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The Virtual Idol: Hatsune Miku

*From a Music Synthesizer Software to
an International Pop Diva*

B.A. Essay

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Abstract

Hatsune Miku's voice synthesizer software was released in the year 2007, bringing her incredible potentials to massive online collaboration for music and art, towards her pioneer role in the virtual celebrity industry. It is hard to imagine that one day, international concert tours will be held for a translucent, preprogrammed 3D hologram images. Hatsune Miku's fame is based on countless original and second creation works that are a mixture of contributions from all of her song composers, illustrators, music fans and from many other industries. While people are trying to create more content for Miku, it has consequently put more humanity into Miku's digital body, and eventually a character is being knitted together by all of her fans.

The current thesis will mainly explore Miku's road to fame from three different stages: the development stage of Hatsune Miku, the massive online collaboration base which has worked on Hatsune Miku software, and Hatsune Miku's image transcending from the two-dimensional to into the three-dimensional world and having real influence on her fans as a pop Idol character.

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Introduction

Music can be a powerful tool to connect people across boundaries regardless of religions, languages, or countries. By using the rhythm of the music and melody, we can express our emotions and feelings to and for one and others. All cultures have popularized singers and idolized pop stars some of which are known and adored all around the world. Justin Bieber, from Canada, or Blackpink, a popular girls idol group from South Korea, are current examples of this global recognition. There is plenty of diversity in the characteristics of the world's idolized pop stars, however, generally, they all have the underlying commonality that they are individual human beings of flesh and blood. This fits well into the definition of the idol by Merriam-Webster, which states an idol is "*a person who is the object of extreme or uncritical devotion*" (Merriam-Webster, n.d.). Yet in Japan's case, the human aspect of artists admired is being challenged.

Ba-cyaruaidoru or in English—virtual idols, are breaking pop star idol norms by bringing non-human personas from the second dimension into a third-dimensional real-world context. This new phenomenon in Japan of virtual idols come from a variety of sources, such as Japanese Animation films, music, or games. Recently even Virtual Youtubers or V-tubers have begun appearing as virtual beings, V-tuber being a digital avatar in a form of Anime characters and controlled by a human being in the backstage. According to the CEO of Duo Inc., a Nagoya based management agency for virtual Youtubers, people are willing to transform themselves into a virtual Youtuber character as they wish to express themselves but at the same time, they are too shy to post videos of their actual selves. These V-tubers do whatever a human Youtubers will do, try new apps, play games, entertain audiences with their talents, yet with the anonymity offered by having a virtual persona (Nagata K, 2018).

Years ago, before today's technological developments, it would have been unfathomable to have considered that virtual characters could emerge in this way. Not only this but to be adored even to the extent of being financially supported by fans.

However, in the early 21st century, now a world with this advanced technology, pop-culture is also experiencing transformation.

One of the more notable non-humans, pioneers of this virtual idol transformation is the Hatsune Miku, a cutesy female virtual singer character. According to Hideki Kenmochi (2010)– the developer of the Vocaloid system (a voice synthesizer platform for Hatsune Miku voicebank): “The most popular Vocaloid product is Hatsune Miku”, and according to the official website for Hatsune Miku concert Miku Expo (2020): Hatsune Miku will be the first virtual idol to debut at one of the most popular music festival in the United States, Coachella in the year 2020 (Shaffer, 2020).

Consequently, this paper will primarily look through the Hatsune Miku phenomenon in Japanese society, what lies behind this new phenomenon, how a new approach to cooperation appears. By gaining an understanding of these connections, we hope to understand the reason for which Hatsune Miku has become an icon for virtual celebrities and one of the most internationally active virtual idols divas.

Chapter 1: Who and What is Hatsune Miku?



Image 1. Official Hatsune Miku illustrations by KEI (left) and iXima (center & right)

Hatsune Miku is the name of a voicebank software released in 2007 by Crypton Future Media Inc. It was created based on the Vocaloid synthesizer, a commercial singing synthesis software created by the Japanese instrument company Yamaha in

cooperation with Pompeu Fabra University (Voice and Audio Processing, N.d.). Crypton Future Media company from Japan was one of the first companies to cooperate on this work with Yamaha and got its license to develop voicebanks for the Vocaloid system from the Yamaha company. (Asami, 2015) Hatsune Miku is the second generation of the voicebank series developed by Crypton, and her voice donor is the popular voice actress Saki Fujita (Who is Hatsune Miku. N.d.) The resulting collaboration was an unexpected, incredible success.

Hatsune Miku is a voicebank, which is a virtual singer voice library that consumers can use interactively on the Vocaloid system and create their original songs from scratch (Kenmochi, 2010). Music creation that is made on the Vocaloid system, can be categorized under Vocaloid songs. It is noticeable that the producer's names of Vocaloid songs, will be followed by a capitalized P which means she or he is a Vocalo-P or in English, simply a Vocaloid producer, with the "P" standing for the producer. Most of the Vocaloid users will not use their real name for video or music updating, so for example, the nickname of the producer of Vocaloid song *Senbonzakura* is called KurousaP (Producer, 2013).

According to the official website of Crypton Future Media, as a virtual singer character, the name Hatsune Miku means *The first sound from the future* (Who is Hatsune Miku. N.d.) and the basic concept of the character is: a sixteen-year-old girl in a costume that looks like a school uniform. She is 158cm tall, weighs 42kg, her characteristic blue-green colored twin-pigtails that represent her energetic youth and innocent cuteness ("All About Twin Tail Hairstyle and Japan's Pigtail Hair Idol Group", 2016). On her left sleeve, there is an operation panel representing one of the most popular digital synthesizers, DX-7, that YAMAHA put on the market year 1983. Furthermore, the black and white color of her uniform represents the color of piano keys (Asami, S. 2015). The design of Hatsune Miku also received global recognition when it was awarded the Good Design Award in the year 2008 (2008 Year Awarded, n.d.).

Crypton Future Media's basic concept of the character creation was to create a series of characters that had a relational connection to one and another, a *second dimension* universe created by using the software. (Asami, S. 2015) Instead of selling computer software, Crypton is selling the concept of this "virtual singer". According to CEO of Crypton Future Media, Hiroyuki Itoh, they carefully selected illustrator KEI as the official illustrator of Crypton Future Media, because KEI's art is in the Japanese anime style and at the same time very futuristic, so it fits the image of how Hatsune Miku should look (Itoh, H. & Satou M. 2012). Hatsune Miku's design fits perfectly into one of the popular Japanese ideology – *kawaii*, which stands for cuteness, innocents, and being pure (Jisho, n.d.). Ultimately, everything that can be associated with being *kawaii* is popularized in Japanese society within the Japanese beauty standards to the extent that a vast number of industries can be seen as striving for *kawaii* advertising in their marketing tactics (Cheok, A. & Fernando, O. 2012).

The developers at Crypton learned from their first female virtual singer creation 'MEIKO' that release in 2003 for first-generation Vocaloid software. Consequently, they created Hatsune Miku to be a younger and cuter version of MEIKO, building on the *kawaii* ideology. The updated *kawaii* factor is one of the key points as to why Hatsune Miku, as well as other Crypton virtual singers that later followed, have experienced much more popularity than all other virtual singer software (Itoh, H & Satou M. 2012). Crypton had conquered an ideal market position for Hatsune Miku, consequently in designing the follow-up software they then took the opportunity to expand the business with Hatsune Miku characters not only within the music industry but also in other industries such as gaming, Manga (Japanese comic books), advertising, action figures, etc.

With all of the different producers contributing to her repertoire over the past thirteen years, since Hatsune Miku was first released, there have been approximately one hundred thousand original song tracks made just for Hatsune Miku. Furthermore, these original songs inspired numerous fan videos and other artistic creations contributing to Hatsune Miku's idolization (Who is Hatsune Miku, n.d.). Hatsune Miku will have countless original songs because all of the consumers of the Miku

software, and these consumers automatically become one of the thousands of professional/amateur producers of Miku, bringing her countless resources for marketing in the future. Compared to traditional singers and pop idols, Hatsune Miku possesses massive resources just to herself. Meanwhile, talented individuals will be using Miku as their opportunity to express their talents and to become discovered by other individuals on the internet and by the general public, without requiring the comparative funding it may otherwise have taken without the Vocaloid platform (Kobayashi, H. & Taguchi T. 2019).

When the keyword “Hatsune Miku” is entered on Google Search mid-April 2020, around 33 million results appear in English. If the keyword is put in Japanese, “初音ミク” about 45 million results will appear. Showcasing that Hatsune Miku's main consumer base is still largely based in Japan, however, Hatsune Miku's international potential is foreseeable. Hatsune Miku’s international concert – Miku Expo 2020, be held in five European countries as well as Canada and the United States, 19 cities in total (Miku Expo, n.d.).

Chapter 2: Development Story of Hatsune Miku

2.1 The background of Vocaloid

Yamaha, one of the biggest corporations in Japan for music-related products, released a commercial singing synthesis software called Vocaloid in the year 2003. The software was developed with the co-operation of Voice and Audio Processing Lab from Pompeu Fabra University, Barcelona, Spain (Voice and Audio Processing, n.d.).

The idea behind the development was that the users of Vocaloid would be able to use the software to add vocals to their original song projects, and by purchasing extra voicebanks they could choose any virtual singers they would like to make use of. Most importantly, by using the Vocaloid software, consumers could complete a song creation without the need for having professional singers and booking studios that

normally would involve a big financial commitment. It lowered the barrier for people that wished to try to create their music products, allowing them to express their talents with little financial effort (Kobayashi, H. & Taguchi T. 2019). Based on Yamaha's Vocaloid system, Yamaha's partnership companies used the technology to create their own virtual singer voicebanks series. Companies such as Crypton Future Media have used the voice of a singer or a voice actor as the provider to create voicebanks series. As the voice provider provides all the sound needed to create a song in the language the company requires. Hatsune Miku's voice donator Fujita Saki told reporters, that she needed to record English words to develop the English version of Hatsune Miku (HatsuneMiku, 2013). Companies will upload their voicebank products to Vocaloid official online shop, users could purchase the Vocaloid system on the website, on the meantime finish shopping for virtual singer voicebanks all at once. However bigger companies such as Crypton Future Media have been selling their product on their official website.

The oldest version of the Vocaloid series is the Vocaloid synthesizer system that released in the year 2003. Soon after that, the year 2004, Crypton Future Media and another English company ZERO-G start to release their voicebanks base on the first generation of the Vocaloid synthesizer. In this paper, this generation will be referred to as "the first generation" (Asami, S.2015).

The second generation of the Vocaloid system, known as Vocaloid 2, was released in the year 2007. Voice libraries base on Vocaloid 2 is the golden age of Vocaloid characters. By the lead of Hatsune Miku's success, many popular Vocaloid characters appear from this generation. Many Vocaloid fans regard this as the year of transformative change concerning how Vocaloid operates. Third-party companies willing to develop Vocaloid voicebanks have since increased from the release of Vocaloid 2 to six companies, compared to the previous two companies, in addition to Yamaha's developed voicebanks where Vocaloid began (Asami, S.2015).

Normally similar software is considered as successful after selling 1000 units. Yet after releasing Hatsune Miku until the year 2014, the Hatsune Miku software miraculously sold over 110,000 units in total (Asami, S. 2015). The Success of

Hatsune Miku gave Crypton Future Media Inc. more incentive to develop more versions of the Hatsune Miku and maintain her updates. The newest version of Hatsune Miku, called Hatsune Miku NT (NT stands for New Type) , is expected to be released in the summer of 2020, according to the official blog of Crypton Future Media, *blog.piapro.net*.

History of Hatsune Miku updates, Made from Crypton Character official site (Piapro.net, n.d.) :

Release year	Name of the product	Important Update
2007	VOCALOID2 HATSUNE MIKU	The first Hatsune Miku Virtual Singer Software
2010	MIKU APPEND	Update some six different voice of Miku: Sweet, Dark, Soft, Light, Vivid, Solid.
2013	HATSUNE MIKU V3 & Band Version &HATSUNE MIKU ENGLISHV3	Update better voice base on the first Hatsune Miku software and Miku Append. Have a better appearance in pop, rock, and dance music. Editor switch from Vocaloid2 to Piapro editor developed by Crypton Future Media Inc. From this version Hatsune Miku English ver.
2016	HATSUNE MIKU V4X (The newest version)	Update quality base on all versions above. Adding stronger articulation

	&HATSUNE MIKU V4X Band	Adding weaker articulation
	&HATSUNE MIKU V4 English	Adding Voice Release
	&HATSUNE MIKU V4 Chinese	Adding Chinese Version.

Base on this updating information chart, we will notice that Crypton is not only focusing on perfecting Hatsune Miku for Japanese consumers, but also focus on spreading Miku's influence internationally by releasing Miku in two of the most used language in the world, English, and Chinese. Globalizing the Hatsune Miku phenomenon seems to be a huge business target for Crypton Future Media.

2.2: The Hatsune Miku Character

The appealing appearance of the package design could be considered as one of the most important qualities for a product. For example, just as a lemon-scented shampoo will display lemon slices on the packaging to give consumers a visual, straight-forward idea of the product's contents, for a virtual singer software, it is very appropriate to put a humanoid character as the package design. According to Crypton's CEO Mr. Itoh, they were hesitant about MEIKO's package design from the very beginning, they also

considered using the voice donor's picture on the package. However, in the end, Crypton decides to use an animation character. Mr. Itoh explained in an interview that "Because Japan is an advanced animation and comic book country, and coincidentally there is a staff who can draw in our company, so we had him draw an animation character and put on the package." This turn out to be a successful strategy to attract consumers in the Japanese market, MEIKO was sold for about 3000 units which would be considered as satisfactory result for a vocal synthesizer software at that

time, this intern set a firm foundation for Hatsune Miku's development (Itoh H. & Satou M. 2012). The success of MEIKO incited Crypton Future Media to create a singer series. So, after two years, they released KAITO, a male voicebank, which similar to first-generation MEIKO, Crypton also put a designed character for KAITO on the package. Unfortunately, MEIKO's success was not repeated. In that instance, KAITO only sold 500 units, compelling Crypton to reconsider their marketing strategies by putting more effort into developing female products than the opposite sex (Okada, 2008, February 22).

Crypton suspected that because most of their customers base were males, to create better profit for their productions, Crypton accommodates the needs of male consumers, creating characters with feminine stereotypes, Hatsune Miku was born as a skinny, pale-skinned, youthful female characters with cute high pitch female voice (Lam, 2016). Until today, the only male voicebank character that has followed KAITO is Kagamine Ren, yet even he came out as a package deal with another female character, Kagamine Rin, who was his twin sister.

As a positive result, Hatsune Miku brings great profit to Crypton, not only as virtual singer software but also as a commercialized character. Crypton Future Media has adapted its market strategy to focus much more on the characters, identities rather than developing the voice software. This can be observed in their ventures to create a voice library that includes voice features completely differing from human voice types as they go far beyond human vocal ranges. Crypton then also continually designs the characters to go along with the voices to collectively develop a virtual singer's persona. In the case of Hatsune Miku, instead of using a professional singer as voice donor, Crypton carefully selected Saki Fujita's voice sample from among 500 samples from different voice actresses. Saki Fujita's voice fits the image of Miku and as a voice actress, she will be good at representing and acting out as the character of Miku. Crypton wishes that the audiences not treat Hatsune Miku as a replica of a singer, instead, they have built up Hatsune Miku as an independent character.

However, Crypton did not preset a personality for Hatsune Miku, on the official website, there is only basic information about Hatsune Miku's physical appearance

and the color she represents (which is turquoise) (Itoh, H & Satou M. 2012). The blank elements of Miku's personality waiting to be filled by fans piece by piece.

Crypton encouraged all of the Hatsune Miku consumers from all sides to complete Miku's character, in different ways. Especially after Crypton releases the *Piapro Character License*, the second creation of Hatsune Miku is springing up until today. As Hatsune Miku's character designer, KEI's feeling towards second creations that based on his original character design is very complex. KEI said he feels both happy and hesitant of what is going on, but he realized that Hatsune Miku's character does not belong to any individual. "she is her own thing, her own Miku." Said KEI (Chang, D. 2014).

According to Mr. Itoh, During Miku's development stage, Crypton was actively updating the development information on Crypton's official blog. For example, little sample of the voice record or the sketch of what Hatsune Miku might look like. Due to this reason, a recognition of Hatsune Miku's was being created before the official release, and these long-expected potential users of Hatsune Miku were already eager to purchase the software. (Itoh, H. & Satou, M. 2012).

2.3 Piapro Character License

Normally the companies have complete rights over the usage of their characters for marketing and any individuals use. For example, if someone wanted to create and display an illustration of Hatsune Miku, that individual would legally need to acquire Crypton Future Media's permission. On the contrary, Crypton Future Media has been exceptionally lenient with their character copyright using a more user-collaborative approach. In the year 2009, Crypton released two copyright policies for Hatsune Miku consumers, *Piapro Character License (PLC)* and *Piaprolink*.

Piapro Character License stated that all the Crypton Future Media characters, including even the most popular character Hatsune Miku used on the package of the voice library series, was largely open for non-commercial use. The only limitation to this would be that for creators than willing to create something by using Piapro

characters and have certain production cost, they could apply to do so through the Piapro website for *Piaprolink* license. After getting permission from Crypton, the creator will get a QR-code to put on the production package that they created for selling purpose, however, the product's selling rate is not allowed to have any profit, because Piaprolink is also a non-profit license. For most of the second creations, for example, drawing a picture of Hatsune Miku will only require *Piapro Character License (PLC)*, the permission issuing from Crypton will be not necessarily needed. Yet beyond this specific limitation requiring an application, access for the fan base was ultimately open, as long as the usage of character was in line with Crypton policy of not breaking any social morality or the third-party rights. For companies or individuals that willing to use Hatsune Miku and other characters for commercial use, Crypton also encourages them to apply for the license through business email of Crypton company, However, the procedure of applying for this kind of license will be more complicated and strict, of course, remuneration will be required (Crypton Future Media Inc., n.d.).

Being able to use the character freely, exponentially increased the idolization of Hatsune Miku triggering a huge wave of secondary fan-creation. Not only by users of the original Vocaloid software but also by other individuals, such as illustrators, animators, and fan fiction writers that simply like the idea of Hatsune Miku and other Crypton characters. These creations then circulate on the internet, especially social network platforms such as popular social network Twitter and Facebook, which then stimulate further creations. From a marketing perspective for Crypton, this is less of a loss of copyright profits but a strategy of free publicity that redirects attention towards their products. Crypton could spread out their Vocal characters on all consumer-generated media (CGM) such as *Nico Nico Douga (NND)* in Japan, *Youtube* for western countries, and *Bilibili* for the Chinese market easily with help from Hatsune Mikus software consumers and fans. By releasing open copyright to the public around the world, this was the first step for Hatsune Miku as the character to reach global recognition (Kobayashi,H. & Taguchi T. 2018).

Chapter 3: Hatsune Miku Style of Cooperation

Since Hatsune Miku's release in the year 2007, there are about 100.000 original songs that have been created for Hatsune Miku on *Nico Nico Douga (NND)*, and this number is increasing every day. Looking through the history of music production, none of the singers could ever reach this number of creations throughout their entire life. Of course, many will argue that Hatsune Miku is not a real human being, so she should not be compared with ordinary people, however, the massive quantity of Miku's original songs have proofed us how powerful the online cooperation accomplished Miku, and especially in the matter of original video/song creation and reproductions. What is the reason for Hatsune Miku to be the lucky one, chosen by so many song composers? Besides all external causes, when Miku was released in the year 2007, it was coincided with the rise of two of the most popular video websites, *Youtube* in the west, and *Nico Nico Douga* in Japan. *Nico Nico Douga* has perfectly matched with the need of Vocaloid consumers in Japan and created a great online cooperation environment for *Vocalo-P* in Japan. Soon following Youtube getting popular in Japan as well, Vocalo-P started posting their music productions on *Youtube*, which led to further recreation within the online foreign language environment. This gained an increased foreign fan base for Hatsune Miku, and other Vocaloid singers (Leavitt, A., Knight, T. & Yoshiba, A. 2016). For example, the popular song *Senbonzakura* has been translated into major languages such as English, Chinese, German, French acquiring foreign fans from all over the world.

3.1 Original Creation Sharing Website for Hatsune Miku

Besides the large CGM website for the general public, there is also a special CGM website that was only created for Crypton Characters, called *Piapro.jp*. *Piapro.jp* was released at the end of the year 2007, only a few months after Hatsune Miku's initial release. According to Piapro's official explanation, the website name Piapro is the shortening term for *peer production* in Japanese pronunciation (Piapro.net, n.d.).

Beyond being just a music sharing website, Piapro.jp serves the purpose of having a practical platform on which to share and develop ideas, gather music materials, reach out for help, and especially for seeking out cooperation opportunities for productions. It is a significant workload for an individual to be the producer, musical creator, and lyric writer all as just a single individual. Of course, some talented individuals do accomplish everything by him/themselves, however in most cases, it is impossible to complete a music creation alone and so seeking out others to work together is a must. By posting their needs in *Piapro.jp*, users can get a response and reviews they need quickly and effectively.

Most importantly, on the *Piapro.jp* website, users can also access and appreciate other Vocaloid user's work, maybe adopting some idea for further creation of their own, but the copyright of original productions will be protected. *Piapro.jp* offers detailed classification into four major parts, music, illustration, lyrics, and 3D models. Under each big partition, users can choose a character category to narrow down the search results for easy access. Currently, *Piapro.jp* only offers six Crypton Vocaloid characters users as the main service object. The *Piapro.jp* significantly solve the problem for Vocaloid users finding reliable cooperators, and also in creating a social network to consolidate the user-base for Piapro Characters.

3.2 Second Creation Carnival on Nico Nico Douga

Another website that needs to be mentioned that has played a major role in turning Hatsune Miku into an international pop diva, was *Nico Nico Douga (NND)*, the biggest user-generated media website in Japan. *NND* is a platform with a similar function to YouTube used predominately in the west, where users can create and upload their videos to stream worldwide on the website.

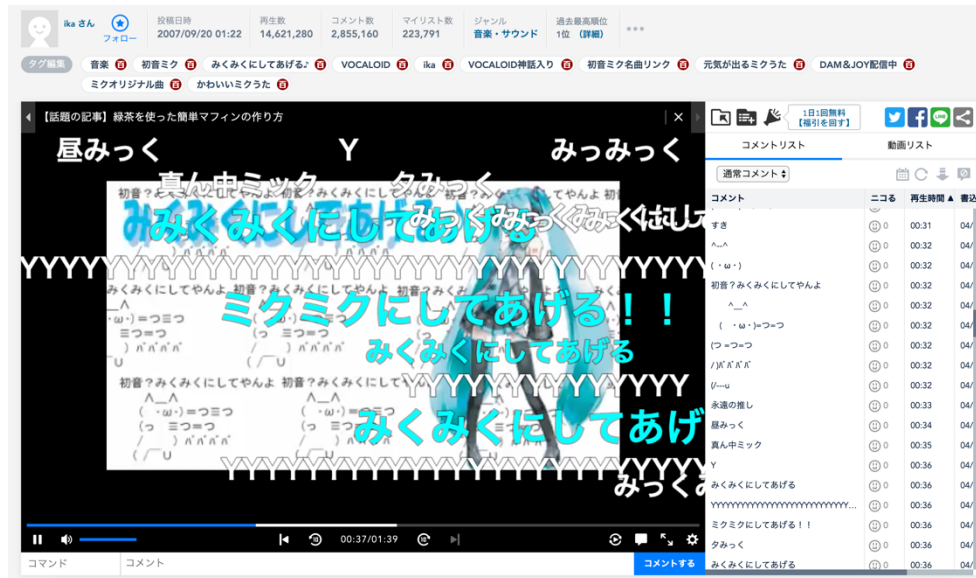


Image 2. A screenshot of the most popular Hatsune Miku video on NND

There are two major functions of *NND* which has led to it becoming the most popular user-generated media in Japan, the ease of the second creation environment, and their unique commenting system. In the case of *NND*, video uploaders are free to make a second creation based on the original video they found with no cost, and most of the time, music-related works are more likely to have second creations. For example, users can recompose a song, rewrite lyrics, make a music video based on the original video, all this is a gray area when it comes to copyrights but one that is not forbidden on *NND*, many argue that original works on the website like *NND* are not protected by copyright policy especially when it comes Hatsune Miku's case. Ka Yan Lam criticized in her paper about Hatsune Miku's massive online collaboration phenomenon that: "As a product of reproduction (the synthetic music created by the software, the derivative creative following the original videos the karaoke songs sung by the fans and other marketing products), the cult value of the original is inevitably out of sight." (Lam, 2016). She argues that original creation of Hatsune Miku does not exist because of Hatsune Miku itself is a second creation, and also consumers of Hatsune Miku are devastated to complete Hatsune Miku's personality by sharing videos, create or recreate works, and interacting with other people online, Lam said: "the more the fans knit together the sign of Miku and her authenticity, the more unauthentic they render her." (Lam, 2016) This argument fits exactly with the case of

second creations for Hatsune Miku on *NND*, even though original composers acknowledge that their copyright is not protected on *NND*, they still choose to upload their videos on *NND* to participate in this “perfecting Miku carnival”.

The second major function of *NND*, the commenting system created a new way of enjoying and interacting with these video creators. Instead of commenting below the whole video like previous websites, *NND* video’s comments will appear over the ongoing video in live time, visible not only to the video’s streamer but also to others that are watching the video. This commenting system stimulates an active comment environment. The number of review numbers also becomes a standard of measuring the popularity of an *NND* video. Video creators do their best to make high-quality videos to attract more reviewers and reviewers will be generous with their comments in return (Murakami, N. & Ito, E. 2011).

For Vocaloid producers, *NND* is a great platform for sharing works and getting active reviews not only from other Vocaloid creators but also from outsiders. Even though *Piapro.jp* is playing a significant role in user-generated media websites for Hatsune Miku as providing a convenient and protective online environment for creators to upload their creations and practice their skills, the credit of disputing Miku’s creations to the majority public still goes to *NND*. The advantage of *NND* is that they will get a quick response to their works in a short time, and talented creators get positive recognition for their work and enjoy subsequent fame, and in some cases even gain profit from their fans. At the same time, Hatsune Miku gathers a great number of fans, attracted more consumers not only for Hatsune Miku as software but also in different industries such as in figurines, game software, and merchandised goods.

The majority of Hatsune Miku's popular songs are first updated on *NND*, including covers and original songs. Another important reason for users to choose *NND* over other websites is because *NND* has a contract with the *Japanese Society for Rights of Authors, Composers, and Publishers (JASRAC)*. This contract states that all video creators that upload their video on *NND* website can legally use music protected by *JASRAC* without applying for the license for every use. In return, *NND* needs to

pay 1.875% of their income to *JASRAC* as royalty. The result of the legalization of the usage of copyright music for non-commercial videos, is that encourage more second creation and fan-made productions (Kaneko, H. 2008), however, copyright of original works on *NND* maintain a problematic topic for original composers that base on *NND*.

In the year 2007, a video uploaded on *Nico Nico Douga* with the title, “By Using Vocaloid 2, Made Hatsune Miku Sing Ievan Polkka”, by uploader Otomania. In the video Hatsune Miku's signature “cute-style” voice singing a catchy Finnish folk song makes many people keep streaming this song like they are having some kind of addiction to the song. Many fans commenting on the original video that the song is “addictive”, and also many comments to the effect of “could not stop listening to the song” (Otomania, 2007).

The video itself was really simple, in which illustrator Tamago designed a *SDkyara*, in essence it is a cuter and more exaggerated version of Hatsune Miku based on Mr. KEI's package design and Miku keeps waving a leek to the rhythm. Later the uploader Otomania named this *SDkyara* character *Hacyune Miku*, which later was made into figures to sell in stores (Otomania, 2007). According to *Nico Nico Pedia* (an encyclopedia website created by *NND*), because of this music video, “leek” becomes one of the keywords of Hatsune Miku. As the project manager of Hatsune Miku, Sasaki Touru said that *Hacyune Miku* breakthrough the stereotype image that provides by Crypton and stimulates more possibility for Hatsune Miku's personality and appearance (Okada, Y. 2008).

The success of *Hacyune Miku SDkyara* makes a great example and evidence of Lam's argument that Miku fans intention to create and recreate not only music for Miku, but also to develop the personality of the character itself to emphasize the authenticity of Miku, and finally building a reputation with the public and even receiving a financial income.

The video successfully got more than five million hits in total, reaching more than two hundred thousand comments in the original video, making it a great demonstrating sample of the power of Miku's second creation. another example of Miku's power, is the success of *Senbonzakura* that was created by KurosaP (officially

named Whiteflame) which demonstrates a great example of the potential culture and financial value of an original Vocaloid producer.

3.3 *Senbonzakura*: From Hobby to Profit

The original song *Senbonzakura* created for Hatsune Miku by KurosaP and his team was first uploaded on NND 17th September 2011, lyrics and music are both composed by KurosaP himself. After Only 41 days and 23 hours, the playback times exceeded one million times, and by April 2020, this song has received a totally 14 million times playbacks on NND, and over 13 million times on *Youtube* as well. According to an interview with Billboard Japan, KurosaP said the song was written before the big earthquake in Japan, but the lyrics were completed after the earthquake, so KurosaP personally thinks the popularity of the song might also be because the lyrics give people an idea of positive and supportive atmosphere after the big disaster, however, it was also a big surprise for himself that a Vocaloid music would have such big influence on Japanese society (KurosaP. & Billboard-Japan. 2015). *Senbonzakura* was spreading massively on video websites such as *NND*, *Youtube*, and *Bilibili* (A user-generated media for Chinese speaking users), people made song covers, played instruments following the original music and it was even performed at public events such as sports games. Many videos that were created based on the original song got also millions of hits, people sing, dance after it, and cover the song with exotic instruments. The song *Senbonzakura* positively affected the second creation for fans. For *NND* only, videos that are tagged with *Senbonzakura* count nearly 7000, and the number is keeps rising nearly ten years after the original release. *Senbonzakura's* Karaoke ranking was constantly in the top of Japan as well, according to interview with Billboard Japan (2015), KurosaP said: "to get people to sing my work in Karaoke, as a song producer, I feel so happy about it." Over the years, KurosaP has constantly worked with music artists such as *Wagakkiban* and *Kyounosuke* to inject

fresh blood into this classic Vocaloid song and expanding the audience base and influence for Hatsune Miku unconsciously.



Image 3. A Screenshott from *Senbonzakura* 's music video

Besides the success of music itself, the remarkable success of illustration and background setting for *Senbonzakura* also becomes a textbook sample for original Vocaloid producers. Hatsune Miku's outfit in *Senbonzakura* became a popular cosplay (people dress in costume as fiction characters) sample, and because the song itself is mixing Japanese traditional style of lyrics with western-style instruments, the character design of Hatsune Miku and other characters in the music video are also a blending between Japanese and western-style together. The whole design referenced the romantic Taisho era (Japan 1912-1926), and the patriotism and sense of solidarity were both demonstrated in the lyrics and illustrations (Utaten. 2019). *Senbonzakura* was later recreated into musical, novel series, animation peripheral productions. The *Senbonzakura* novel was written by Ittomaru the illustrator of *Senbonzakura* original song. According to the company principal of Kadokawa Corporation, the publisher of *Senbonzakura* 's novel series exclaimed the popularity of the song, and the novel has also been purchased and put into many elementary and mid-school libraries. This supports the fact that the *Senbonzakura* is no longer a production from minor music culture, it has already broken into the mainstream of Japanese culture (KurousaP. & Billboard-Japan. 2015).

The success of *Senbonzakura* also proves to the entire world what is the potential of a Vocaloid producer is, and also that in the case of Hatsune Miku and Vocaloid, the possibility of “zero marginal cost society” is definitely a possibility (Rifkin 2014). Talented individuals could create works with their talents and make a large profit while experiencing minimal financial burdens (Kobayashi, H. & Taguchi, T. 2019). Until today, KurosaP has created 29 original songs with Vocaloid software, many of the songs have become very popular. KurosaP also published two CDs while at his top, the CD *5th ANNIVERSARY BEST* is the one with all Vocaloid songs created by him, including ten songs that for Hatsune Miku only and eight other songs with other Crypton Characters. On the KurosaP’s official website, there are action figures, key holders and T-shirts are made base on *Senbonzakura* (Whiteflame, n.d.).

. The Hatsune Miku's financial potential success greatly depends on the participation of fans, their creation and recreation, and by understanding the economic value of Hatsune Miku and Vocaloid software, it explained the enthusiastic creativity atmosphere seems never ends in the case of Hatsune Miku creations.

Chapter 4: Hatsune Miku As Virtual Idol

The Japanese pop Idol market is an idiosyncratic yet well-established one. Young girls wearing colorful performance outfits and dancing genetic dance moves on stages, they also need to sing and smile at the same time. Everything seems very intense and exhausting; however, they keep smiling at their audiences and thanking them for supporting. This kind of stage scenes can be seen at completely different environments, from popular idol groups such as AKB48 that can perform at huge arenas for an audience of thousands, to lower-ranked underground amateur idol groups that are singing and dancing in underground live houses somewhere in the city. The goals of these idols are straight forward: to fulfill the fantasies of their supporters, both mentally and physically (most of the times, a handshake will suffice). There are hundreds of idol groups that currently active in Japan. They have different characters, styles, abilities to attract their target fan groups, and on the other hand,

fans have numerous varieties of these groups to pick from. The competition is very intensive and can be immensely cruel.

The environment surrounding how Hatsune Miku managed to become the success that she is. However, in the case of virtual idol Hatsune Miku, many problems that real idols need to conquer, seem like not a problem for Miku at all. In previous chapters, we concentrate on understanding Hatsune Miku phenomena from the aspect of voice synthesizer software and a massive online cooperation product. In this chapter, understanding the popular pop idol side of Hatsune Miku will be the main focus. What is the reason for Hatsune Miku become popular and gained her fans base from all these intensive competition in the Japanese pop idol market? In what way Miku satisfy the needs of fans? What are the pros and cons of this new virtual celebrity phenomenon that is happening in Japanese society? As a virtual character, Hatsune Miku's authenticity is doubtable, however, her influence on her fans are real.

4.1 Understanding the Japanese Pop Idol: *Aidoru*

Japanese pop idol or in Japanese *aidoru* defines an individual or a group of young people that have been promoted to the public and produced by various entertainment corporation companies. They have a massive influence on their fan groups and bring in a great deal of profit for their office. These pop idols will also have a great effect on society by leading the beauty standard and fashion standard with their cute figures and fashion sense (Galbraith & Karlin, 2012).

The basic skill that idols must carry is the capability to sing and dance on stage. They will also need to be able to follow the character that the company has set up for them. In most of the cases, the character set will be designed before they officially debut the group. All members need to behave as their character would, breaking out of character could also be considered as unprofessional or even worse, as a betrayal their fans (Galbraith & Karlin, 2012). Members are also not all treated equally, in a big idol group like AKB48, idols that have more fans that are willing to spend money on her, are more likely to have better resources and future options in their idol career, the

opportunity to take part in TV programs, commercials, and movies. To become a popular idol is a dream for many Japanese young girls, however, the competition is incredibly trying. They need to compete with other pop idol groups that keep appearing, and in the meantime group members also need to compete with each other for attention as well as outside resources. To be able to stand out from all of the other cute girls, it is recommended to have a special skill. These skills although often artistic and feminine do not necessarily have to be so, anything that makes them stand out from the rest is a good thing. For example, Azuki Moeno is known as the big eater idol, she will not necessarily be the cutest one, or smartest one, but she can eat such large quantities of food, that appearing on tv shows, and reality shows she becomes very memorable (Ru · Aido Geinou, n.d.).



Image 4. AKB48 the most popular pop idol group in Japan

However, from the 1980s, one of the most important features that a female idol must poses is *kawaii*, the Japanese all-encompassing term for cute, innocent, sweet, pure, and the need to be protected. This emphasis on cuteness is very unique culture in Japan, as Kinsella points out, by 1992 the word *kawaii* was estimated to be the most popular, beloved, habitual word in Japan at that time (Kinsella, 1995). Because of this, it leads to another phenomenon in the Japanese pop idol industry, which is being

young or looking young One of the major entertainment reporter Masaru Nashimoto said that out of all the qualities that make a Japanese pop Idol star, this was the most important quality. (Galbraith & Karlin, 2012).

Most of the Japanese Idols start their careers around their teenage years, and the retirement (or graduations) will come when the expiration date arrives, when they are deemed too old for the industry. The duration of a Japanese pop idol will mostly depend on the gender of the idol. Popular boy groups will normally have a longer duration than popular girls' groups. In the boy's cases, retirement age is around 30 to 40s, on the other hand, girls' groups will normally be plucking out girls by the time they're around 25 years old (Kobobo, 2019). Entertainment offices will make the most out of these groups while they are still fresh, new to the scene, and because of that, an idol group normally has an extremely strict lifestyle. To have a boyfriend or girlfriend while an idol is still active is unacceptable for most of the companies, especially for girls' groups. In 2013, a key member of AKB48 group B, Minami Minegishi was discovered to be dating a boy-band member Alan Shirahama, she was consequently instantly demoted into AKB48's trainee team, and a video with her crying and apologizing for her unseemly behavior was later posted online. In the video, she was not only apologizing with her words, but also by symbolically shaving all of her long hair. In Japan, cutting hair stands for having a new start, but shaving one's hair could be a penalty for her or his mistakes. AKB48, the Japanese national idol groups are well known for their strict rules. To ban group members from having a romantic relationship is actually done to protect fan's fantasies - many offices will set this rule as their primary boundaries for their group members (Shadbolt, 2013). Currently there are about 10.000 young girls in Tokyo that can be called as pop idols (Matschke, Miyake, & Moore, 2017). Some of them are already famous, but some are still trying their hardest to gain popularity in the underground idol world. Unlike neighboring countries, Korea and China's, where their idol system relies more on numbers of followers on internet social media, the Japanese idol industry has its own system. Japanese idols and their companies care more about how loyal the fan is, making the connection between idols and fans are closer than ever. To quote Rio

Hiiragi, a Japanese idol when she was describing her relationship with her fans to BBC documentary TOKYO GIRL: "My fans are like my children. I love them all equally." (Matschke, Miyake, & Moore, 2017, 0:07:02). like many idol groups in Japan, Rio also has her official fan group, and many of these fans have been following her for a number of years. Not only spending their time and money on her music and concerts, she has also become an important aspect of their private life as well, they will do things such as following her around the entirety of Japan just to cheer her on in her journey. She will comfort her fans with her calming smile, energetic dances, and kind words as a return. An Idol has to do their utmost to keep their fan base stable and long term.

Many of the idol's fans are considered to be *otaku*, a term literally meaning people who stay home. The word *otaku* literally means 'your house' in a formal way, however it could also use to describe a social outcast person who is deeply obsessed with anime, games, and other indoor hobbies (Galbraith, 2009). The word has negative connotations and is most often used to describe males, although recently female *otakus* are on the increase and being acknowledged. Recently these hobbies re becoming more recognized as one of the main cultural exports of Japanese, and consequently being deemed to be an *otaku* is not as negative as it once was. However, there are many who pint out how creepy these Japanese idol *otakus* can be, following a group of young girls the age of their daughters or even granddaughter's age. However, compared to teenage fans or female fans, these adult male fans are more likely to have a stable income to spend on idols. As Rio's number one stable fan Koji from *TOKYO GIRL* documentary says, "I've blown so much money. I could've bought an apartment. (Matschke, Miyake, & Moore, 2017, 0:04:57)" Koji's attitude could represent many *otaku* fans in Japan, as they are ready to do everything for their goddess, their idol.

Most of the idols will choose big cities such as Tokyo or Osaka as their main platform, however recently with the help of internet and advanced social media, many smaller cities are trying to use new type of media or SNS to stimulate the local economy, one of the strategies being that they have local idols represent local

specialties, products, and tourism. By gaining fans on internet and social media, many fans will travel from everywhere from Japan (and sometimes further) just to meet their favorite pop idol.

The 21st century, has seen a of the Japanese idol industry from TV on to Internet platforms, fans and idol's relationship have also become closer than ever. There are also more platforms for young souls that willing to become an idol or even just gain fame on the internet. Because of all these new platforms, all kinds of idol groups pop up like mushrooms after rain. With more on offer, fans are also expecting to find the right person or group that suits them the most to support. That leads to a question, with so many individual idols and idol groups in option, why has Hatsune Miku still become a huge hit in the Japanese idol industry?

4.2 Over Enthusiastic Fans

The fan base of Hatsune Miku and human pop idols have their similarities, however they also differ in many ways. There are two major types of Hatsune Miku fans, the first fan type is structured by Hatsune Miku's software consumers and their listeners, the former that purely enjoy the fun by using Hatsune Miku as their singer to express their talent, and listeners will listen to these creators music that passing through Hatsune Miku's robotic sound. During research about Hatsune Miku, reading all kinds of news, articles, and interviews related to Crypton company, they will acknowledge more about this kind of fan base of Hatsune Miku and ignore more or less the other type unconsciously. However, the second type of Hatsune Miku fans – the Japanese *otaku* also play an important role in the Hatsune Miku phenomenon in their own way.

As discussed before, the term *otaku* literally means your house, however it indicates the special group of Japanese people (mostly to describe males) that society thinks of them as 'loser' both socially and financially. Many of them find the real world extremely hard to live in so they are eager to seek out a spiritual ballast, often something that could heal them without much cost, for example supporting a pop idol, or falling in love with a comic book character. Due to this reason, many subcultures

are created because of *otaku's* participation, such as cos-play (dress in costume of fiction characters), *doujinshi* (fan made erotic comic books), and underground idol live concerts will automatically fall under the category of *otaku* culture. These people are the main consumer groups for ideology *moe* - a Japanese verb meaning to sprout or bud, often indicating the act of admiring to a cute thing or cute behavior to satisfy *otakus* fantasies related to a *kawaii* animation, manga or video game character without any actual content or depth and needs to mention those characters are mostly underaged females, school girls (Galbraith, 2009). The character design of Hatsune Miku (16 years old, school uniform, twin-pigtail), fits perfectly every need of *otaku* consumer - odd and extreme fetish for young girls.

The young Japanese idol lives a real life; however, these girls are still trying to build up a pure daydream for their fans. Setting up a fragile, innocent character to evoke fans' protectiveness and to make the fans to believe that they provide a certain protection and support to their idol both mentally and financially. Whilst on the contrary, in most of the cases, these fans, are seeking healing and comfortableness from these young girls, who in many cases are much younger than them (VICE News, 2015). However, these girls will eventually grow up, become adults, their expiration time is short, so to have Hatsune Miku and similar virtual celebrities that will never expire, seems incredible. After all, *otakus* clearly understand that the girls they are admiring right now will eventually grow up, maybe get married and worst of all, lose their pureness to reality.

Hatsune Miku's appearance suddenly fulfills the needs of many *otakus*, to be their permanent spiritual ballast. Unlike many other animation characters that are limited by an anime series or video games, Hatsune Miku certainly has more flexibility. Not much effort is needed to be able to control Hatsune Miku in any way, by using Hatsune Miku's software, you can make Miku say (or sing) whatever you need her to say, and by using free software called *MikuMikuDance*, consumers could make Miku move after their demand. A *moe* character that one can manipulate without any boundary, how attempting. More to mention, Hatsune Miku will never make any mistake on stages, singing(if the song is bad it is producer's fault), and most

importantly she will never dating by her own will, however, it is another way around, fans could trying to marry her even she is not real. This is something never acceptable for a human pop idol, however, after all, Hatsune Miku is not able to express her feelings, she could only passively accept everything put on her.

One of the extreme samples of Hatsune Miku fan - Akihiko Kondo, he decide to marry his own Hatsune Miku, and get to live with hologram Miku that is floating in a *Gatebox* - a container for Hatsune Miku's 3D image, that developed by Japanese company Vinclu in the year 2017, for people like Kondo that willing to live with their favorite animation characters. Kondo said after he releases the news, there are even threatening mail coming from other Miku fans that trying to get him to stop his marriage to Miku. According to Mr.Kondo, from his teenage years, he decides not to have a romantic relationship with a real female simply because he feels he is not popular in school, the situation got worse when he has to face the workplace bullying by a young female co-worker, and the situation gets worse, he lost all his interest of getting involved to a romantic relationship with a real person (Asian Boss, 2019). Through Mr. Kondo, we could get a basic understanding of situation that many Japanese 'otakus' encountered.



Image 5: Akihiko Kondo and hologram Miku in a Gatebox

By bravely facing social criticism because of breaking a society norm, Mr.Kondo eventually married his digital wife, Hatsune Miku's hologram, after spending 2 million yen or 19000 dollars on a wedding ceremony for 39 guests, and a honeymoon trip to Hokkaido(paying for two seats on airplane and hotel room), he finally starts his married life with Miku. By using *Gatebox*, a limited conversation is possible with Miku, however, Mr. Kondo believes with further development with technology, he will eventually be able to talk naturally with Miku, and even though the sex is not essential needs for him to Miku, but he still has the urge to hold Miku's hand or to hug her (Asian Boss, 2019).

Mr.Kondo's wish has probably represented the aspiration for all two-dimension character lovers. However, will they get responses as they wished if the artificial intelligence manages to become advanced for virtual characters to respond like a normal human being? The answer would probably be yes because androids will still only be obeying to master's command, they will get whatever they wished for, but AI systems will never respond to them with their own wish. From many of the existing evidence across the pop idol culture in Japan, *otakus* is never looking for a human companion that is gender equality, from admiring young school girls idols to *moe* anime characters, the female identity what *otakus* are looking for is an innocent, pure individual that will obey, and manipulate for satisfying their desires (Galbraith, 2009).

4.3 Hatsune Miku's Live Concerts

Live concerts for many Japanese pop idol fans are a place to support their idols and practice fan acts. For many underground idol live stages, normally after the concert, only with a little amount of funding, the opportunity of small talk, a handshake and have a Polaroid picture taken with one favorite idol will be possible. Even for popular idol groups like AKB48, a similar service is also provided to their most supportive fans. For many idol *otaku* fans, for most of the people, a little handshake will fulfill their sexual desires towards their idols, and in the meantime, for pop idols, a little

handshake will be considered as innocent and doable (Matschke, Miyake, & Moore, 2017). However, what is like to join a live concert of Hatsune Miku? Hatsune Miku's concert is popular, not only in Japan but also internationally.

There are a few different situations that fans could enjoy the Hatsune Miku concert, Crypton Future Media official concerts will be the Magical Mirai concerts taking place every year in Japan and Miku Expo which take places internationally. In the meantime, you could also enjoy smaller concerts with cooperation with *Nico Nico Douga*. During the concert, Hatsune Miku's 3D hologram will appear on a big screen, dancing and singing after the presetting of the program. However, the live music will be played by real musicians. It is mixed entertaining by music, 3D show and a light show to compensate the fact that there is no one on the stage. Fans need to believe in Miku's authenticity completely to enjoy the Hatsune Miku's concert, because even with a little bit of shatter, or simply sitting from a bad angle, will make Miku seems unreal. So even though Hatsune Miku's fans will have the same desire as normal idol fans, they will never try to touch, or even go nearer Hatsune Miku, because they would like to keep this illusion as real as they could, in that case, we could interpret this act into that Hatsune Miku's authenticity is never exist for her fans, because they are keeping a safe distance from her to protect her vulnerable authenticity which even not exist. According to Lam, "reconstructing the idol a hyperreal hologram is equivalent to murdering the original Miku that exists in the software and in the creative videos the fans have made (Lam, 2016)." More to obsess with simulacra of Miku, the more she loses her original side, which is a voice synthesizer software.

Conclusion

Hatsune Miku is a very complex subject, and in order to understand her completely every little piece of her history is needed. This thesis has examined Miku's evolution from a piece of software, an image, to the virtual idol diva that influencing the world.

Miku could be one of the most successful Japanese cultural exports and her contribution to the Japanese music industry cannot be overlooked. As an example, in

the documentary *Tokyo Girls*, Miku's song is appears constantly, because underground idols that do not have their own songs are covering Miku's song in their live performances. Hatsune Miku has gained influence through every single of these creations, and the aura of Miku only gets bigger with the assistance from all over the world. On the one hand, Hatsune Miku may be losing her originality as software, but on the other hand, she has evolved into a complex being with a numbers of labels that increases every time something involving her is created. As the expectation for her starts to be muddled up with various fantasies of her fans, her original purpose of a posthuman instrument, is starting to fade away.

From a different perspective, as new technology, Hatsune Miku opens multiple opportunities for an existing social phenomenon in Japan (or around the world), which is the strong affection for fictional characters. The futuristic appearance of Miku, the moving hologram on a stage, is showcasing the potential that technology will be eventually be ripe for bringing these two-dimensional characters into the real world.

Yet the Hatsune Miku phenomenon also reflects some of the problems that already exist in contemporary Japanese society that cannot be overlooked. New technological products are still very much aimed at a male-based consumer society with limited options for women. This is especially the case in regards to Hatsune Miku's materialized, kawaii-feminine marketing strategy that finds its success in otaku culture.

In conclusion, technology like Hatsune Miku opens a multitude of possibilities for the future of global engagement, and it is collaborative features representative of Japan's collectivist society pose new conceptualizations of what pop culture is and can be. However, Hatsune Miku has simultaneously enabled a platform for Japan's challenges with gender in a contemporary world, as well it has demonstrated that the commoditization of femininity is not unique to Japan through Hatsune's global popularity. Therefore, in a society that has put extraordinary emphasis on artificial intelligence, robots, and other futuristic inventions, Hatsune Miku is an exemplary lens to view today's Japan and its influence. In a headlock with tradition and

innovation, Hatsune Miku embodies some of the most current challenges of today's evolving international system.

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