's social and economic instability, the company has sought a return to its core market, pianos, restructuring when necessary by exiting unprofitable business areas [20]. Yamaha has a 70% piano market share in domestic Japan, but inasmuch as the piano is on the decline in all developed economies, Yamaha has also sought to increase its presence in other instruments, and also to pioneer piano consumers, as well as to expand its Music Schools, in new and growing markets, including China and Indonesia. Asia is now its main target zone in terms of volume.

As a general music instruments maker, Yamaha has a relatively weak presence in high-end acoustic instrument markets. Although the company's reputation in wind instruments, where it has a 24% market share[21], has grown through its efforts with first-class world orchestras, Yamaha's flagship products remain electronic instruments like the electric piano and synthesizers, drums, and other electronic and popular music products[22]. While the company has said to have had Steinway in its sights, it had not made major incursions in classical music. In 2008, it thus purchased L. Bösendorfer Klavierfabrik GmbH, the old European maker. Its stated aim was to foster interest among top artists, to increase their ability to make piano choices, and to show Yamaha's desire to protect its business from new manufacturers in China and elsewhere, demonstrating that Yamaha is still very much a presence in world markets[23].

Conclusion

Steinway was established at a favorable time, when America's piano market was already expanding. Building on the piano manufacturing technologies already established in Germany, Steinway & Sons' technical innovations perfected the piano as a musical instrument, and the company successfully protected its patent rights. Yamaha, meanwhile, was founded when the piano was already a fully developed musical instrument, and the company successfully focused on how best to mimic manufacturing methods, and efficiently standardize and mass produce its products. At this time, Steinway had already forged its relationships with the world's top artists, and as a late entrant without proprietary technology, Yamaha had to pioneer its own way among musical beginners and in the middle classes. Yamaha built its business base by introducing its instruments into the public schools, as part of the trend during Japan's Meiji era (1868-1912) to introduce and spread Western-style music within Japan. With the piano still not a household item in Japan, Yamaha established Music Schools to help expand its customer base. Yamaha Music Schools rapidly expanded throughout Japan and abroad, raising in diverse ways YAMAHA brand recognition, with the result that Yamaha became a familiar name around the globe. The marketing strategies of the two companies differed: Steinway cultivated the classical music world, and Yamaha took on the challenges of the middle-level "volume zone". Yamaha has stated that profits do not emerge solely from having the highest quality products used by musical professionals; rather, the company was successful in selling without having to try to compete in the top-brand market with products used by professional performers[24]. Since it had a diverse instrument line-up with a sales network covering both domestic Japan and regions abroad, Yamaha also realized that its dealers could not stay in business merely by selling top brands[25]. While the many traditional instrument makers could narrow their targets to instruments specialized for classical music, Yamaha was able to maintain a steady cash flow by targeting a broader consumer base. Its early focus on electronic instruments also meant that it could acquire mass popularity in markets where no flagship brands existed, which helped the company grow to become the large corporation that it is today.

Due to the low prices of upright pianos, most of Steinway's production of these pianos is performed via collaborations with other firms. Meanwhile, to strengthen its appeal to top artists as well as overcome competition by low-priced Asian mass producers, Yamaha is aware of its need to have leading top brands, and thus its acquisition of Bösendorfer. Yamaha has been making pianos now for over 100 years, and pianists now have greater opportunities to select a Yamaha piano in a competition. It is thus thought that, in actual practice, the difference in quality between the two company's products has become very minute. Steinway, with its long history, is no longer a single family controlled company, and has become a segment of a large-scale instruments group requiring rational brand management. It will be essential to watch how changes between Steinway and the Yamaha strategy develop into the future, as Yamaha has now become a comprehensive musical instruments manufacturer.

This work is supported by Grant-in Aid for Scientific Research (B): JSPS KAKENHI Grant Number 21330102.

note

[1] There were 204 Piano shops in New York and Boston in 1853.
[2] Barron, J.(2006)*Piano : The Making of a Steinway Concert Grand,* Times Books, Japanese translation version, p.153.
[3] About 1760-65, Johannes Zumpe built at London, the first English square piano. This evolved from reconstructed clavichords, retaining the clavichord general construction, but having a stronger frame, metal strings and hammer action. (Alfred Dodge (1911) *Piano and Their Makers: A Comprehensive History of the Development of the Piano from the Monochord to the Concert Grand Player Piano,* p.48.)
[4] Lieberman, R.K.(1995) *Steinway & Sons,* Yale University Press, Japanese translation version, p.20.
[5] 97% of American pianos were square pianos before American Civil War.
[6] Eight makers such as Broadwood, Playel and Bechstein, and etc. gained the first prizes. American piano makers had already acquired a high standard of reputation, and 80 American pianos won some prizes on that exhibition.
[7] Barron(2006) in Japanese, p.161.
[8] *Ibid.* p.199.
[9] Two brothers in Massachusetts, John and Robert *Birmingham*.
[10] 94,044(1995)
[11] *Kyle* R. Kirkland, *Dana* D. *Messina*
[12] Though Essex brand's piano has a sophisticated design, the final adjustment is supported by sales agency. That means final quality depends on the skills of its agency.
[13] Steinway & Sons, President in Japan, Mr. Suzuki.
[14] Klavier Baumeister
[15] in 2009
[16] Nihon Gakki Manufacturer (Yamaha Co. Ltd.)（1978）*Company History*, Bunpousya,　p.13.
[17] *Ibid.* p.62.
[18] *Ibid.* p.152-153.
[19] *Ibid.* p.124.
[20] The sales composition ration of Piano was 16.8% in 2009. Within the total company sales of 413 billion yen, the piano sales prospects 69.4 billion yen (acoustic piano 40.1billion yen, electric piano 28.7 billion yen, hybrid piano 0.6 billion yen in 2010.) Yamaha Co.（2010.4）
[21] Interview in Yamaha 2009.8.5 at Toyooka Factory, second share Corn-Selmer 13％
[22] Yamaha Corporation Mr. Tanaka Misao.
[23] Yamaha Corporation Mr.Miki Wataru.
[24] *Ibid.*
[25] *Ibid.*

References

Barron, J. (2006). *Piano: The Making of a Steinway Concert Grand*, NY: Times Books.

Lieberman, R.K.(1995). *Steinway & Sons*, New Haven: Yale University Press.

Maema, T., Iwano Y. (2001). *Nihon no piano hyakunen : Pianozukuri ni kaketa hitobito*, Tokyo: Soushisya

Nihon Gakki Manufacturer (Yamaha) *edt.*（1978）.*History of Yamaha*, Nagoya: Houbunsya.

Oki, Y.（2010）The History of Piano Maker's Innovation in Europe and the U.S., *Kyoto Management Review, 17*, 1-25.

Oki, Y., Yamada, H.（2011）.A Study of Product Architecture on Musical Instruments -Why only YAMAHA could be a major company in musical instrument industry?, *Waseda bullen of international management*, *42*, 175-187.

Suzuki, N., Kobayashi E., Takahashi R. (2011) .Entry to the electric piano market of Yamaha and its process of competition, *Hitotsubashi Business Review*, 2011 SPR, 102-117.

Tanaka, T.（2011）.The Competitive Advantage of Nippon Gakki Co.'s Marketing Strategy: Hearing the Voice of the Piano & Organ Market during the High Economic Growth Period in Japan, *Business History Society of Japan*, *45(4)*, 52-26.

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