

The role of human-centred design in promoting understanding of local contexts: a study of Japanese students addressing social issues in Bangladesh

Miyama, Kenichiro^a; Inoue, Shiro^{*b}; Shirasaka, Seiko^c

^a The Graduate School of Project Design, Tokyo, Japan

^b Zuyd University of Applied Sciences, Maastricht, The Netherlands

^c Keio University, Graduate School of System Design and Management, Yokohama, Japan

* info@adjectiveverb.com

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When implementing design projects aimed at solving social issues across borders, it is essential to deeply understand the local people and culture. In particular, when enterprises in developed countries deploy services to address social issues in developing countries, the lack of understanding of the local context and biases can become a barrier to sustainable business development. In such a context, a human-centred design approach plays an important role in the process of designing as it facilitates an in-depth understanding of local people and culture. In the context of education, when students in a developed country develop sustainable services and businesses in order to take on social issues in a developing country, what components in the design process promote such an understanding of the local context? What types of approaches provide them with insights into the local people? Or, how do these insights inform their design processes and ideation? This paper reports the results of a study that investigated the influence of a human-centred design approach, employed in a module aimed at addressing social issues in Bangladesh by proposing sustainable service designs, for a particular group of Japanese undergraduate students. This study especially examined what components, typically involved in a human-centred design approach, influenced students' perspectives on the local context within the module, focusing on the four consideration frameworks: 1) Being aware of local social issues and market needs; 2) Co-creation of values in the local market; 3) Utilisation of local resources and capabilities and; 4) Building partnerships with diverse stakeholders.

Keywords: *human-centred design; service design education; social problem solving; design for the base of the pyramid*

1 Introduction

For several decades, the human-centred design approach, which focuses on humane aspects of the target user/audience as the core component in the design process, has been deployed in design practice and pedagogy. This approach, which is based on meeting people's needs and desires, is a core quality in the design of today's products and services (van der Bijl-Brouwer & Doorst, 2017). Due to



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its applicability, the human-centred design approach is implemented in a wide range of fields such as public services, products, policies and procedures across domains such as housing, employment, health, crime prevention, and education (van der Bijl-Brouwer, 2016).

This human-centric design approach has been widely adopted in design projects aimed at taking on social issues in developing countries (Smith, 2007; IDEO, 2015; Brown & Wyatt, 2010). These projects highlight the importance of collaboration between designers and local communities and an in-depth understanding of the specific needs of the local people living in poverty. The practice of observing and interviewing people in their natural habitats, as a means to understand the local context, has become widely established in design, focusing on people, context, behaviour, and subsequent insight into motivation and meaning (Fulton, 2011). In order to gain an in-depth understanding of people's needs and wants, empathy building is necessary for designing products or services that truly resonate with them (Leonard and Rayport, 1997).

Even though being empathetic is a critical ingredient in a human-centred design approach, cultural differences make this process difficult in intercultural communication (Styes, 2020). Highlighting the significance of including user perspectives from each culture (Walton, 2016; Norman & Eucher, 2016), Styes (2020) argued that although the development of digital communication means made intercultural communication easier, the human-centred approach fails to account for the transcultural element. In this setting, the designers need to make an effort to close communication gaps when they interact with people who have different backgrounds.

As the authors of this paper observed during the study, this limitation also applies to project-based design education where students design services for social issues in countries that are unfamiliar to them. Especially when implementing designs for target countries with significantly different cultural and economic backgrounds, the difficulty lies in achieving an in-depth understanding of the local culture due to language barriers, information bias, and other factors. This problem aligns with the difficulty faced by enterprises in developed countries when designing sustainable businesses, and addressing social issues in developing countries.

On a global scale, societies across the world are facing social issues such as environmental problems posed by climate change, resource problems arising from conflicts around the world, and human rights issues. The people most affected by these problems are those in poverty. The United Nations adopted the SDGs in September 2015 as an approach to address these social issues, and enterprises in developed countries are accelerating their efforts in their business to tackle societal problems. However, it is not easy for enterprises in developed countries to meaningfully engage with complex social issues such as poverty in developing countries (Ceschin & Gaziulusoy, 2016). In the field of international business research, there is a growing focus on emerging markets in developing countries where growth is remarkable (Amano, 2010; Luo & Zhang, 2016; Teece, 2014 (a); Teece, 2014 (b)). Amano (2010) argued that there is a discontinuity when multinational corporations (MNCs) in developed countries enter emerging markets. A lack of understanding of the local market and cultural context hinders the successful implementation of services in developing countries. In particular, the lack of understanding is summarised in four aspects (Amano, 2010): 1) Contextual differences from developed markets; 2) Market orientation and resource commitment; 3) Resource and capacity constraints and 4) Building partnerships with stakeholders.

On the other hand, the research on BOP (Base of the Pyramid) business addresses the impoverished communities in developing countries (Hammond & Prahalad, 2007; London & Hart, 2004; Kolk, Rivera-Santos & Rufin, 2014). The BOP is the poorest portion of the global population living with an annual income below a certain Purchasing Power Parity (PPP) threshold (Ceschin & Gaziulusoy, 2016) and the approach of BOP business aims to contribute to poverty alleviation and solve social issues, discovering specific needs of the impoverished society (Sugawara, 2010; Gomez et al., 2012). Arguably, one of the keys to implementing sustainable and successful services is an in-depth understanding of the local context (Pitta et al., 2008) such as what the poor need, what capabilities the poor can offer, etc. (Jagtap et al., 2013).

The authors' previous study pointed out the difference between the MNCs' approach to emerging markets and the BOP business's approach which focuses on a local perspective in developing countries (Miyama, 2022). Miyama argued that the aforementioned four aspects, when MNCs enter developing countries, can turn out to be a potential opportunity when complementarily integrated into the perspective of BOP business. It enables MNCs from developed countries to provide the local society with sustainable and valuable services, removing biases and facilitating a better understanding of the local context and needs. In particular, considering the following four consideration frameworks enable designers, especially from developed countries, to design sustainable products, services and services systems that cater for local needs:

- Being aware of local social issues and market needs
- Co-creation of values in the local market
- Utilisation of local resources and capabilities
- Building partnerships with diverse stakeholders

Focusing on this viewpoint, the authors developed a module for business design students with the aim of designing sustainable services to address social issues in the developing country Bangladesh. The module was delivered in 2022 during the COVID-19 pandemic in Japan and utilised technologies such as the online whiteboard and a meeting platform as a collaborative working platform. Additionally, this module adopted the human-centred design/design thinking iterative approach (IDEO, 2015) within the research and design processes to identify and address particular social issues in Bangladesh.

This paper reports on a post-module study that was conducted after the completion of a module. The study was voluntarily participated in by students who had taken the module. The objective of the study was to identify what elements of the module critically dictated the students' service design process from the perspective of the four frameworks mentioned earlier. Additionally, the study delved into how the human-centred design methods adopted in the module influenced the students' perception of local social issues that were previously unfamiliar to them.

2 The special module

2.1 Overview

During the period of April to August 2022, the authors delivered a special module focusing on social issues in Bangladesh, at Senshu University in Japan. The module aimed to encourage the students to develop sustainable service designs as a response to local social issues, deploying a user-centred and design-thinking approach. This module also aimed to propose the service design proposals to the local

stakeholders (i.e. a local consultancy in Dacca and the Bangladesh office of the Japan External Trade Organization). This module was delivered in a hybrid fashion: one of the authors taught on campus and the other joined online from the Netherlands throughout the period. Additionally, the module used an online whiteboard (i.e. Adobe XD) as a shared working platform for group work within the research process. Utilising the shareable feature of the online whiteboard not only allowed the students to implement their group work asynchronously but also allowed the author as an educator to share and mentor their progress from abroad. The module comprised of 15 weekly classes.

2.2 Content design of the module

The content of the module was formulated by dividing it into the following five key stages:

1. Exposing and rethinking biases
2. Delving into the local context
3. Generating service design ideas as a solution
4. Validating ideas
5. Gaining feedback from the stakeholder

2.2.1 Stage 1: Exposing and rethinking biases

In this stage, the students were encouraged to discuss the cultural differences and similarities between Bangladesh and Japan without prior knowledge. At the beginning of the module, most of the students were unfamiliar with Bangladeshi culture. They discussed the cultural differences and similarities based on their own experiences and impressions. This stage prompted them to expose their unconscious biases, especially about looking at the developing country (i.e. Bangladesh) from a developed country's viewpoint. For this reason, the students were asked to answer abstract questions (such as "What does poverty mean to you?") to encourage comparative and relative analysis between developed and developing countries, articulating not only differences but also commonalities between the two.

2.2.2 Stage 2: Delving into the local context

This stage required students to gain information about Bangladesh through external sources including conducting desktop research and the first interview with local stakeholders. This provided the students with an opportunity to consider the difference between what they initially thought about the country and what they found through research.

2.2.3 Stage 3: Generating service design ideas as a prototype for solution

This stage aimed to encourage the students to generate sustainable service design ideas through iterative discussions and brainstorming exercises using online whiteboard templates.

2.2.4 Stage 4: Validating Ideas

This stage aimed to clarify the details of their ideas. By conducting an informant interview (an interview with the potential user of their services) and facilitating exercises such as creating user journey mapping, the students were encouraged to develop sustainable, feasible and desirable proposals, considering the benefit for the potential collaborators and local communities.

2.2.5 Stage 5: Gaining feedback from the stakeholder

The proposals were presented and thereafter reviewed and critiqued by the local stakeholders. The detailed descriptions of the module content delivered within the module are shown in Table 1.

Table 1. Stages and details of the module content delivered in the module

Stages	Module content title	Module content description
1. Exposing & rethinking biases	What does “future” mean to you?	Each group discussed how society potentially changes towards the future, comparing developed countries and developing countries. This task was completed before the literature review.
	What does “poverty” mean to you?	Each group discussed the notion of “poverty” reflecting types of poverty in both developed and developing countries.
	Reverse thinking	Each group discussed turning positive aspects of Japanese culture into “potential social challenges”, and negative aspects of Bangladesh culture into “potential social opportunities”.
2. Delving into the local context	Literature review (Desktop research)	Gathering information individually. Then, each group articulated the theme subject that was focused on in the module through group discussion.
	Formulating a hypothesis	Formulating a hypothesis through group discussion.
	Stakeholder interview (online)	Gaining feedback on the hypothesis formulated and insights into the local context through interviewing the members of a local business consultancy.
3. Generating service design ideas as a solution	How Might We	Generating guide questions following the “How might we...?” sentence to explore solution ideas.
	Brainstorming	Based on the “How Might We” questions, each group generated service design ideas that cater for local needs.
	Prioritising ideas	The ideas were evaluated by positioning the ideas written on sticky notes on the priority matrices and they selected the final idea.
	Visualising business plan	Each group formulated a sustainable business plan for their services as a prototype, articulating the key ingredients of the designs such as the objective of the business (why) the service provider (who), the potential collaborator (with whom), the targeted customer (to whom) and so on.
	Hop Step Jump	As part of visualising the business plan, each group discussed how the service grows from a short- and long-term perspective.
4. Validating ideas	Informant Interview (online)	Gaining feedback on and insight into their service design proposals by interviewing three Bangladeshi university students.
	Creating persona	Each group articulated customer values, developing a user/customer persona based on the insights derived from the interview.
	Creating user-journey mapping	Each group developed a user/customer journey mapping for each of the service design proposals.

	Pre post-mortem	Each group discussed potential issues/obstacles that their proposals involve, assuming their services will be failed.
5. Gaining feedback from the stakeholder	Feedback session with the local consultancy and the Bangladesh office of the Japan External Trade Organization	Each group presented their finalised proposals to the stakeholders. The stakeholders gave feedback on the solution ideas from the local point of view.

The students were split into 3 groups, and they went through the above mentioned steps and tasks. Additionally, each group created a shared cloud document (Adobe XD document) as a collaborative working platform using the coediting function of Adobe XD. These cloud documents were used throughout the module as a project whiteboard in which the students edited and/or created content (Figure 1). Furthermore, the module was delivered using a number of whiteboard templates that were developed by the teachers (the authors) in the classes. These templates were provided to each group by adding them to their cloud documents (Figure 2). The student groups developed the project, sharing and coediting the cloud document synchronously/asynchronously.

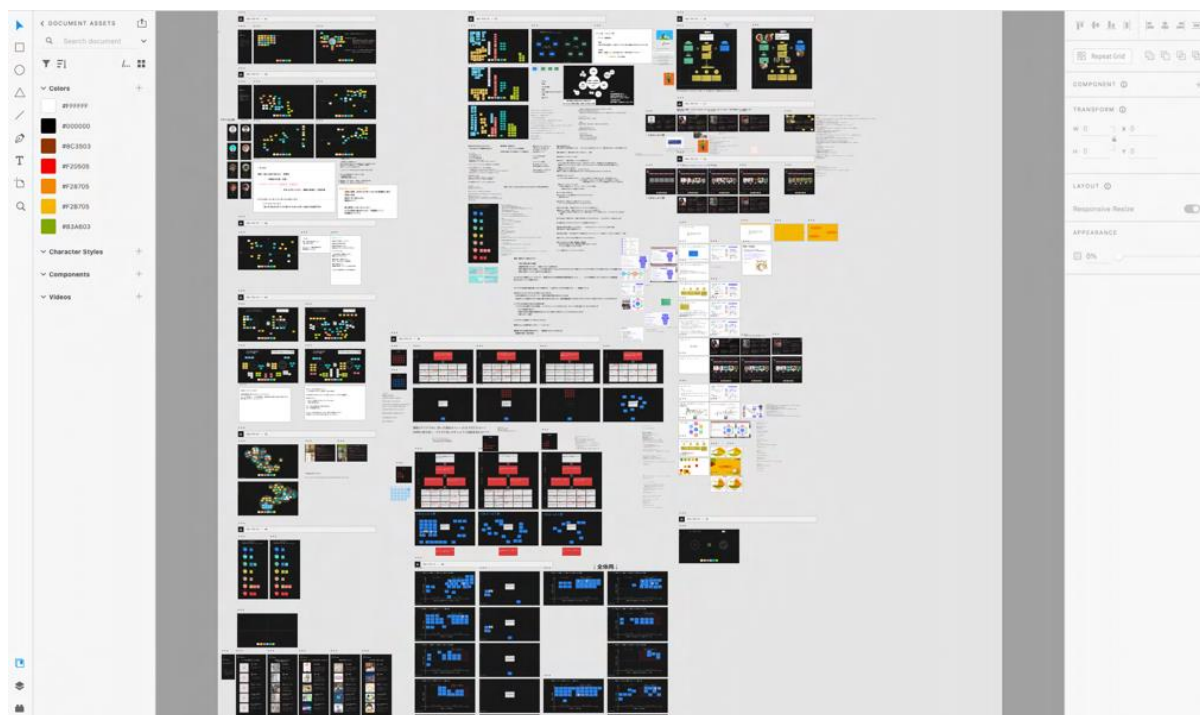


Figure 1. Shared Adobe XD document as a collaborative working platform



Figure 2. Whiteboard templates developed by the authors and used in the module.

2.3 Students' service design proposals

As the outcome of this module, in the final class each student group developed service design ideas and presented them to the local consultancy and the chief of the Bangladesh office of the Japan External Trade Organization (Figure 3). Each of the proposals is outlined below.



Figure 3. Presentation slides of the groups: Group A (left), Group B (centre) and Group C (right)

2.3.1 Theme of Group A– Carry Curry to Bangladesh: Making Bangladesh's popular food healthier
 This group proposed a curry catering/delivery service that aimed to educate Bangladeshi children and parents about healthy food choices. Their research process included investigating the prevalence of type-2 diabetes in Bangladesh and its causes. Initially, they assumed that malnutrition was a social problem in Bangladesh. However, further research revealed that a lack of nutritional knowledge and excessive use of oils in cooking were causing health problems such as diabetes. The service aimed to promote healthier curry recipes and develop a food education platform, collaborating with local restaurants and farmers. The online platform disseminated information on health, restaurants, and recipes through multiple channels. To attract the attention of children, the group also integrated popular Japanese cartoon characters into the food service by featuring them in healthy curry recipes. Overall, the service aimed to facilitate a better understanding of the ingredients and nutrition values and promote healthier food choices among the Bangladeshi community.

2.3.2 Theme of Group B– Lab.Venture: Developing a student-centred collaboration platform for challenging societal issues in both countries

This group proposed a collaboration platform for university students from both countries to address social issues. They focused on the key theme of "interdependence," which they derived from research. The platform encourages students to utilise their diverse knowledge and skills, underpinned by their different cultural backgrounds, to take on issues such as climate change and garbage problems. The team emphasised that international collaboration projects should not only be led by developed countries. Instead, their project proposed that developed countries should rely on and learn from developing countries. The platform involves local NGOs, universities, and enterprises in both countries and facilitates collaborations to take on social challenges.

2.3.3 Theme of Group C– MEE TOO: Developing a meeting platform for business incubation that bridges Bangladeshi university students and Japanese students

This group proposed a business incubation platform connecting university students and enterprises from Japan and Bangladesh. They discovered that despite assumptions of a lack of university education in Bangladesh, the number of students is increasing yearly. However, after graduation, there is a lack of job-seeking support that leaves many graduates unemployed. Recognising this as a loss for the country's economic growth, the team sought to provide opportunities for young people in both countries through their proposed platform. The team also acknowledged Japan's ageing population and the need for talented human resources and business opportunities outside of Japan. As a result, the platform aimed to foster collaboration between academic institutes and enterprises from both countries to support business start-ups and maximise young people's potential.

3 Methodology

As this study aims to examine how a human-centred approach influenced the processes of research and design, the authors focused primarily on the post-module feedback from the students. The students completed the online questionnaire sent out right after the final class. Additionally, some of the selected students participated in the focus group session that took place after the completion of the module. These were used as the main data set for the analysis.

3.1 Participants

In total 18 undergraduate students completed the module. 11 students participated anonymously in the post-module questionnaire and 9 of them took part in the focus group sessions. All the participants were from the business design department of Senshu University in their third and fourth (final) years.

3.2 Data collection

Both the online questionnaire and focus group sessions used the aforementioned consideration frameworks:

- Being aware of local social issues and market needs
- Co-creation of values in the local market
- Utilisation of local resources and capabilities
- Building partnerships with diverse stakeholders

3.2.1 Questionnaire

Based on these four frameworks, the questionnaire asked how these considerations were influenced within their research/design processes. The questionnaire also asked what elements of the module

critically dictated their consideration of these frameworks. The questionnaire contained 20 questions and was divided into 4 sections that are related to the 4 frameworks. Sixteen out of 20 questions were open-ended questions, and 4 questions were multiple choice selections. Some examples of the open-ended questions are as follows:

- What kind of experiences in the module encouraged you to consider the cultural differences between Bangladesh and Japan?
- What was the key element to think of collaborating with the local people or organisations?
- How did you apply the local resources and capabilities to your service design proposal?

3.2.2 Focus group sessions

Along with the questionnaire, the online focus group sessions were conducted, providing the participants with the exercises on the shared whiteboard (Figure 4). Three delegate participants were selected on behalf of each of the groups, and three respective sessions were conducted with participants sharing their screens on Zoom.

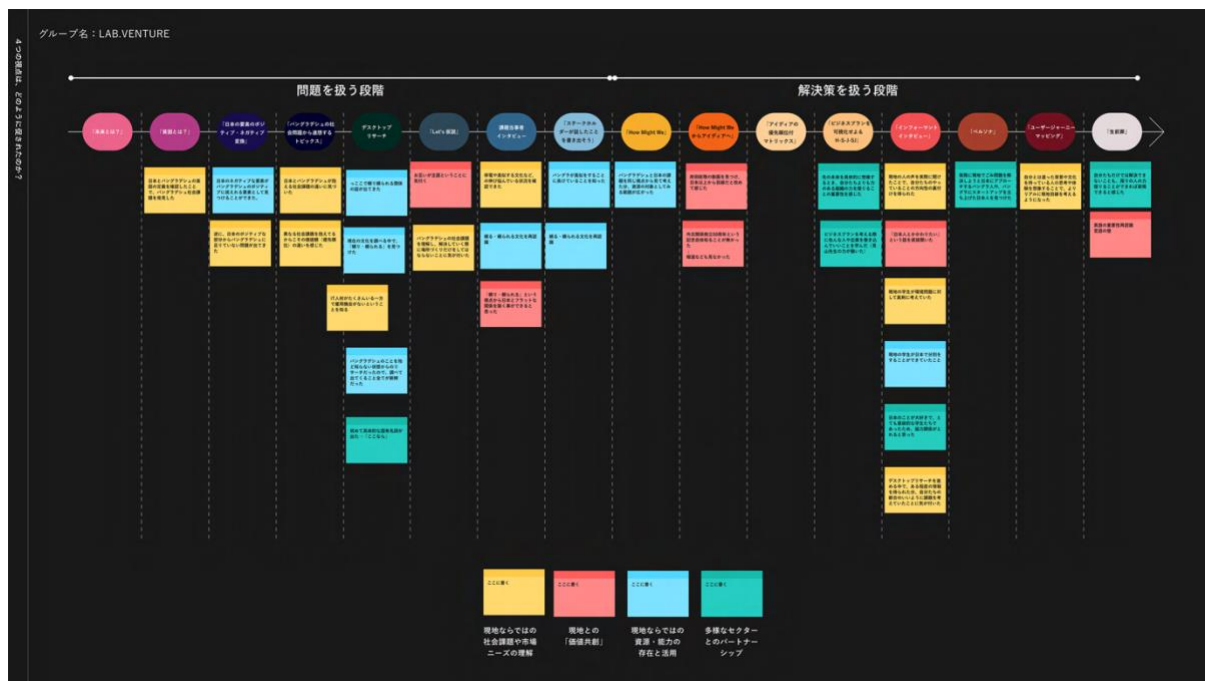


Figure 4. Example of a result

The session comprised two exercises using templates. The first exercise asked the participants to articulate, in chronological order, which module content (e.g. How Might We and User Persona) particularly influenced their considerations regarding the four frameworks (Figure 5).

Additionally, the four different digital sticky notes were laid out at the bottom of the blank template, and each one was represented with different colours. Each colour signified the four different categories that accommodate the four above mentioned frameworks (Figure 6):

- Yellow: being aware of local social issues and market needs
- Red: co-creation of local value
- Blue: utilisation of local resources and capabilities
- Green: building partnerships with diverse stakeholders

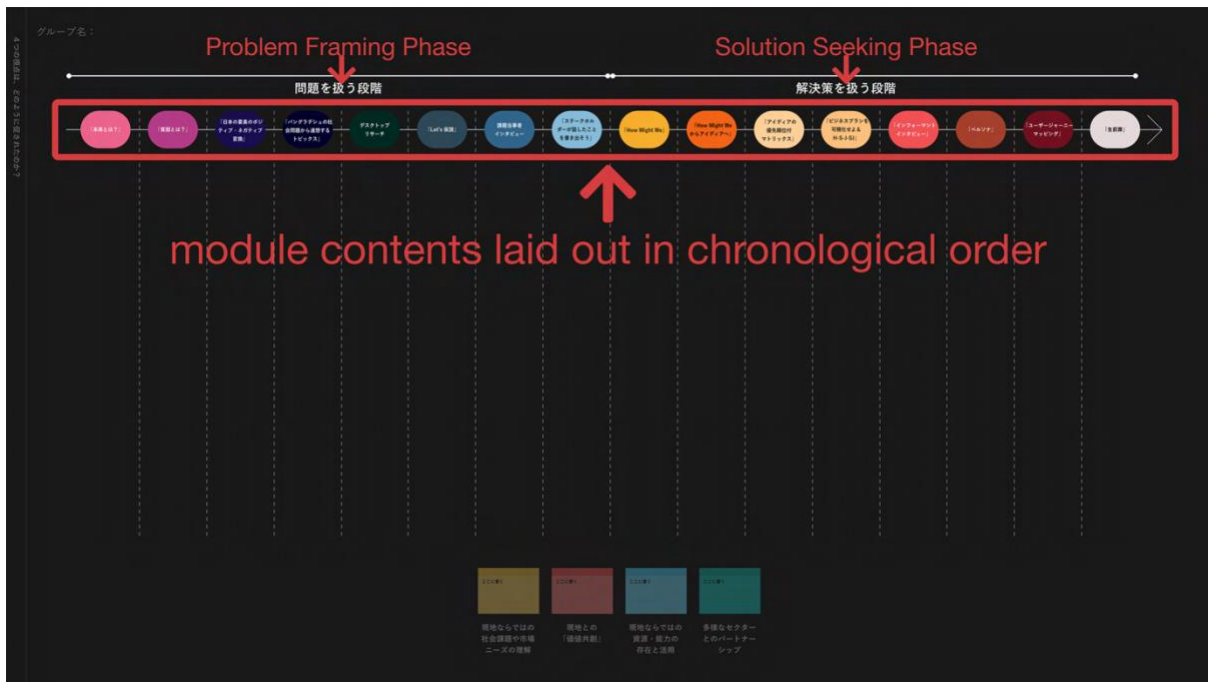


Figure 5. The module contents are laid out on the template

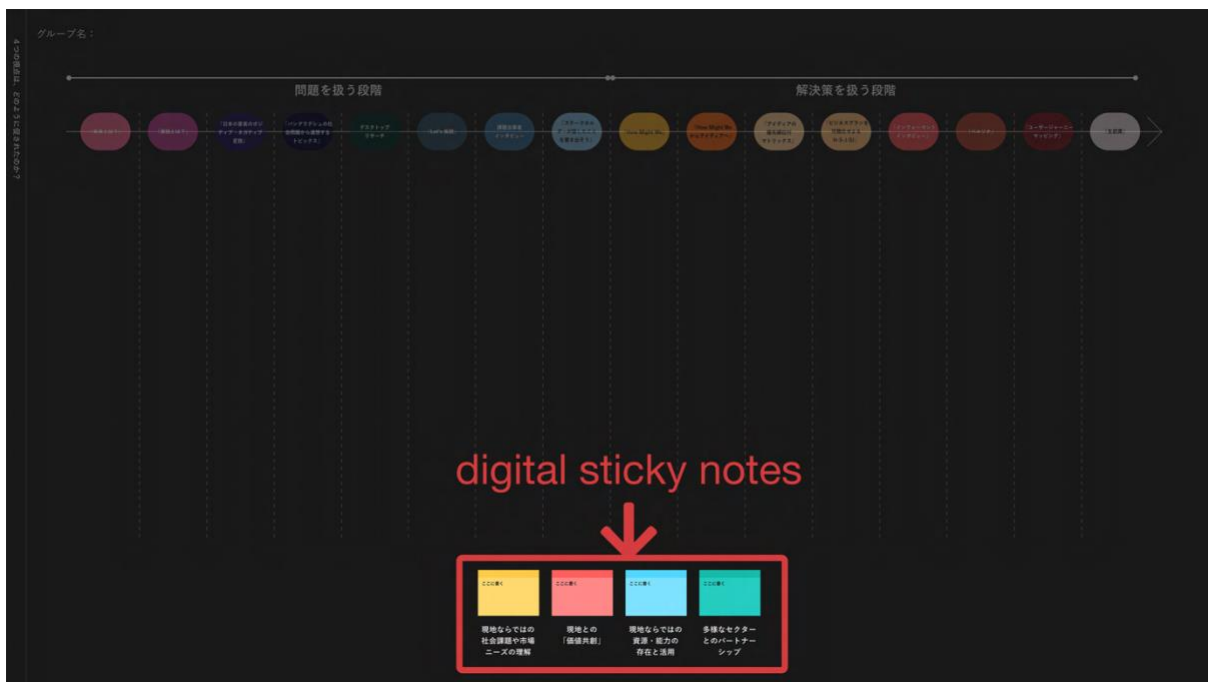


Figure 6. The 4 digital sticky notes

This exercise was conducted according to the following procedure:

1. The participants retrospectively reviewed their experiences while they were taking the module as a group, looking at the module contents displayed on the template.
2. Read the description of each sticky note.
3. Each participant took/duplicated a sticky note and wrote a brief comment that was related to the framework selected.
4. Placed the sticky note underneath the relevant module content.

5. Produced as many sticky notes as they could.
6. After completing the exercise, the participants had a group discussion on their commentaries.

After the completion of the first exercise, the next exercise was conducted. The second exercise invited participants to place each of the sticky notes indicating the module content in the quadrant matrix in order to understand the relationship between the four frameworks and each module (Figure 7).

The horizontal axis focuses on the relationship with local organisations: “co-creation of local value (left)” and “building partnerships with diverse stakeholders (right)”. The vertical axis focuses on understanding the local context: “being aware of local social issues and market needs (top)” and “utilisation of local resources and capabilities (bottom)”. Additionally, all the module contents represented with sticky notes were placed at the bottom of the template (Figure 8). The participants positioned each of the sticky notes (module contents) through group discussions.

The aim of using these exercises during the focus groups was to enable:

- The participants to recall their memories while they were rearranging the sticky notes.
- The authors to capture insights into how the module contents influenced the participants’ considerations regarding the four frameworks.

The module was delivered over four months and included 16 key module contents. Hence, it was difficult for the participants to review all the processes retrospectively. Utilising these exercises as part of the focus group sessions played as a memory cue for discussion. Additionally, the templates, as an outcome of the sessions, allowed the authors to comprehend the results visually.

All the exercises were video recorded, and the content of the focus groups was transcribed and used for the subsequent analysis.

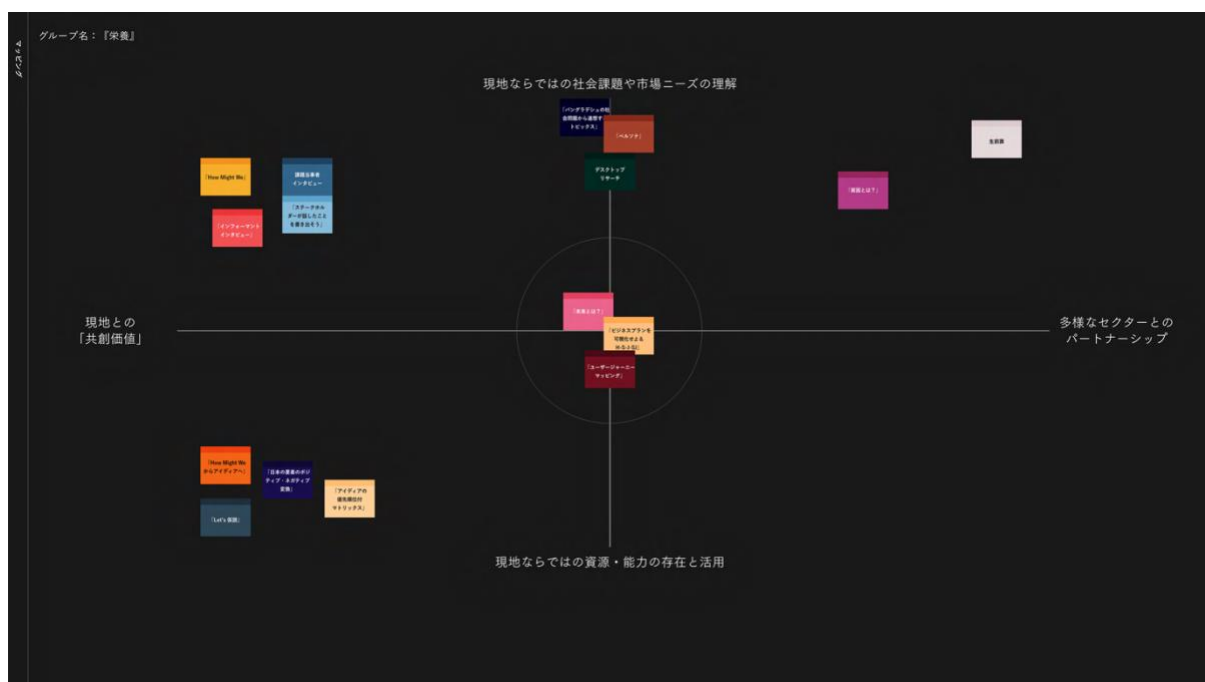


Figure 7. The result of Group A as an example

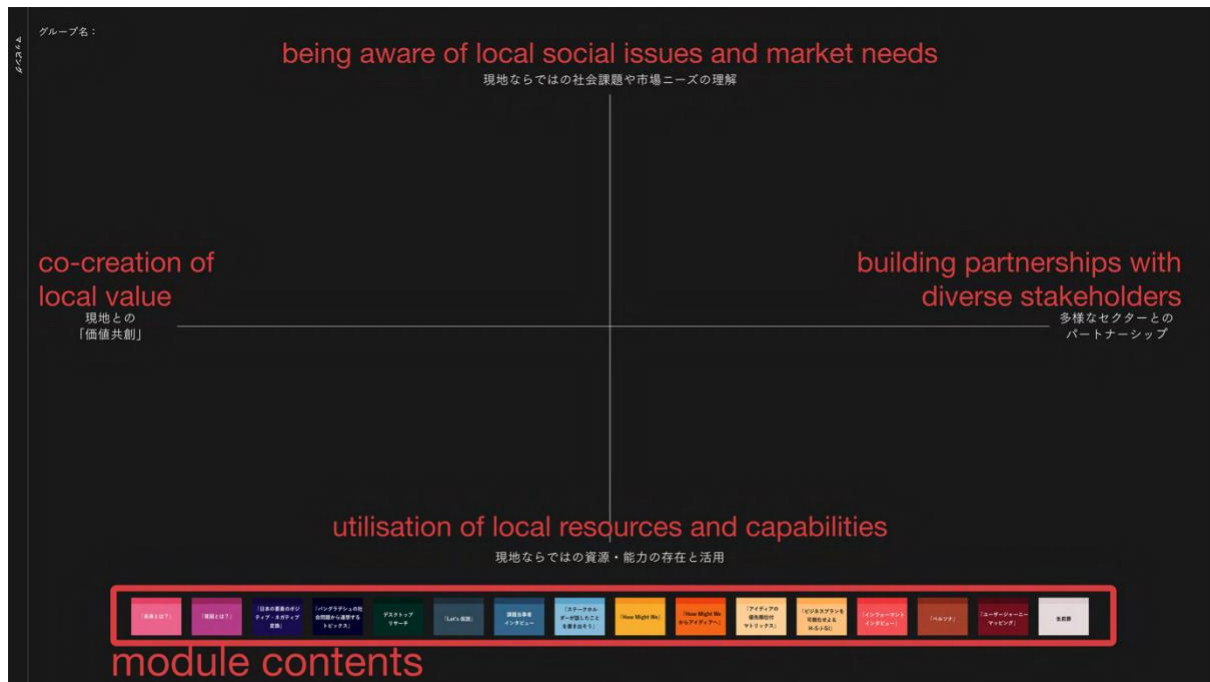


Figure 8. Explanation of the template

3.3 Data analysis

The data analysis was conducted, focusing on both the result of the questionnaire and the focus groups. The aim was to consider how the students' considerations of the four frameworks were facilitated. Specifically, the process of analysis comprised three steps. The first step addressed the answers to the open-ended questions and multiple-choice selections. The answers to the open-ended questions were coded to grasp the patterns as a preliminary analysis. In the second step, the transcripts of each focus group session (three delegate students of each group participated and in total, there were nine participants) were also coded following thematic analysis to find key themes. In the third step, the result of the questionnaire and the focus group were synthesised in the analysis in order to delve into the details of the prominent characteristics that emerged in the first and second steps. Along with text-based data, the outcome of the exercises, which used the whiteboard templates during the focus group, was also used as supplementary data in the analysis. The analysis in particular aimed to identify what elements in the module critically dictated their views on the four frameworks and how and why they informed the participants' research and design processes.

4 Results

4.1 Consideration of "being aware of local social issues and market needs"

The result of the questionnaire (Table 2) suggested that the consideration of "being aware of local social issues and market needs" appeared to be facilitated particularly when conducting "Stakeholder Interview" (81.8%), "Informant Interview" (81.8%), and creating "User Persona" (72.7%) and "User Journey Mapping" (54.5%). In other words, the opportunities in which the students interacted with the local people and the processes that required them to clarify the potential users and their behaviours encouraged them to focus on the socio-cultural and market demands of the locals.

Table 2. The result of the questionnaire “Which aspects of the course content were helpful in understanding the local culture and social issues? (multiple selections)”

COURSE CONTENT	NUMBER OF SELECTION
Online Stakeholder interview	9 out of 11 (81.8%)
Online informant interview	9 out of 11 (81.8%)
Creating persona	8 out of 11 (72.7%)
Creating user-journey mapping	6 out of 11 (54.5%)
Literature review	5 out of 11 (45.5%)
Reverse thinking	4 out of 11 (36.4%)
Hop Step Jump	4 out of 11 (36.4%)
What does “poverty” mean to you?	3 out of 11 (27.3%)
Brainstorming	3 out of 11 (27.3%)
Visualising business plan	3 out of 11 (27.3%)
Prioritising ideas	2 out of 11 (18.2%)
Pre-postmortem	2 out of 11 (18.2%)
What does “future” mean to you?	1 out of 11 (9.1%)
Formulating a hypothesis	1 out of 11 (9.1%)
How Might We	1 out of 11 (9.1%)

The result of the focus groups (i.e. the themes identified and the number of participants who stated the relevant commentaries to this framework) was summarised in Table 3.

Table 3. The summary of the result of the 3 focus groups

THEMES IDENTIFIED	NUMBER OF PARTICIPANTS STATED
Interviews for ensuring information reliability and verification	7 out of 9 (78%)
Interviews as a tool for discovering a new aspects of the local culture	5 out of 9 (56%)
The creation of persona & user journey make the problem relevant for the participants	4 out of 9 (44%)
Secondary information as a useful source of clues to search for	4 out of 9 (44%)
Interviews encourage a better understanding of local needs	3 out of 9 (33%)
Personas encourage a deeper understanding of the problem	3 out of 9 (33%)
Opportunities revealed through cultural comparison and perspective transformation	3 out of 9 (33%)

Interviews as tools for stimulating imagination	2 out of 9 (22%)
Moving away from the local perspective as the project progresses	2 out of 9 (22%)

As the result of the questionnaire suggested, 81% of participants selected that the two interviews played an important role in understanding local social issues and market needs. This aligns with the result of the focus groups. Conducting interviews enabled them to:

- gain information that cannot be obtained on the internet;
- examine the difference between what they have found in the literature review and the reality of the local context;
- realise and remove the unconscious biases of the local culture the students had;
- discover unconceived aspects of the local culture.

Some participants highlighted the importance of the opportunities to learn directly from the local people. This allowed them to gain richer information that is not readily available online:

“I gained insights not from the information available on the internet but through directly asking the locals what I want to know.”

“When it comes to an understanding of the local social issues or market needs, I considered it important to deeply understand the local people through interviewing the people who actually live in the country. We could understand more detailed social issues or needs that are not available on the internet.”

Conducting interviews also provided the students with the opportunity to examine the gap between the information gained through the literature review and the local realities:

“In conducting desktop research, the quality or amount of information is dictated by the topics we are interested in. This lets us feel that we have investigated enough even if we gain a limited amount of information. However, we could gain more detailed information from different angles about what we were interested in.”

“It was interviewing the local students and adults that gave me a new perspective. It provided me with the opportunity to know the difference because what I learned about the key issues such as ‘how to separate trash’ or ‘power cut’ was from the interviews and not from the literature search.”

The opportunity of interviewing the local people also allowed them to realise their biases regarding the local culture and helped them challenge such fixed ideas:

“As the amount of what we learned about Bangladesh increased through conducting desktop research, everyone had a tendency to think of the social issues in ways that are more convenient to our own sake. (...) in this context, conducting interviews helped us correct the direction of our project to be more realistic (...)”

“In Japan, we usually think that we should pay attention to what we eat or do exercises to prevent getting a disease. However, the stakeholder interview taught us that the locals take it

for granted that they get diabetes when they get older. This difference about how to consider our health shocked me.”

Conducting interviews also played an important role in discovering new aspects of the local culture:

“Also, by conducting interviews, we could discover new aspects in terms of the ways of thinking about being healthy and food rooted in the local culture.”

“I acknowledge that I’m a relatively inflexible person (...), so I felt that I could think in many other ways when I heard that there is a culture that we mutually rely on.”

Other than the importance of conducting interviews, the process of creating a “user persona” and a “user journey mapping” facilitated being aware of local social issues and market needs. The students often stated that the combination of interviews and user persona/user journey mapping helped them to gain the viewpoint that the local people see:

“Asking the local people’s stories and thinking about persona and user journey mapping allowed me to think in the way which Bangladeshi people may think that is very different from us.”

“I could create a realistic persona from what I learned about the local’s life and needs through interviews. This informed our final proposal.”

4.2 Consideration of “co-creation of values in the local market”

The result of the questionnaire (Table 4) suggested that the consideration of “co-creation of local value” was dictated particularly when conducting “Informant Interview” (90.9%), “Stakeholder Interview” (72.7%) and “visualising business plan” (45.5%).

Table 4. The result of the questionnaire “Which aspects of the course content were helpful in considering co-creation with local people and organisations? (multiple selections)”

COURSE CONTENT	NUMBER OF SELECTION
Online informant interview	10 out of 11 (90.9%)
Online Stakeholder interview	8 out of 11 (72.7%)
Visualising business plan	5 out of 11 (45.5%)
Hop Step Jump	4 out of 11 (36.4%)
Brainstorming	3 out of 11 (27.3%)
Creating persona	3 out of 11 (27.3%)
Literature review	2 out of 11 (18.2%)
How Might We	2 out of 11 (18.2%)
Creating user-journey mapping	2 out of 11 (18.2%)
What does “future” mean to you?	1 out of 11 (9.1%)
What does “poverty” mean to you?	1 out of 11 (9.1%)
Reverse thinking	1 out of 11 (9.1%)
Formulating a hypothesis	1 out of 11 (9.1%)

Prioritising ideas	1 out of 11 (9.1%)
Pre-postmortem	1 out of 11 (9.1%)

The result of the focus groups (i.e. the themes identified and the number of participants who stated the relevant commentaries to this framework) was summarised in Table 5.

Table 5. The summary of the result of the 3 focus groups

THEMES IDENTIFIED	NUMBER OF PARTICIPANTS STATED
Direct interaction with locals through interviews sparks the desire for co-creation	5 out of 9 (56%)
The positive aspects of the local perspective revealed through a shift in viewpoint serve as inspiration for co-creation	4 out of 9 (44%)
Understanding local resources and capabilities promotes the idea of co-creation of values	3 out of 9 (33%)
The discovery of cultural commonalities and differences becomes a catalyst for considering co-creation	2 out of 9 (22%)
The consideration of co-creation prompts the notion of partnership	2 out of 9 (22%)

As the result of the questionnaire suggested, the interviews also played an important role in facilitating this consideration. The importance of the interview was also highlighted in the result of the focus groups. Interacting with the local people encouraged the students to think of co-creating social values involving the local actors. Particularly, conducting interviews enabled them to:

- discover the positive aspects of the local culture, and this served as inspiration and motivation for considering the possibilities of co-creation;
- align the students' set of values with those of the local community, leading to the idea of co-creating value through considering the differences and commonalities of both cultures and;
- focus on the benefits not only for the sake of their proposed services but also for the local society or organisations.

Interviewing local people enabled the students to discover the local culture's positive aspects. These positive points inspired the students to focus on co-creating values by working with the local actors:

"When I interviewed students in Bangladesh, I felt that if the students of both countries collaborate it will be something interesting. This triggered me to think of co-creation or cooperation with the local people or organisations."

"I think that the students of Dhaka University are really diligent in their studies, and we wanted to learn from them. I think this feeling made us think about thinking something together with them in our project, MEETOO."

The interviews also enabled the students to align their values with those of the local people. The students found that the cultural differences and similarities discovered from conducting interviews could be potential resources for co-creating values:

“Because there were things that the local students and us think in a similar way or things that we could learn from them.”

“First of all, because we thought that their (the local’s) sense of values was interesting, this made us think of the similarities and differences between us. This made us think about the ideas that we can learn from each other (...).”

Conducting interviews also encouraged the students to focus on the benefits that the services they propose offered not only to their own plans but also to the local society or the organisations that were involved in their projects:

“We intended to design a service that benefits the local collaborators.”

“What benefit we can actually bring to the local people. We could validate what we proposed aligned with the local people’s interests (by the interviews).”

Besides interviews, the perspective on "co-creation of local value" was also encouraged within the phase of materialising the business plan (i.e. visualising business plan). The students stated that the process of clarifying the details of their proposals naturally encouraged them to articulate how to collaborate with the local people and organisations in order to make their plan sustainable.

4.3 Consideration of “utilisation of local resources and capabilities”

The result of the questionnaire (Table 6) suggested that the consideration of “utilisation of local resources and capabilities” was dictated particularly when conducting “Stakeholder Interview” (63.6%), “Informant Interview” (54.5%), “Literature review” (54.5%) and “Reverse Thinking” (45.5%).

Table 6. The result of the questionnaire “Which aspects of the course content were helpful in utilising local resources and capabilities? (multiple selections)”

COURSE CONTENT	NUMBER OF SELECTION
Online Stakeholder interview	7 out of 11 (63.6%)
Online informant interview	6 out of 11 (54.5%)
Literature review	6 out of 11 (54.5%)
Reverse thinking	5 out of 11 (45.5%)
What does “poverty” mean to you?	3 out of 11 (27.3%)
Visualising business plan	2 out of 11 (18.2%)
What does “future” mean to you?	1 out of 11 (9.1%)
Formulating a hypothesis	1 out of 11 (9.1%)
How Might We	1 out of 11 (9.1%)
Brainstorming	1 out of 11 (9.1%)
Pre-postmortem	1 out of 11 (9.1%)

Prioritising ideas	0
Hop Step Jump	0
Creating persona	0
Creating user-journey mapping	0

The result of the focus groups (i.e. the themes identified and the number of participants who stated the relevant commentaries to this framework) was summarised in Table 7.

Table 7. The summary of the result of the 3 focus groups

THEMES IDENTIFIED	NUMBER OF PARTICIPANTS STATED
Positive Impressions gained from interviews inspire leveraging resource capabilities	3 out of 9 (33%)
Directly listening to locals fosters understanding of their resources and capabilities	3 out of 9 (33%)
Changing perspectives and questioning biases reshape the interpretation of local information	3 out of 9 (33%)
The perspective of local resources is emphasised when shaping ideas into reality	3 out of 9 (33%)
Local culture and customs are considered as local resources	2 out of 9 (22%)

As the result of the questionnaire showed, the opportunities for interviewing appeared to play an important role in this consideration as well. The importance of interviews was also emphasised in the results of the focus groups, with participants mentioning their significance multiple times in their commentaries. Interacting with the local people facilitated the students to be aware of the potential local resources and capabilities. Additionally, the positive impression of the local culture discovered through interviews led to the idea of utilising such local potential:

“We were able to touch on the cultural differences and national characteristics that can only be gained through actual interviews. This realistic information was very helpful in considering our business plan.”

“I was able to concretely imagine the local lifestyle, demand, resources, and people’s abilities in Bangladesh.”

Furthermore, some students stated that the reverse thinking deployed at the early phase of the module facilitated this consideration. Reverse thinking is a group exercise that encouraged students to: reconsider the positive aspects of both cultures (i.e. Bangladesh and Japan) as potential risks and to convert the negative aspects into potential opportunities. This preliminary exercise enabled the students to flexibly interpret the notion of local resources and capabilities. This flexible mindset allowed them to question their biases and to discover the local potential from different angles when they collected information about Bangladeshi culture:

“When I thought about transforming the positive aspects about Japan into bad ones, I realised that what I consider good may not actually be positive, and they may also be the same for other countries.”

“After all, the act of transforming notions is to recognise the unique resources and capabilities that exist in the local culture. By doing so, we can see what can actually be created through that recognition, which is where co-creation occurs.”

4.4 Consideration of “building partnerships with diverse stakeholders”

The result of the questionnaire (Table 8) suggested that the consideration of “building partnerships with diverse stakeholders” was dictated particularly at the later stage of the module where they were developing “Hop Step Jump” (63.6%), “visualising business plan” (54.5%), “User Journey Mapping” (36.4%).

Table 8. The result of the questionnaire “Which aspects of the course content were helpful in building partnerships with diverse stakeholders? (multiple selections)”

COURSE CONTENT	NUMBER OF SELECTION
Hop Step Jump	7 out of 11 (63.6%)
Visualising business plan	6 out of 11 (54.5%)
Creating user-journey mapping	4 out of 11 (36.4%)
Online Stakeholder interview	3 out of 11 (27.3%)
Online informant interview	3 out of 11 (27.3%)
Pre-postmortem	3 out of 11 (27.3%)
What does “future” mean to you?	2 out of 11 (18.2%)
Creating persona	2 out of 11 (18.2%)
Literature review	1 out of 11 (9.1%)
Formulating a hypothesis	1 out of 11 (9.1%)
How Might We	1 out of 11 (9.1%)
Brainstorming	1 out of 11 (9.1%)
Prioritising ideas	1 out of 11 (9.1%)
What does “poverty” mean to you?	0
Reverse thinking	0

The result of the focus groups (i.e. the themes identified and the number of the participants who stated the relevant commentaries to this framework) was summarised in Table 9.

Table 9. The summary of the result of the 3 focus groups

THEMES IDENTIFIED	NUMBER OF PARTICIPANTS STATED
Reassessing subjectivity at the final step enables evaluating partnership feasibility	5 out of 9 (56%)

Being aware of the presence of collaborators when visualising a concrete business plan	3 out of 9 (33%)
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The situation of uncertainty prompts the consideration of involving collaborators	2 out of 9 (22%)
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All in all, the result of both questionnaire and focus groups suggested that the consideration of building partnerships was focused primarily on the later stage where they developed and clarified the details of their proposed services. Particularly, the exercise of “Hop Step Jump,” that asked the students to envisage the future trajectory of their services, enabled them to articulate what support their proposals need for the sustainable growth of their services:

“As the vision of the project expands going through the process of ‘Hop,’ ‘Step,’ ‘Jump,’ and ‘Super Jump,’ I realised that it would not be possible to reach ‘Super Jump’ without various types of collaborators. This led me to consider forming partnerships with diverse types of collaborators.”

“As the goal for the project with ‘Hop, Step, Jump’ becomes higher, I have come to feel that it is important to gain trust from people.”

5 Conclusion

This study examined how the contents of a module on service design for business adopted the human-centred design approach dictated by the four consideration frameworks proposed. Overall, the results suggested that conducting the two interviews, the stakeholder interview and the informant interview, critically dictated the students’ considerations on three of the frameworks:

- Being aware of local social issues and market needs
- Co-creation of values in the local market
- Utilisation of local resources and capabilities.

Additionally, the fourth framework “Building partnerships with diverse stakeholders” was facilitated within the phase where the students formulated their business plan after the interviews had increased their understanding of and insights into the local context.

Even though both interviews were conducted within the constraint of the online environment, they nonetheless provided valuable information for the students. Additionally, both interviews had separate aims and functions within the research phase of the module as both were conducted with different interviewees and at different stages of the module:

- The aim of the stakeholder interview for the students was to gather local information and gain feedback on their research hypothesis from the stakeholders.
- The aim of the informant interview was to evaluate their service ideas with the potential audience.

In terms of the impact of the interviews on “being aware of local social issues and market needs,” both interviews elicited more in-depth and nuanced information than internet searches. Also, they provided an opportunity to recognise the differences between the student’s own country and the

local area and helped remove their unconscious biases about the local country. Furthermore, it encouraged the discovery of alternative perspectives on local culture.

In terms of the impact of the interviews on “co-creation of values in the local market,” interviews enabled the exploration of positive aspects of the local culture, and that became an opportunity to stimulate the motivation for co-creation. Also, while feeling the differences between their own country and the local area, they focused on using the commonalities and differences of each country as resources for co-creation. This attitude encouraged a more open perspective towards both their own country and the local country, and fostered a consciousness of collaboration to create value that benefits both countries. This influence was relatively stronger with the informant interview.

In terms of the impact of the interviews on “utilisation of local resources and capabilities,” the process of discovering positive aspects of the local area through interviews also led to recognising the capabilities and resources of the local country. Additionally, the interviews facilitated the students to consider how to utilise such local resources in their ideas. This influence was relatively stronger with the stakeholder interview.

In addition to interviews, the perspective of “co-creation of values in the local market” was encouraged in the process of formulating service design ideas and business plans. Furthermore, adopting the Reverse Thinking exercise, which involves questioning the students’ own beliefs at an early stage, led to broadening the interpretation of information about the capabilities and resources of the local culture, and it encouraged the understanding of the local context from a wider range of perspectives.

Thus, the most influential factor that critically changed the students’ minds within this module content was the interviews. The authors believe that even in situations where interaction with people is restricted, such as during a pandemic, it is critical to actively obtain insights directly from local people using technology. Also, Interviews provided an opportunity for the students to become aware of their unconscious biases regarding the local culture and to challenge them. Furthermore, by gaining a more humanising and enriching experience directly from local actors and stakeholders, utilising technology, students have the potential to develop self-reflexivity and a deeper understanding of the local culture (Sbaiti et al., 2021). This process can facilitate the recognition and elimination of unconscious biases they may hold. Such an approach could be particularly important to address socio-cultural issues within hard-to-reach communities or countries, considering the socio- and geo-political situations that may exist in those areas.

However, the authors believe that it is desirable to conduct interviews after students have recognised their own biases. This is because the critical insights lie in the difference between the students' own fixed ideas and the realities of the local context. Moreover, in an educational context, it becomes increasingly critical to examine the contrast between obtaining insights from experiential data sources such as interviews and retrieving non-experiential information from AI technologies like ChatGPT.

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About the Authors:

Kenichiro Miyama: Specially-Appointed Professor at The Graduate School of Project Design, specialises in emerging market research, environmental business, and technology strategy theory. Miyama earned an MBA and completed Doctoral Program Credit in System Design and Management.

Shiro Inoue: Lecturer at the ICT Department of ZUYD University of Applied Sciences, specialises in research areas including design cognition, creativity, human-centred design, user experience, and design process analysis. Inoue earned a PhD in design creativity.

Seiko Shirasaka: Professor at Keio University's Graduate School of System Design and Management, specialises in space systems engineering, system development methodology, system assurance, and system safety. Shirasaka earned a PhD in Systems Engineering.

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