

Smart VenueCX – Linking Inspiring Spaces to Deepen Bonds between People, Communities and Societies

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Abstract

The rapid increase of inbound visitors to Japan has increased demand in the service industry such as hotels, theme parks and live entertainment, but the shortage of labor has posed issues that need to be addressed, including reducing burden on frontline operations. More recently, the emergence of COVID-19 has created an economic shock for the service industry. In order to enable business continuity during these times of uncertainty brought on by COVID-19, it is necessary to reduce the operating burdens of service providers and improve the value of user experiences by preparing safe, secure environments. Our Smart VenueCX links together inspiring spaces with the best use of digital technologies. This paper introduces the world envisioned by Smart VenueCX, and outlines its main businesses.

Keywords



face recognition, biometrics, hotel, stadium, theme park, venue

1. Introduction

As indicated by the shift to an experience economy, the consumer trend of seeking value in extraordinary experiences is increasing every year, and the number of visitors to theme parks and live entertainment events is on the rise. Meanwhile, the service industry that should support the new type of consumption is affected seriously by a labor shortage.

While it is important for hotels and theme parks to inspire guests to come back time and again through the provision of optimum services based on an understanding of customer and attainment of a high level of customer satisfaction, the labor shortage is making this hard to achieve.

Under such circumstances, the COVID-19 epidemic struck a serious blow to businesses in the service industry such as hotels and theme parks that provide experiential values. Conversely, this decline in access to experiences has made consumers realize how precious and indispensable sensations and experiences are to enriching their lives.

The rest of this paper introduces the world envisioned

by Smart VenueCX, which achieves linkage of inspiring spaces with the best use of digital technologies, and outlines its main businesses.

2. Environment and Issues of Service Industries That Depend on Large Crowds

Until the end of 2019, rapid increase in the number of inbound tourists to Japan increased the occupancies of hotels and brought a rush of new hotel openings. The number of visitors to major theme parks also soared and the parks were chronically overcrowded despite rising ticket prices. The number of visitors to live entertainment events also increased rapidly, becoming one of the biggest sources of income of the music industry. Consumers from both inside and outside the country could feel the high value in enjoying live experiences in the real world, that is, the feeling of unity with many people in the same location and have memorable experiences that are completely different from everyday life. A system was in place that drew a large amount of consumer spending toward these experiences.

Unfortunately, a decrease in the labor force began to

bring various problems to the labor-intensive service industry such as hotels and theme parks. Though the profits of leisure venues and hotels rose thanks to the increased number of inbound tourists, the rush of many visitors to specific locations which had become popular on social media caused various problems associated with so-called overtourism: increase in littering, frequent breaches of manners, fully-packed city buses impeding the mobility of local residents, overcrowding of roads due to tourists walking while dragging around their luggage, long queues of hotel visitors waiting for check-in in front of hotels, and increased workload for hotel employees. Also, theme parks had trouble securing contract and part-time workers so even office staff members had to go out in the field. The business structure relying on human labor was on the verge of reaching its limit.

For the service industry, it has become an important issue to heighten the value of user experiences while improving productivity through labor saving. Service industries also have issues about how they can effectively use their local touristic assets and inspiring facilities, and how to create an environment by controlling the flow of users' movements so that they can enjoy their experience easily and happily.

When the year 2020 came, COVID-19 struck a heavy blow to the service industry which depends on large crowds and high customer volume. The average number of inbound visitors per month, which was over 2.5 million until 2019, dropped to around 1,700 in May 2020. Hotel occupancy also dropped from nearly 90% to below 20%, forcing some hotels to close and threatening the business continuity of others. Theme parks also closed temporarily but reopened for business with limited attendance. For sports stadiums, many leagues discontinued or cancelled games but some restarted matches with no audience. Live entertainment performances had to be canceled, and although some performances are returning in limited ways, they are still far from being profitable.

After the declaration of a state of emergency in April 2020, both the users and business operators of industries offering experiential value were required to suspend activities in consideration of preventing the spread of the infection. This period in which the stay-at-home measures were enforced reaffirmed our belief in the valuable role experience plays in enriching people's lives. In fact, when theme parks and sports events reopened with limited attendance, people rushed to buy their long-awaited tickets.

To achieve business continuity in the service industry under/post COVID-19, it is important to ensure further safety and security and to take measures to prevent a

cluster of cases from occurring when large crowds come together in one space. Since the issue of labor shortage is expected to remain the same in the future, how to take effective labor-saving measures will remain an important point, so as not to pose a burden on either users or employees. Also, as it appears that we will need to adhere to social distancing and good hygiene practices well into the post COVID-19 era, there will be a greater need to utilize digital technologies to prevent close-contact settings and reduce operations that require face-to-face contact. In addition, another usage of digital technology that is attracting attention under COVID-19 is diversification in the methods of maintaining relationships with people and earning revenue. For instance, athletes deliver training videos to home viewers that give them a glimpse into aspects of the athletes' lives that they rarely get to see and a chance to engage in two-way communication. These relationships that are not possible in the real world have brought an effect of reaching a broader audience of potential new fans. Furthermore, the start of new trials for earning revenue through schemes such as social tipping is showing the potential for generating revenue from drawing in crowds that surpass the capacity of conventional venues.

Under/post COVID-19, the teleworking environment is rapidly being incorporated into workstyles and the work spaces of people often overlap with their life spaces. It seems that such lifestyle conditions may, more than ever, be encouraging people to seek experiences and community-based activities closer to home. NEC believes firmly that the digital infrastructures capable of supporting these demands safely and securely will be required in the future.

3. World Envisioned by Smart VenueCX

The world envisioned by Smart VenueCX is one in which inspiring spaces linked together through the fusion of emotions and digital help to deepen the bonds between people, communities and societies. This means using inspiring experiences as a springboard to maximize live attendance and sales based on in-depth understanding of customers, create new businesses, and revitalize communities (**Fig. 1**).

Examples of inspiring spaces include a stadium where ardent spectators gather to see the exciting drama that athletes create; a theme park where visitors enter into a world of fantasy and its characters by escaping from their daily lives and forgetting about time; a hotel that allays mental fatigue with an extraordinary experience; and an Integrated Resort (IR) that aggregates all of the above. NEC will set forth three concepts by focusing on



Fig. 1 Concepts of Smart VenueCX.



Fig. 2 2025 vision of Smart VenueCX.

these “fields” and implement them using digital technology to deepen the bonds between people, communities and societies by providing experiences beyond imagination in safe, comfortable environments (**Fig. 2**).

The first concept set forth is the “comfortable environment.” NEC believes that an inspiring space should be a stress-free environment for both users and the employees working in it and this can be realized only when both parties can benefit from it. Previously, hotels and theme parks were unable to deal with rapidly increasing number of tourists and visitors and thus suffered

from problems such as increased waiting times, and increased burden on employees that caused fatigue. NEC aggregates all kinds of information from the inspiring spaces and provides comfortable environments in which everything moves smoothly and flexibly so the venue operation efficiency can be improved. NEC believes that creating environments without close contact by considering hygiene and providing a highly satisfactory experience even in non-face-to-face communications will be some of the requirements for business continuity in the post COVID-19 era.

The second concept is the “linkages of fans.” In the inspiring spaces, the basis of the connection between place and people is the feeling of affinity. NEC believes that, to turn an inspiring space into a sustainable “place”, it is important to increase the fan base and connect together the desire of these fans to return again and again. NEC aims to produce linkages of fans by sharing the feeling of affinity to link people to people and people to places across the boundaries of the digital and real world in order to maximize live attendance. What is important in the post COVID-19 era will be to ensure profits while assuring safety and security in real-world places and fostering relations, and these requirements will be fulfilled using digital means.

The third concept is “fresh experiences.” This is based on the belief that experiences that reach beyond our imaginations are the ones that become etched in our memories. As exemplified by the Japanese tradition of “*Omotenashi*”, or hospitality, delivering experiences that resonate with the sensibilities of each customer is what will leave the most lasting impression. By gaining in-depth insight on users, NEC aims to create memorable and inspiring spaces by offering fresh experiences that are attuned to the state of the user’s mind and body.

Inspiring spaces that can actualize these concepts will attract many people in both the digital and real worlds and foster a community that will also promote circular flow of people and the economy in the community comprising the inspiring space. NEC’s vision of Smart VenueCX arises from the wish to contribute to the creation of inspiring spaces.

4. Main Smart VenueCX Businesses

One of the main businesses of Smart VenueCX is the Smart Hospitality service. This service provides hotel guests with safer and smarter experiences by eliminating wait time and ensuring the smooth flow of processes. At the same time, it reduces the burden on employees and facilitates business continuity even under labor shortage. Services can also be provided in collaboration between multiple businesses, for instance between a hotel and luggage delivery service. This service would enable identity verification that was traditionally performed face-to-face at the front desk to be performed instantly using digital face recognition, and hotel guests planning to check-in using their face as ID can have their luggage delivered to the hotel where they will be staying, so they can do some sightseeing without the hassle of luggage. This service is described in detail in “Elevating Customer Experience with Comfortable, Touchless Services.”¹⁾

Another business is the fan marketing solution. This

is a service that uses smartphones as touchpoints to keep fans connected with sports leagues and teams by providing information and content in both the on and off seasons while also visualizing the needs and preferences of fans for use in improving live attendance and engagement. This solution is described in detail in “NEC’s Solutions for Venues in the New Normal Era.”²⁾

5. Major Examples

One of the major examples where the Smart Hospitality Service is already in use is Sequence hotels, a new hotel brand operated by Mitsui Fudosan Co., Ltd. and Mitsui Fudosan Hotel Management Co., Ltd. This implementation was announced in a press release dated January 28, 2020. Through the provision of self-service check-in and keyless room entry based on face recognition, NEC is contributing to the achievement of one of the concepts treasured by the Sequence hotel—“Smart: a time of thoughtfulness and enrichment.”

A major example where the Fan Marketing Solution is in use is the “V App” operated by Japan Volleyball League Organization. This solution contributes to the building of a communication platform, visualization of fans, and an increase in the number of users.

6. Technology Supporting the Businesses

The Smart Hospitality Service adopts face recognition technology, which makes use of a cloud platform. Face recognition is the core technology of NEC’s “Bio-IDiom” biometric technology using the NeoFace face recognition AI engine that has the world’s highest recognition accuracy³⁾. This cloud platform can also be expanded for use as a digital ID system that can be connected with the systems of multiple service providers and allow users (who have provided consent to use of face recognition and shared usage of data) to use their face as ID to access various services.

7. Conclusion

The need to improve efficiency in operations and production has always been an issue facing the labor-intensive service industries, particularly businesses providing entertainment. The influence of COVID-19 has aggravated the issue even further, making it indispensable to resolve the issue using digital technology. Also, people’s lifestyles are expected to change rapidly due to increased awareness with respect to safety and security and increasing focus can also be expected to be placed on fostering communities that can help create

emotional bonds. Workspace and life space, ordinary and extraordinary, and on and off have all been associated closely with the notions of place and time, but this is also changing rapidly. The inspiring spaces defined in the world envisioned by Smart VenueCX are expected to be generated regardless of place and time. By drawing from each and every inspirational moment generated by leveraging digital technologies to connect people to people, people to places, and people to communities, NEC aims to contribute to the further enrichment of society.

References

- 1) FUJITA Satoru: Elevating Customer Experience with Comfortable, Touchless Services, NEC Technical Journal, Vol.15 No.1 (This issue), pp.105-108, January 2021
- 2) HOSHI Kazufumi et al.: NEC's Solutions for Venues in the New Normal Era, NEC Technical Journal, Vol.15 No.1 (This issue), pp.109-113, January 2021
- 3) NEC Press Release: NEC Face Recognition Technology Ranks First in NIST Accuracy Testing, October 2019
https://www.nec.com/en/press/201910/global_20191003_01.html

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