



**Asia-Pacific
Economic Cooperation**

Advancing Free Trade
for Asia-Pacific **Prosperity**

FemTech: Economic Empowerment of Women with Health Technology

Online Seminar | 31 January 2023

APEC Policy Partnership on Women and the Economy

December 2023



**Asia-Pacific
Economic Cooperation**

FemTech: Economic Empowerment of Women with Health Technology

Online Seminar | 31 January 2023

APEC Policy Partnership on Women and the Economy

December 2023

APEC Project: PPWE 01 2022S

Produced by

Takahiro Nakamura, Project Manager
Washington CORE, L.L.C.
4500 East-West Highway, Suite 730,
Bethesda, Maryland 20814 USA
Tel: (1) 301 654 2915 ext. 111
Fax: (1) 301 654 4054
Email: takan@wcore.com
Website: www.wcore.com

For
Asia-Pacific Economic Cooperation Secretariat
35 Heng Mui Keng Terrace
Singapore 119616
Tel: (65) 68919 600
Fax: (65) 68919 690
Email: info@apec.org
Website: www.apec.org

© 2023 APEC Secretariat

APEC#223-PP-04.4

Contents

1	Executive Summary.....	2
2	Event Summary	3
2.1	Welcome and Opening Remarks.....	3
2.2	Introductory Presentation by Ms Oshima Saki	3
2.2.1	Questions and Answers	4
2.3	Expert Panel Discussion	6
2.3.1	Presentation by Dr Brittany Barreto	6
2.3.2	Presentation by Ms Minagawa Tomoko.....	7
2.3.3	Presentation by Ms Francesca Geary	8
2.3.4	Presentation by Dr Carson Chen.....	9
2.3.5	Discussion.....	10
2.4	Closing Remarks.....	13
	Annex A: Seminar Handouts	14
	Agenda	14
	Speaker Biographies.....	15
	Participant Survey Form.....	17
	Annex B: Workshop Presentation Materials	20
	Annex C: References	20

1 Executive Summary

This event highlighted the importance of addressing women's health needs with FemTech – products and services that harness technologies to provide solutions for women-specific health-related challenges. The physical and mental challenges that women face when dealing with health issues, like menstruation and menopause, can pose obstacles to women's ability to advance in their careers. This is partly because women's health care needs are generally not well understood by employers and by society as a whole. Thus, it is important to raise awareness of such women-related health challenges in the workplace, as well as to encourage innovation in products and services that provide solutions to improve the health and wellbeing of women.

This online seminar aimed to share best practices to support the development and promotion of FemTech products and services and to raise corporate awareness of women-related health-related challenges. Expert speakers discussed a number of topics related to women's health and FemTech in the APEC region, including the impact of women-specific health-related challenges on industry and the economy; the FemTech startup sector and its drivers; government's role in health care for women; and ways to empower women to take control of their health (and for men to be more aware of and compassionate about challenges faced by women) via FemTech.

The two-hour seminar was held on 31 January 2023, and was attended by 41 people, including delegations from twelve APEC member economies¹ and nine private sector participants from APEC Business Advisory Council (ABAC) and non-member organizations and companies. After the opening remarks, an introductory presentation was given, followed by a Q&A session. Finally, a panel discussion was held featuring representatives from four APEC economies: Japan; Singapore; Chinese Taipei; and the United States. Each of these speakers delivered a brief presentation about the state of FemTech and issues relating to women's health in their respective economies. Following these presentations, the speakers participated in a moderated panel discussion. Details about the speakers are as follows:

- Ms OSHIMA Saki, Introductory Presenter
Head of Femtech Partnerships, Scrum Ventures (United States)
- Dr Brittany BARRETO, Expert Panel Moderator
CEO and Founder, FemHealth Insights (United States)
- Ms MINAGAWA Tomoko, Expert Panelist
Founder & Representative Director, Femtech Community Japan
Executive Director, Women's Health Commercial Lead, Organon Japan
- Ms Francesca GEARY, Expert Panelist
Country Director, fermata Singapore
- Dr Carson CHEN, Expert Panelist
Co-Founder and CEO, iXensor (Chinese Taipei)

2 Event Summary

2.1 Welcome and Opening Remarks

The opening remarks were delivered by Mr NIIKURA Takayuki, director of the APEC Office in Japan's Ministry of Economy, Trade, and Industry (METI).

Mr Niikura introduced the workshop as a component of a project "Empowering Women by Gendered Health Technology 'FemTech'". The goal of the project, which was endorsed by the Policy Partnership on Women and the Economy (PPWE) last year, is to reduce the underrepresentation of women in business.

As a part of this larger objective, this particular workshop is designed to introduce best practices for supporting and disseminating FemTech products and services, raise awareness of women-related health issues, and facilitate discussion about FemTech. Many corporations today lack awareness of how women-specific health issues, like menstruation or menopause, can adversely affect the work performance of women. As a result, women-specific health issues can hinder the career advancement of women and lead to underrepresentation of women in the workplace. Indeed, women are underrepresented in the workplace in most parts of the APEC region, although the extent may vary.

To rectify this problem, this workshop seeks to raise awareness of how women-specific health issues can impact the wellbeing of women in the workplace and to identify areas of support for women pursuing their career. To support women's empowerment, it will also guide government officials and private sector representatives towards implementing impactful solutions informed by best-practices that will ease women-specific health-related challenges through FemTech.

2.2 Introductory Presentation by Ms Oshima Saki

"Empowering women by addressing health-related challenges"

http://mddb.apec.org/Documents/2023/PPWE/SEM1/23_ppwe_sem1_002.pdf

The introductory presentation was delivered by Ms Oshima Saki, head of Femtech Partnerships at Scrum Ventures in the United States.

Ms Oshima introduced herself by sharing that FemTech products helped shift her mindset and empowered her to take charge of her career. According to Ms Oshima, women's health care needs have been (1) stigmatized and (2) underfunded. This is especially true in Asia, where it is socially and culturally taboo for women to talk about their health issues and needs.

Women's health has also been overlooked in health research. For example, the United States' National Institute of Health (NIH) did not require women to be a part of clinical trials until 1993 and women continue to be underrepresented in clinical trials. Women also disproportionately suffer from medical misdiagnoses and overmedication.

Apart from the suffering that health issues cause, women-specific health-related challenges have a serious economic impact. Ms Oshima noted that when women are sick, they are unable to contribute to the economy. This point is illustrated by the economic losses incurred by menopause: it is estimated that menopausal symptoms lead to USD150 billion in annual global economic losses². In addition, period pain is estimated to reduce the total economic productivity of a woman by nine days each year³. Thus, major investments into improving

health care for women could yield massive economic returns. For instance, the World Economic Forum estimates that a USD300 million investment into women-focused health research could yield USD13 billion in economic returns and reduced health care costs⁴. The forum provides another estimate suggesting that every additional dollar spent on improving access to family planning services could yield USD120 in health and economic benefits for the society as a whole. Thus, improving health care for women can make major contributions to sustained long-term economic growth.

Ms Oshima also noted that FemTech needs change from stage to stage of the life-course of women. Young women may be interested in at-home tests for Sexually Transmitted Diseases (STDs) and vaginal health care products, while older women may care more about FemTech solutions for menopause. In addition, according to Ms Oshima, awareness of FemTech needs is growing due to the increased spending power of women and the growing prevalence of women in private sector leadership roles. Technology is also playing an increased role in health care for women. Thanks to technology that tracks period cycles, ovulations, and hormones, startups and corporations are increasingly leveraging data to solve women-specific health care challenges, and more investments are being made in FemTech solutions.

One of the women-specific health-related challenges that emerging startups are trying to solve is menopause. Examples include:

- Gennev⁵ - the first of its kind telehealth platform for menopausal symptoms
- Womaness⁶ - provider of wellness solutions for middle-aged women that markets a series of FemTech products, including supplements and vaginal cream.
- Embr Labs⁷ - developer of a wearable technology that tracks hot flashes and offers non-invasive medical solutions.

Ultimately, public awareness of FemTech needs is growing. More and more research institutions, governments, and companies are becoming aware of the lost productivity caused by women-specific health issues and the repercussions that such issues have for female representation in the workplace. However, more work is needed to raise awareness of women-specific health issues and FemTech solutions, so that new technology-enabled products and services can be made available to working women, preventing their careers from being adversely impacted by women-specific health issues.

2.2.1 Questions and Answers

To start off the Q&A session that followed, Mr Chris WOOD of Washington CORE, the MC of the seminar, asked Ms Oshima what needs to happen for the public to become more aware about women-specific health issues and for more conversations to occur. In response, she stated that it is critical to understand why women are not speaking up about women-specific health issues and to create safe spaces where women can speak up about their health needs.

Ms Oshima was next asked which women-specific health issues are receiving the most attention today from the general public and investors. According to Ms Oshima, reproductive and menstrual health are receiving the most attention from the general public, and the startups follow that demand, sometimes oversaturating some markets, like one for tampon subscription. Up until 2020, investors mainly focused on solutions to improve reproductive

and maternal health. However, from 2021 onward they started noticing that FemTech is not only for women in a certain life stage or to address a few specific health issues but has broader impact for women's health in general. In this context, primary care solutions and preventative care are also receiving considerable attention.

Drawing from the significant role startups and investors play in increasing awareness of women's health issues, the next question asked about the challenges that make it difficult for corporations to realize the health-related needs of their women employees and customers. Ms Oshima noted that a lack of data, caused by the lack of funding and research for women's health issues mentioned in her presentation, is a key obstacle to large corporations, looking to address health issues, venturing into the "risky" field of women's health. In addition, she stated that decision-making processes at corporations, especially those in Asia, are typically dominated by men, making it difficult to steer their focus toward FemTech solutions and women's health care needs.

The next question addressed the challenges FemTech entrepreneurs face when they seek to raise funds from investors. According to Ms Oshima, there are many challenges, and she introduced the main two. The first is unconscious bias directed towards women entrepreneurs. Research shows that investors tend to react to pitches made by female entrepreneurs differently from those made by their male counterparts. For instance, investors tend to ask female founders negative questions and male founders positive ones. Thus, because many FemTech entrepreneurs are female, the FemTech startup sector is disproportionately affected by unconscious bias.

The second main challenge is the lack of knowledge of women-specific health issues among investors. Many FemTech entrepreneurs have trouble pitching their products to decision makers in investing companies, most of whom are men, because many male investors do not understand the importance and severity of health-related challenges women face.

The next question sought solutions that can be leveraged to raise awareness of women-specific health issues. Ms Oshima notes that government will need to play a key role because the leadership in large companies tend to be male dominated. A mechanism by which government can encourage large corporations to take action is providing grants for research in women's health, which would produce evidence for corporate decisionmakers to realize the importance of these issues. Another way is expanding public health care programs to cover women-specific needs, showing the government's commitment to alleviate such challenges.

When asked how governments can promote FemTech solutions so that more women use them, Ms Oshima reiterated that officials and corporate leaders need to first learn why women do not and cannot freely talk about the challenges they face. Only then will it become clear where and when women can share their struggles and solutions with each other. For instance, there are generational differences – younger women, in their twenties and thirties, are more open to sharing their struggles and seeking out ways to improve their quality of life. Older women however may be more susceptible to internalized stigma and need a closed safe place to gather and exchange information with others facing similar struggles.

To the question of whether a "killer app" is needed to boost interest and increase investment for FemTech, Ms Oshima countered that the most important thing is not the solutions but

rather education. She suggested that FemTech founders and entrepreneurs may need to adjust the way in which they frame the surrounding issues and solutions for improving women's health. She encouraged founders to strategize based on the knowledge that investors, especially men, do not understand the very issues they are trying to solve. When asked what investors, like herself, is doing to educate themselves and their colleagues, Ms Oshima mentioned "Women in VC"⁸, an online community of more than 4,000 female venture investors around the world. Through the community, maintained as a Slack group, investors can connect, compare notes, and exchange tips with each other. Ms Oshima attested that it is a good place for an investor like her to find a role model.

Finally, Ms Oshima expressed her hope that more FemTech startups and solutions will emerge from the Asia Pacific region. She mentioned that there is growing interest from large corporations. She feels hopeful based on her own interactions with FemTech founders in the region.

2.3 Expert Panel Discussion

"Good use cases of FemTech to address health-related challenges"

The panel discussion was moderated by Dr Brittany Barreto of FemHealth Insights in the United States. Dr Barreto first invited each panelist, including herself, to make a brief presentation on challenges and opportunities surrounding women's health in their respective economies.

2.3.1 Presentation by Dr Brittany Barreto

http://mddb.apec.org/Documents/2023/PPWE/SEM1/23_ppwe_sem1_003.pdf

According to Dr Barreto, one of the key challenges in the United States is a shortage of obstetricians and gynecologists. Currently, 56% of counties in the United States do not have an obstetrician or gynecologist. In addition, roughly seven million women in the United States have little to no access to maternity care. The shortage of gynecologists is likely to increase in the coming years, as only 19% of gynecologists in the US are under age 40 and participation in gynecology in medical school is decreasing. Factors causing the shortage are burnout and malpractice insurance. Staffing birthing centers, which require cardiologists, neurologists, obstetricians, gynecologists, and nurses is difficult and expensive. Many hospitals in rural areas in the US are losing money and are cutting back on health services for women as a result.

Another important challenge in the United States is the high prevalence among women of chronic diseases like heart disease, cancer, autoimmune disorders, chronic pain, osteoporosis, mental health, brain health, dementia, and stroke. Many of these chronic conditions either disproportionately affect women or affect women differently than men. However, due to its male-centric paradigm, the American health care system and scientific community has limited knowledge about how women are affected. As a result, women's chronic problems are more likely to be misdiagnosed or mishandled than men's symptoms. Dr Barreto emphasized the need for solutions by stating the economic impact – 90% of the economy's health care

expenditures, equal to USD4.1 trillion annually, is spent on patients with chronic and mental health conditions.

The United States also has the highest maternal mortality rate among developed economies (17 deaths per 100,000 live births). Much of this is caused by understaffing at rural maternity centers and a general lack of guidelines for high-risk pregnancies. There are also racial and economic disparities – Black women are much more likely than white women to die giving birth. Dr Barreto mentioned that a quarter of these birth-related deaths are caused by either stroke or heart disease. Further, she drew attention to the mental health of expecting mothers. It is estimated that postpartum suicides impose an 18-billion-dollar burden on the US economy.

Dr Barreto concluded by presenting four opportunities she sees for improving conditions for women's health in the United States:

- 1) invest in maternal health research and innovation;
- 2) allocate research funds to study chronic conditions in women;
- 3) increase public health insurance reimbursement rates for obstetric services; and
- 4) expand access to and improve integration of the midwifery and doula services.

2.3.2 Presentation by Ms Minagawa Tomoko

http://mddb.apec.org/Documents/2023/PPWE/SEM1/23_ppwe_sem1_004.pdf

According to Ms Minagawa, the Japanese government is looking to address women-specific health issues and take action to reduce gender inequality in Japanese corporations. Japan is currently ranked 116th in the Global Gender Gap Report (GGGR). Japan's low ranking in the GGGR is considered an obstacle to short-term, mid-term, and long-term economic growth. Japan's declining birthrate is another reason why the Japanese government is increasingly eager to act on women-specific health issues.

Against this background, Ms Minagawa identified three key challenges that are preventing progress on women-specific health issues and utilization of FemTech in Japan. The first challenge is societal taboos that prevent women from speaking about their health issues and needs. The older generations, men, and rural communities in particular lack awareness of women's health, although younger women show increasing interest in solutions like FemTech. Programs that increase awareness of women-specific health issues could empower women to increasingly speak up about their health issues.

The second challenge is that women, their families, employers, and society at large have limited awareness of sexual reproductive health and rights (SRHR). This is evidenced by data from Organon Japan, which shows that only a small percentage of Japanese women indicated that Japanese society as a whole understands the health-related challenges they face. In addition, many women indicated that they often feel uncertainty when faced with certain health issues (like fertility treatment). Ms Minagawa pointed out that the lack of opportunities to learn about SRHR matters for both men and women at different life-stages may be the cause of this challenge. She expressed her hope that FemTech startups may be able to fill that gap by being the catalysts for such learning.

The third challenge is the lack of investment into and limited availability of FemTech products and services. While there are FemTech startups emerging in Japan, more investment

is needed to stimulate technological development in certain FemTech areas. Thus, government and the private sector need to develop new funding mechanisms for FemTech. Moreover, increased government funding for FemTech research, innovation, and startups presents a fruitful avenue for government to increase FemTech uptake and awareness in Japanese society.

To conclude her presentation, Ms Minagawa spoke about governmental support for innovation and entrepreneurship. As examples from Japan, she mentioned a FemTech discussion group formed by the members of the Diet, Japan's parliament, as well as a grant program launched by the Ministry of Economy, Trade and Industry (METI). Another opportunity, she said, is to provide more places to speak about women's health and technology solutions, like conferences. And, lastly, she concluded on a hopeful note that recent increases in investment for FemTech may cause more technology solutions to emerge in coming years.

2.3.3 Presentation by Ms Francesca Geary

http://mddb.apec.org/Documents/2023/PPWE/SEM1/23_ppwe_sem1_005.pdf

Ms Geary, the Country Director of fermata Singapore addressed the three challenges faced by women in Singapore at various stages of life. fermata Singapore is a privately-run online marketplace dedicated to advocating for FemTech products and education. The company also delivers consulting and advisory services as a market entry partner to foreign and domestic startups - and to corporate partners to promote the enhancement of women's health and wellbeing.

Ms Geary began by speaking about menstrual care and hygiene. Regardless of the fact that a woman goes through menstruation for a large part of her life, it is difficult to talk about and seek professional care for it due to various cultural, religious, financial, and sometimes professional hurdles. Taboos often cause women to hesitate to seek professional care, which can lead to delayed diagnoses of health problems. For example, despite the fact that one in 10 women in Singapore suffers from endometriosis, it can take up to four years for some of these cases to be diagnosed.

Menstrual health in the workplace is also a serious issue in Singapore, where about 61% of the total workforce is composed of women. Research shows that the average woman loses up to 5.8 workdays a year due to menstrual symptoms. This lost time has serious economic ramifications and can cause women to lose job security and self-esteem.

Ms Geary then moved on to address challenges concerning the reproductive stage of a women's life-course and to fertility and infertility. The reproductive stage is not only a pivotal stage for women themselves but also has important ramifications for the economy and population. Regardless of the recent recovery in Singapore's fertility rate, it remains one of the lowest in the world and below the replacement level of 2.1. In addition to the fact that an increasing number of couples are getting married at an older age, if there was a delay in identifying and treating medical problems at the earlier menstrual stage of their lives, women may lose the opportunity for to have children. Another issue in Singapore is the lack of information and resources on infertility/fertility, fueling common misconceptions about how to conceive. IVF treatment has only just recently started being promoted in the economy.

Finally, menopause represents a serious problem for women in the workplace. Because the retirement age in Singapore will become 63 at the end of 2023, most working women will experience menopause while still working (the average menopausal age in Singapore is around 49 years old). However, there is little research and knowledge in Singapore on how menopause affects women in the workplace. Therefore, solutions increasing awareness of menopausal symptoms could be a key intervention for boosting the success of women later on in their careers. However, in reality, there is a general lack of support systems for women in managerial positions to deal with these symptoms, which would otherwise prevent many women from dropping out of leadership positions.

As opportunities for Singapore, Ms Geary suggested 1) Education, 2) Research, and 3) Policy. She said that the education can take place for both women and men, at the community level and at management level, as well as through different institutions like schools. She also emphasized the need for more research on women's health, which would lead to more needs and solutions being uncovered. And lastly, Ms Geary hoped for changes in policies both in government and corporations to provide support and programs to improve women's health.

2.3.4 Presentation by Dr Carson Chen

http://mddb.apec.org/Documents/2023/PPWE/SEM1/23_ppwe_sem1_006.pdf

Dr Chen began by stating that unlike in many other Asian economies, women are well-represented and startup leadership of Chinese Taipei. Garage+⁹, a leading startup accelerator in Chinese Taipei, is also headed by a woman. In addition, Chinese Taipei is renowned for its information and communications technology (ICT) industry, making it fertile ground for FemTech innovation. Regardless, Chinese Taipei still faces numerous challenges related to FemTech and women's health.

First, Dr Chen mentioned that the economy's low fertility rate is a key challenge. In fact, Chinese Taipei has seen the lowest fertility rate in the world in recent years, reaching a record low of less than 0.6% in the year 2022. One major cause is said to be the age of parents-to-be - the average age at marriage is steadily increasing in Chinese Taipei. Dr Chen added that the economic burden of parenting on a household, as well as the lack of support from the workplace and family members, are the key factors for the low fertility rate¹⁰. Due to these pressures, the government of Chinese Taipei is developing policies designed to encourage family formation with financial support for fertility treatment.

Breast cancer is also an important women-specific health issue. Breast cancer is the number one cause of cancer-induced death for women in Chinese Taipei, with a mortality rate of 24.6%¹¹. It also is the most prevalent cancer among women in Chinese Taipei, with the number of diagnosed patients exceeding 125,000¹². This leads to over USD440 million in annual health care expenses related to breast cancer. In an effort to detect the cancer early, and thereby increase the survival rate of the patients and lower the related medical costs, the government is now trying to provide free check-ups for women over the age of 45.

The third main challenge in Chinese Taipei relates to menopausal disorders. While one-third of menopausal women suffer medium to severe symptoms, only 10% of women between 35 and 45 ever take menopausal sick leave (the average age of menopause in Chinese Taipei is around 48 years old). Further, only 28% of women in Chinese Taipei ever seek professional

medical attention for menopausal disorders. Due to the social stigma associated with the topic, women in Chinese Taipei tend to seek alternative solutions for such symptoms.

Concerning efforts to address these challenges, Dr Chen praised the government's support to improve women's health. In particular, as part of its efforts to increase the economy's fertility rate, Chinese Taipei's government provides financial support for couples who want children and go through IUI/IVF treatments. The government also provides free annual cancer screening for women over 45. In terms of technological solutions, fertility treatment is also the area where people in Chinese Taipei are more open to trying out new solutions presented by startups. And lastly, Chinese Taipei's strong ICT industry creates an environment for FemTech startups to easily gain support when developing their technology-enabled products.

2.3.5 Discussion

After these presentations, Dr Barreto invited all panelists to introduce themselves and their organizations so that the audience members could reach out to them for follow-up inquiries if desired (Please see the appendix for details about their backgrounds and associated organizations, as well as links to presentation slides listing their contact information).

Dr Barreto then asked each panelist to describe the current state of FemTech startups in their respective economies. According to Dr Barreto, over one-third of all FemTech startups in the world – 500 out of 1,500 - are located in the United States. She also mentioned that, in the United States, various kinds of FemTech products and services are available, with consumer-packaged goods and digital health apps leading the way. The number of investors in the United States is also growing, including six venture funds focused on FemTech.

Dr Chen noted that, with support from an increasing number of women in leadership roles, the FemTech ecosystem in Chinese Taipei is just starting with about 10-20 FemTech startups. The majority of these firms are in the early stages of development, and there is no FemTech dedicated VC fund.

Japan is slightly ahead of Chinese Taipei, according to Ms Minagawa, with a FemTech boom having started several years ago and 120 to 150 FemTech startups existing today. Although there is no Japanese venture capital fund that is exclusively dedicated to FemTech, many are interested in investing. Ms Minagawa emphasized that the future is bright for FemTech in Japan.

Ms Geary noted that Singapore's FemTech industry is comparatively small and recently established compared to those in other economies. In 2020, there were only eight FemTech startups reported¹³. However, by the time Fermata published its inaugural Southeast Asia FemTech Market Map in 2021¹⁴, the number had increased to 23. In 2022¹⁵ the number surged to 32, signaling a significant upswing in the FemTech sector's growth in Singapore.

The next question probed the reasons for the rise of FemTech in each panelist's own economy. Ms Geary said consumer interests are the main driver in Singapore. She noted that the younger generation is taking more responsibility for and interest in their health. In addition, younger generations of women are becoming increasingly more comfortable talking about their health care needs and are actively seeking out new technologies. The public's increased interest in health care for women is generating more innovation from entrepreneurs.

In Japan, according to Ms Minagawa, growing media visibility of FemTech products and services is increasing awareness of women-specific health issues among the general public, particularly among women who consume these products and services. She also emphasized that government actions have accelerated this trend, as well. For instance, the Japanese government instituted a major expansion of Japan's public health insurance policy to cover fertility treatments. These various factors are contributing to increased awareness of the health-related challenges women face, creating a conducive environment for FemTech growth.

In Chinese Taipei, one of the main drivers of FemTech adoption and innovation is the government's push to address fertility issues, including not only financial support, but also aid for parenting and other economic measures.

Dr Barreto, discussing the factors driving FemTech in the United States, noted that increasing female representation in science, technology, engineering, and math (STEM) industries is driving FemTech innovation and adoption because women are more likely to develop products for women. As the proportion of female investors grows, more money will be invested in FemTech startups. Finally, growing female representation in the workforce is increasing awareness of women's health issues and the younger generation of women is especially instrumental in driving this trend.

Next, the panelists were asked to describe the impact of women-specific health issues in their respective economies. Ms Minagawa said that women-specific health issues have led to lost opportunities for women's participation in the Japanese economy. This was made clear by a study done by METI¹⁶, which led to companies realizing that addressing health-related challenges for their woman employees will generate a clear return on investment. According to Dr Barreto, women being sick causes a large economic burden for the United States. Moreover, she argues that "women's health is everyone's health" because women-specific health issues have a ripple effect that affects children, businesses, and communities. Dr Chen noted that unhappy and/or unhealthy women impose a "hidden loss" on the economy in Chinese Taipei, where women constitute 50% of workforce and 30% of the managers.

Panelists were then asked to discuss popular FemTech business models in their respective economies. In Singapore, consumer convenience is very important, which has led to the development of direct-to-consumer solutions like telehealth medicine and other services that bring health care products directly to consumer homes. Another important consideration is ease of use for working women. Ms Geary also notes that menopause is a largely unaddressed health issue in Singapore that has room for future growth. In Japan, large corporations are increasingly taking an active role by providing health welfare programs specifically designed for their female employees, which creates opportunities for FemTech companies to engage in partnerships with these corporations to provide their products and services as a part of these programs. This provides a niche opportunity for FemTech consultancy organizations that bridge the gap between corporations and FemTech startups.

The next question asked panelists to describe market entry barriers for FemTech companies aiming to expand their business across borders into their respective economies. In Japan, unique and complicated government regulations of medical products can serve as a barrier. Thus, according to Ms Minagawa, foreign medical product companies seeking to operate in Japan should try to find local partners that can help navigate Japanese business regulations.

Dr Chen, speaking from his own experience, agreed with Ms Minagawa that it is important for a FemTech startup exploring an offshore market to partner with local players who know the market. Further, he pointed out that hospital groups can also be good partners for medically-oriented FemTech firms who want to sell their products and services directly to consumers. According to him, regulations of health care technologies are also very strict in Chinese Taipei. While regulators in other economies like the US Food and Drug Administration (FDA) exercise enforcement discretion, not treating some mobile-app-enabled solutions as medical devices, that is not the case in Chinese Taipei. Therefore, new FemTech innovations and solutions can take a long time to be approved in the economy.

When the conversation turned to cultural acceptance of women-related issues in the APEC region, Dr Barreto turned to Dr Chen for a male perspective. Dr Chen responded by admitting that he had to spend extra time trying to understand the challenges women face and that he had become increasingly compassionate as he learned more. He also said, “It's not just a challenge for women, it's a challenge for the society”, emphasizing the need for more comprehensive understanding of the issue, and its economic impact, by society as a whole. Dr Barreto and Ms Minagawa agreed, mentioning devices that are used to increase awareness by having men experience cramps similar to those suffered by women during menstruation.

In the final stage of the panel discussion, panelists were asked to outline their main requests for audiences in their respective economies. Dr Barreto asked Americans to push to establish an Institute for Women's Health at the US National Institutes of Health (NIH), a group of 27 grant-giving institutions for medical research, none of which focuses on women's health. Therefore, researchers have difficulty receiving grants for their proposals, if the organs or health issues they propose to study are specific to women. Dr Barreto argued that creating an institute with the authority to give funding for health research specifically for women is a critical need.

Ms Geary asked for more dedicated research for women's health and its economical and societal impacts in Singapore and beyond. This is because research-backed evidence will be the beginning of everything else from policy formulation to funding for solutions. She also sees research as a tool to update education on women's health, both for schoolchildren and for adults, such as government officials and corporate leaders.

Ms Minagawa encouraged the public and private sectors to support scientific research and development of FemTech solutions. She pointed out that this is particularly important for diversification of FemTech products and services in Japan. According to her, the products and services that are most popular in Japan today are those called “FemCare” products (e.g., period underwear, skincare gel) that do not require so much technology innovation. While acknowledging the benefits of these FemCare products and their comparative ease of monetization, Ms Minagawa said that she would like to see Japanese FemTech providers go further to provide more science-backed technology-enabled solutions. In order to achieve this, she noted, startups may want to collaborate with large corporations, in addition to government agencies, in their research and development efforts.

Finally, Dr Chen called for government to provide more financial support to FemTech, not only for innovations but also to increase awareness on women-specific health challenges and to promote adoption of FemTech products and services.

2.4 Closing Remarks

The closing remarks were delivered by Ms KAWAMURA Miho, Director for the Economic and Social Policy Office in the Ministry of Economy, Trade, and Industry (METI) Japan. She began by thanking the audience for attending the seminar and the speakers for sharing their insights on FemTech. She then went on to discuss the participation of women in the Japanese labor market. While the participation of women in the labor market has increased progressively over the last 10 years, women remain considerably underrepresented in corporate leadership positions compared to women in other economies.

METI has pushed to empower women through its Nadeshiko Brand initiative¹⁷ and by inviting women who are candidates for executive positions to receive leadership development training. METI has also worked to promote health care for women. According to a recent survey, for example, 33% of women in Japan have resigned from or changed jobs in order to balance work with infertility treatment, suggesting that many women leave their jobs due to life events or health issues. Therefore, METI is promoting FemTech as a solution to prevent women from quitting their jobs because of health issues. Ms Kawamura concluded her remarks by expressing her hope that this workshop would help improve health literacy for women in the APEC region by raising awareness and disseminating best practices.

Annex A: Seminar Handouts

Agenda

FemTech: Economic empowerment of women with health technology

~ Tuesday, 31 January 2023* ~

#	Start*	End*	Description
1	9:00	9:05	Housekeeping announcements
2	9:05	9:15	Welcome and opening remarks Mr NIIKURA Takayuki, Director for the APEC office, Trade Policy Bureau, Ministry of Economy, Trade and Industry, Japan
3	9:15	9:30	Introductory presentation “Empowering women by addressing health-related challenges” Ms OSHIMA Saki, Head of Femtech Partnerships Scrum Ventures (United States)
4	9:30	9:40	Audience Q & A
	9:40	9:50	Break
5	9:50	11:05	Expert panel discussion “Good use cases of FemTech to address health-related challenges” Moderator: ➤ Dr Brittany BARRETO, CEO and Founder FemHealth Insights (United States) Panelists: ➤ Ms MINAGAWA Tomoko, Founder & Representative Director, Femtech Community Japan Executive Director, Women's Health Commercial Lead, Organon Japan ➤ Ms Francesca GEARY, Country Director fermata Singapore ➤ Dr Carson CHEN, Co-Founder and CEO iXensor (Chinese Taipei)
6	11:05	11:10	Event summary and takeaways from the organizer
7	11:10	11:15	Closing remarks Ms KAWAMURA Miho, Director for the Economic and Social Policy Office Economic and Industrial Policy Bureau Ministry of Economy, Trade and Industry, Japan

* Note: program dates and times are shown in Singapore Standard Time (UTC+8:00).

Speaker Biographies

Dr Brittany BARRETO, Moderator

CEO and Founder, FemHealth Insights (USA)



Every day Dr Barreto dedicates her work to advancing women's health innovation by equipping key stakeholders with data-driven insights and strategic advice on the femhealth market. She received a doctorate from Baylor College of Medicine in Molecular and Human Genetics where she discovered a small RNA that regulates the genomic mutation rate. She founded several businesses including Pheramor, the world's first DNA-based dating app, and is a US patent holder on predicting personality from DNA. Additionally, she worked in venture capital and launched the Gulf Coast Branch for Capital Factory, the most active venture fund in Texas. Dr Barreto noticed how underserved the women's health (FemTech) industry was and set out to bring awareness, resources, and capital to it. She hosts the #1 FemTech podcast, FemTech Focus, co-founded an early-stage FemTech investment firm, Coyote Ventures, and founded FemHealth Insights, a boutique consulting firm with a market research software tool specializing in women's health innovation.

Ms MINAGAWA Tomoko, Expert Panel

Founder & Representative Director, Femtech Community Japan

Executive Director, Women's Health Commercial Lead, Organon Japan



Ms Minagawa founded Femtech Community Japan, an industry association to accelerate the FemTech eco-system through networking with 500+ players in Japan, Asia and around the world. She is currently responsible for Organon's business development and expansion in the Women's Health and FemTech domains. Prior to Organon, she was engaged in start-up investment for a top-tier VC firm, focusing on the domains of FemTech/Women's health and a broad range of Deeptech. She has 15+ years of experience in management consulting for enterprise companies in cross border business development, open-innovation strategy and strategic alliance implementation in global consulting firms, and management experience as a startup CxO.

Ms Francesca GEARY, Expert Panel

Country Director, fermata Singapore (Singapore)



Ms Geary is the Country Director of fermata Singapore, a Tokyo and Singapore-based startup that provides comprehensive market entry services and an e-commerce marketplace focusing on women's health. She is a recognized leader and personality in the FemTech industry within Singapore and Southeast Asia, and she is known for the development of the region's first ever market map, highlighting the latest FemTech trends and opportunities. Ms Geary is passionate about raising awareness and educating people on the importance of women's health and is dedicated to fostering conversations around FemTech

across Asia.

Dr Carson CHEN, Expert Panel

Co-Founder and CEO, iXensor (Chinese Taipei)



Dr. Chen is a co-founder and CEO of iXensor, a start-up in Chinese Taipei which turns ordinary smartphones into versatile instruments for at-home self-testing. An area of focus of iXensor is to facilitate women's fertility journey with personalized hormone monitoring, and to date, it has helped tens of thousands of women in Chinese Taipei and Viet Nam who are trying to conceive. iXensor is also working with Rohto Pharmaceutical of Japan and Innova Medical Group of the United States to bring smart fertility solutions to other economies in Asia and Europe.

He is devoted to putting Chinese Taipei's health innovations on the global map by mentoring young entrepreneurs and building alliances with international leaders. Prior to launching iXensor, Dr. Chen was a visiting researcher at Stanford, Caltech, and MIT. During his residency, he worked with medical doctors and biologists to develop advanced optical imaging technologies. He earned his Ph.D. in Electrical Engineering at NTU.

Ms OSHIMA Saki, Introductory Presenter

Head of Femtech Partnerships, Scrum Ventures (USA)



Ms Oshima leads women's health initiatives at Scrum Ventures, an early-stage venture capital firm based in San Francisco and Tokyo. At Scrum Ventures, as a Japanese-English bilingual Business Development Manager, Ms Oshima has developed a program based on corporate clients' needs so that they co-create new business opportunities leveraging their assets and startup technologies. She has been actively bridging the gap between Asia and the US, leveraging her global background. Prior to Scrum, she was involved with open innovation projects in San Francisco and Tel Aviv. Ms Oshima holds an MBA degree from the University of California, San Diego, Rady School of

Management.

Participant Survey Form

Information learned from the seminar

Instructions: Please indicate your level of agreement with the statements listed below by circling the number that applies. Please leave comments if any.

The seminar was helpful for deepening my understanding on some of the most prevalent health concerns for women, such as menstruation and menopause.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The seminar opened my eyes to the lack of awareness in the workplace regarding women-specific health issues.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The seminar has strengthened my view that women-specific health issues, as well as the lack of awareness of them in the workplace, hinders women's careers.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The seminar was helpful for deepening my understanding of “FemTech” and the current trends in its market.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The seminar has strengthened my view that FemTech can help to resolve some of the factors that hinder women's careers.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

Helping the FemTech industry to flourish in the APEC region will be beneficial for my economy and/or organization.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The presentations helped me learn about obstacles for FemTech companies to develop their businesses in the APEC region.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

The best practices and recommendations discussed during the seminar could be effective for my economy and/or organization.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

I would be interested in attending future APEC seminars on this topic.

1. Strongly Disagree 2. Disagree 3. Agree 4. Strongly Agree

Comment:

Findings and suggestions

What were the most useful insights that you learned from today's seminar?

Are there any additional topics that were not covered in this seminar that you would like to see addressed in future APEC reports and/or events relating to Women and the Economy?

What further steps should APEC take to address member economy concerns on this subject?

Participant information

Economy: _____

Organization type: (Please select one that applies from below)

Government agency	International organization (APEC, etc.)	Private company or industry organization	Educational / Research institution	Others
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If “Others”, please specify.

The following information is optional.

Name/position:

Organization name:

Email:

Gender: Male / Female / Prefer not to specify

Thank you. Your evaluation is important for helping us assess this project, improve project quality and plan for next steps. If you have any questions or additional comments, please contact:

apec@wcore.com

Annex B: Workshop Presentation Materials

All presentation materials are accessible via the APEC Meeting Document Database (MDDDB):

<http://mddb.apec.org/Pages/search.aspx?setting=ListMeetingGroup&DateRange=2023/01/01%2C2023/01/end&Name=Seminar%20on%20FemTech%3A%20Economic%20Empowerment%20of%20Women%20with%20Health%20Technology%202023&APECGroup=%22Policy%20Partnership%20on%20Women%20and%20the%20Economy%20%28PPWE%29%22>

Annex C: References

¹ Australia; Chile; Hong Kong, China; Japan; Malaysia; Mexico; New Zealand; Papua New Guinea; the Philippines; Singapore; Chinese Taipei; and the United States

² <https://www.bloomberg.com/news/articles/2021-06-18/women-are-leaving-the-workforce-for-a-little-talked-about-reason>

³ <https://bmjopen.bmj.com/content/9/6/e026186>

⁴ <https://www.weforum.org/agenda/2023/01/davos2023-womens-health-rethinking-the-cost-as-an-investment-for-societal-gain/>

⁵ <https://www.gennev.com/>

⁶ <https://womaness.com/>

⁷ <https://embrlabs.com/>

⁸ <https://www.women-vc.com/>

⁹ <https://garageplus.asia/en/>

¹⁰ <https://www.parenting.com.tw/article/5093362>

¹¹ <https://tw.news.yahoo.com/%E5%A5%B3%E6%80%A7%E4%B9%B3%E7%99%8C-%E6%AD%BB%E4%BA%A1%E7%8E%87%E5%B9%B4%E5%A2%9E10-%E5%8D%81%E5%A4%A7%E7%99%8C%E7%97%87%E6%AD%BB%E5%9B%A0%E4%B8%AD%E6%9C%80%E9%AB%98-132417991.html>

¹² <http://bit.ly/3IEjfur>

¹³ <https://vulcanpost.com/744940/the-rise-of-femtech-in-singapore/>

¹⁴ <https://sg.hellofermata.com/blogs/blog/femtech-market-map-of-southeast-asia-2021>

¹⁵ <https://sg.hellofermata.com/blogs/blog/femtech-market-map-of-southeast-asia-2022>

¹⁶ A study delegated by METI in 2020 estimated that the total economic impact of FemTech would reach approximately 2 trillion yen per year by the year 2025. This is the total amount of increased income that women would earn with the assistance of FemTech products and services to make it easier for them to continue working as full time staff and to be promoted. The breakdown of the impact by symptoms addressed can be seen on the p13 of the linked document [in Japanese only]:

https://www.meti.go.jp/policy/economy/jinzai/R2fy_femtech.pdf

¹⁷ https://www.meti.go.jp/english/press/2022/0322_005.html