



Work Package 1.4

Supplementary report: Market Analyses

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	University of Peradeniya	
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	Naresuan University	
	Maharakham University	 MAHASARAKHAM UNIVERSITY
Philippines	Ateneo de Manila University	
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Strengthening University-Enterprise Collaboration for Resilient Communities in Asia

(SECRA). Market Analyses.

Introduction

The ERASMUS+ and European Union-funded Strengthening University-Enterprise Collaboration for Resilient Communities in Asia (SECRA) project has the overarching aim of enhancing disaster resilience in Asia by encouraging the formation of university–enterprise collaborations (UECs) and improving their maintenance. The project consortium includes thirteen partners, including nine universities in Thailand, Sri Lanka, and The Philippines who have worked to examine the current operation of UECs in their own countries. Greater understanding of how current UECs operate, including the barriers and enablers which are experienced, will allow the development of guidance which can enhance UEC success. This report outlines the experiences of Enterprise partners who have worked with the nine South Asian partner universities. The results provide an insight into the characteristics of enterprise collaborators working in UECs within the disaster resilience and recovery field. In addition, the results also illuminate factors which can lead to successful or unsuccessful collaborations.

Previous research on UECs has largely focused on the experiences of academic staff and the benefits of UECs to the universities involved and society more widely. Limited research has looked at the Enterprise partners experiences of UECs, especially within the disaster resilience and recovery field. The literature review undertaken as part of Work Package One explored the general experiences of academics and enterprise collaborators across a wider range of sectors, such as technology and healthcare. As our understanding of UECs within the arena of disaster resilience and recovery is limited, an exploration of the experiences of senior managers and academics working in UECs was then undertaken. The results of the literature review, and the survey of senior managers and university staff involved in UECs, highlighted several barriers and enablers that impact on the setting up and

running of UECs. The final piece of the jigsaw therefore is to explore the experiences of the Enterprise partners involved in UECs. Surveying the experiences of Enterprise partners will allow us to explore the support that enterprise organisations provide to UECs. Further, this survey will allow us to examine whether barriers and enablers highlighted by Enterprise partners are the same as those noted by senior managers and university staff or whether there are other factors which need to be considered.

The survey reported here outlines the findings of a questionnaire which was completed by Enterprise partners who have been working in UECs with the nine South Asian university partners. The survey examined the characteristics of the Enterprise partners as well as investigating the barriers and enablers that they experienced when working in a UEC. The results presented here give us a better understanding of the experiences of Enterprise partners and inform the strategic framework produced to support the formation and maintenance of UECs relating to disaster resilience and recovery.

Methods

The current study explored the experiences of UECs from the perspective of Enterprise partner staff working with one of the nine partner institutions.

Participants

Participants consisted of staff working in Enterprise partner organisations in UECs with one of the nine South Asian partnership universities (Chiang Mai University, Maharakham University, and Naresuan University, University of Peradeniya, University of Ruhuna, and University of Sri Jayewardenepura, Ateneo de Manila University, Malayan Colleges Laguna, and Philippine Normal University). One hundred and thirty-four Enterprise partners, (70% male) who had been first identified by university staff in response to the Task 1.3 survey, completed the questionnaire. Of the 134 participants who took part, 56 participants were from Sri Lanka, 27 from Thailand and 51 from The Philippines.

Materials

The questionnaire information was distributed by the nine partner institutions to their Enterprise partners inviting them to complete the survey using the online platform Qualtrics. Each questionnaire contained approximately 20 questions, with additional space provided for participants to expand on their responses to key questions. The content of each questionnaire was intended to examine the Enterprise partners experiences of UECs, especially the support they received as well as the barriers and enablers of UEC success they experienced. The study received full ethical approval from the University of Central Lancashire.

Procedure

Partner institutions staff sent study information and the questionnaire link to the Enterprise partners who had been identified as part of Task 1.3. Enterprise partners were asked to read the study information before deciding if they wished to take part. If an Enterprise partner decided that they would like to take part they provided informed consent

before completing the questionnaire. Enterprise partners completed the questionnaire independently, which took around 15 minutes to complete. The questionnaire first asked participants basic demographic information. Example questions included "What is your full job title?" and "What is the name of your organisation or company?". Participants were then asked about any relationships that their enterprise organisation may have with other enterprise organisations identified by the university partner institutions. For example - "From a survey with staff at Ateneo de Manila University, we generated a roster of external contacts in the field of disaster risk reduction. In the list below, please indicate with which organisations you or your organisation have a relationship. The relationship can be anything from a one-off to a standing partnership." Participants were then asked about the support provided for UECs by their Enterprise organisation. Example questions included "Is there allocation of time in your contract specifically to foster relationships with external partners?" and "What direct support for University-Enterprise collaboration does your organisation provide?" Finally, participants were asked to identify up to five enablers and five barriers to UEC formation and maintenance. After completing the questionnaire participants were provided with a debrief and appropriate contact details that could be used to ask questions or raise concerns about the study.

Results

Duplicate responses, incomplete responses, and responses where consent was not provided were excluded from the analysis. Consequently, there were 134 recorded questionnaire responses from the enterprise organisations identified by the nine partner institutions. Specifically, 27 responses from Thailand, 56 responses from Sri Lanka, and 51 responses from The Philippines were included.

Demographics

Of the 134 participants who responded across all the Enterprise partners 70% were male. The age range varied with 1.5% of participants reporting that they were aged between 18-24, 17% were 25-34 years old, 28% were 35-44 years old, 32% were 45-54 years old, 18% were 55-64 years old and 4% were over 65 years old.

Type of Enterprise by country

Enterprise partners who took part in the survey were asked to identify the type of enterprise organisation that they belonged to. Below Figure 1 shows the enterprise organisations linked to Sri Lankan university partner institutions.

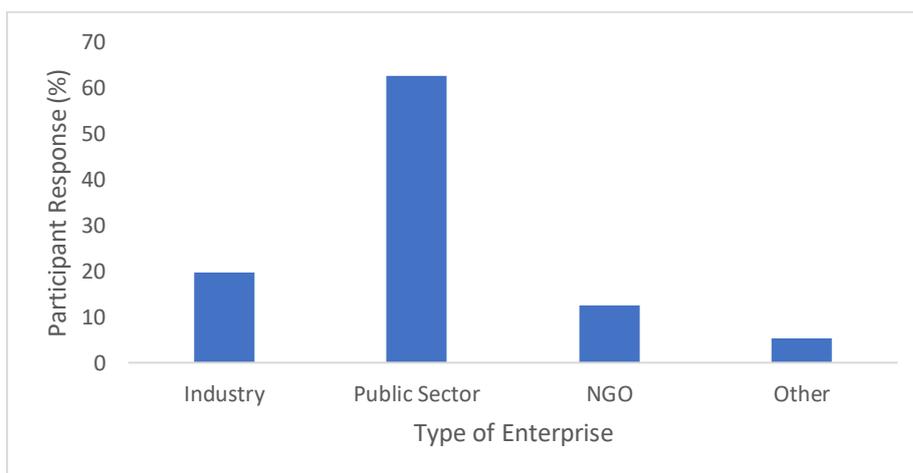


Figure 1: Type of enterprise participants were employed by (Sri Lanka).

Figure 2 below shows the enterprise organisations linked to Thai university partner institutions.

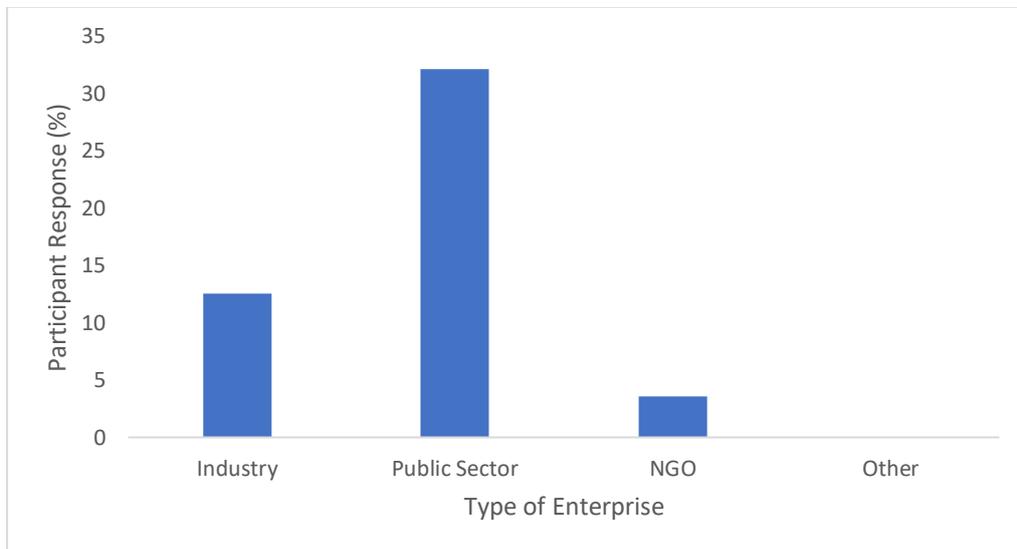


Figure 2: Type of enterprise participants were employed by (Thailand).

Figure 3 below shows the enterprise organisations linked to The Philippines university partner institutions.

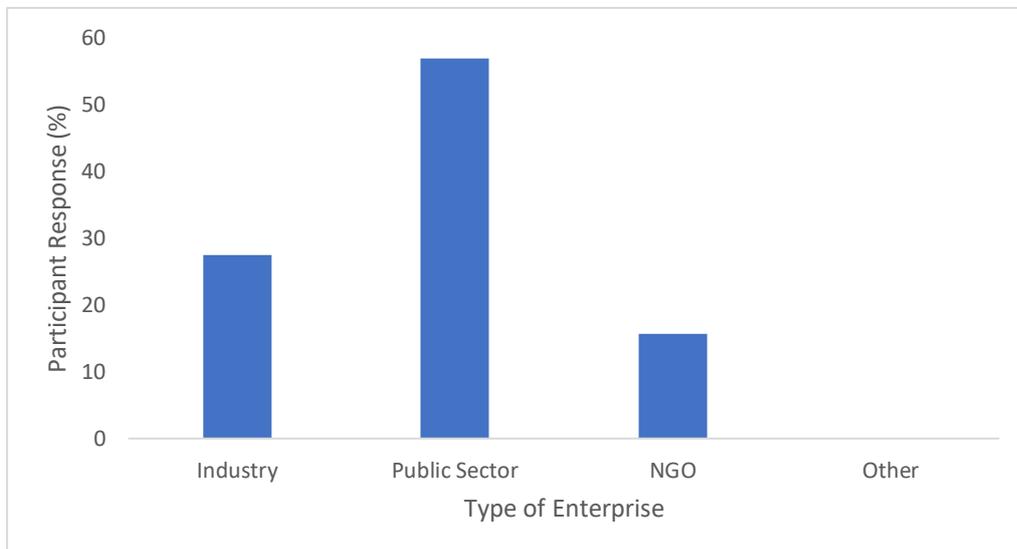


Figure 3: Type of enterprise participants were employed by (The Philippines).

The results for the three countries show a similar pattern, with public sector partners being the most common when undertaking UECs in the area of disaster resilience and recovery.

Across the three countries, 24% of Enterprise partners in the current study were from

industry, 61% were from the public sector, 13% were NGO and 2% were from other organisations.

Experience of working in UECs

Participants were asked how long they had worked in the enterprise sector. Table 1 below details the number of years that participants had worked in the enterprise sector, broken down by country.

Table 1: Years of experience in the Enterprise Sector

	Median Experience Range (years)			
	0 - 5 years	6 - 10 years	11 - 20 years	Over 20 years
Thailand	7	4	6	10
Sri Lanka	3	9	28	16
The Philippines	9	15	18	8

Overall, the results suggest that across the nine partner institutions most Enterprise partners were experienced members of staff with over 10 years of experience. More junior staff were less likely to lead on UECs for enterprise organisations.

Sendai Priority by country

Enterprise partners were asked to identify their two main priorities relating to the Sendai framework. Below are the priorities for the Enterprise partners taking part in UECs with universities in Sri Lanka (See Figure 4).

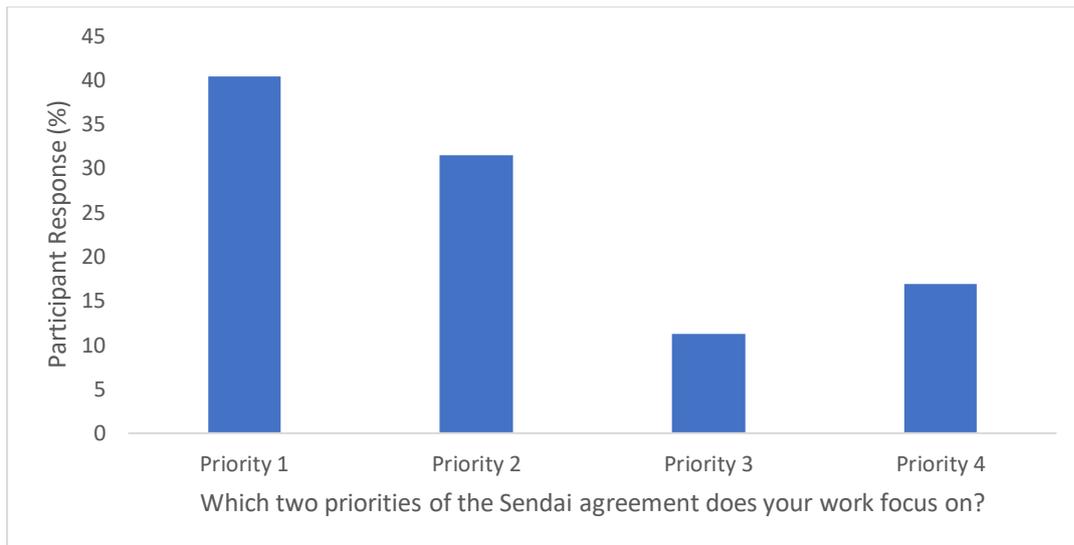


Figure 4: Sendai framework priorities for enterprise organisations who have partnered with universities in Sri Lanka.

Below are the priorities for Enterprise partners taking part in UECs with universities in Thailand (See Figure 5).

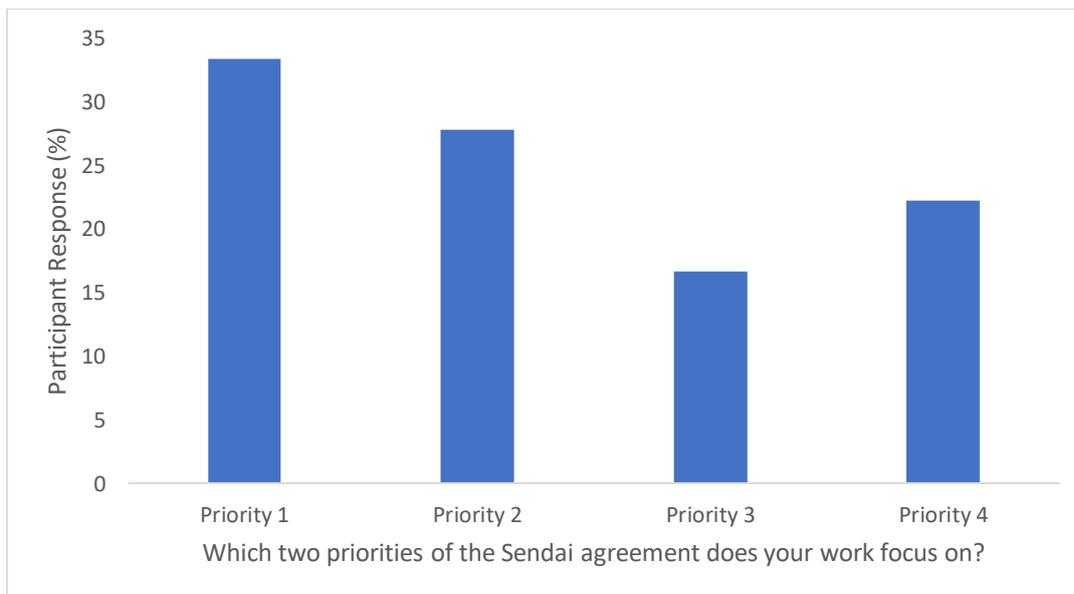


Figure 5: Sendai framework priorities for enterprise organisations who have partnered with universities in Thailand.

Below are the priorities for Enterprise partners taking part in UECs with universities in The Philippines (See Figure 6).

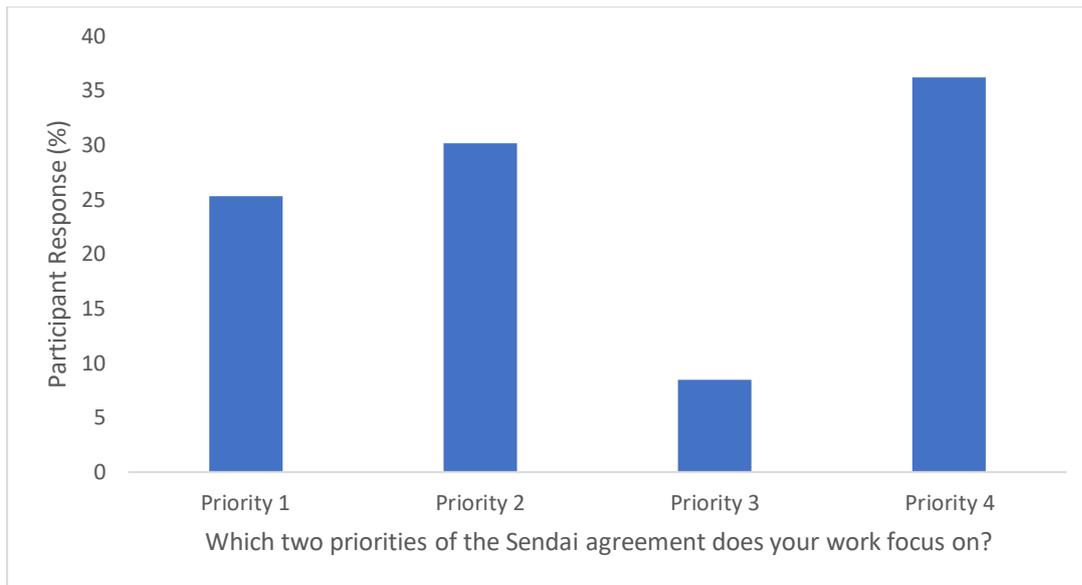


Figure 6: Sendai framework priorities for enterprise organisations who have partnered with universities in The Philippines.

Across the three countries the focus of UECs is primarily on Priority 1 (Understanding disaster risk) and Priority 2 (Strengthening disaster risk governance to manage disaster risk). UECs in all three countries focused less on Priority 3 (Investing in disaster risk reduction for resilience). UECs in The Philippines appeared to have a greater focus on Priority 4 (Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction) compared to UECs in Sri Lanka and Thailand.

Enterprise Partner location

The survey asked where the Enterprise partners were located geographically. Interestingly most Enterprise collaborators were located in the same country as the university. For UECs in The Philippines 100% of Enterprise partners were also based in The Philippines. In Thailand 92% of Enterprise partners were from Thailand (with one Enterprise partner from Vietnam and one from Japan noted). In Sri Lanka 93% of Enterprise partners were from Sri Lanka (with the remaining 7% of Enterprise partners coming from the Asian Pacific area, Australia, Japan, and Thailand).

Support for UECs

Enterprise partners were asked whether University-Enterprise collaboration was part of their organisation's strategy as outlined in internal policy documents. The results indicate that most Enterprise partners have documentation which outlines their UEC strategy (Sri Lanka - 69%; Thailand - 76% and The Philippines - 79%). The survey also asked whether Enterprise partners had an external relations department. Seventy six percent of Enterprise partners from Thailand reported that their organisation had an external relations department. However, fewer Enterprise partners in Sri Lanka (42%) and The Philippines (63%) reported that their organisation had an external relations department.

With regard to specific time allocated for staff from Enterprise partners to work on forming and maintaining UECs a similar pattern of time allocation was seen across all Enterprise partners. In Sri Lanka 80% of those surveyed from the Enterprise partners noted that they had hours allocated for UECs (although 70% reported that these were unspecified hours). In Thailand 72% of Enterprise partners noted that they had hours for UECs (64% reported this was an unspecified number of hours). In The Philippines the findings were similar with 77% of Enterprise partners having hours for UECs (but 61% of respondents noted that the number of hours was unspecified).

Enterprise partners were then asked what type of direct support they provided for University-Enterprise collaborations. Each participant reported the support provided by their organisation by selecting from "Funding for UEC-projects/activities", "Remunerations for UEC-project/activities" and "Hosting UEC-facilitating events." The types of support provided to UECs in Sri Lanka can be seen in Figure 7.

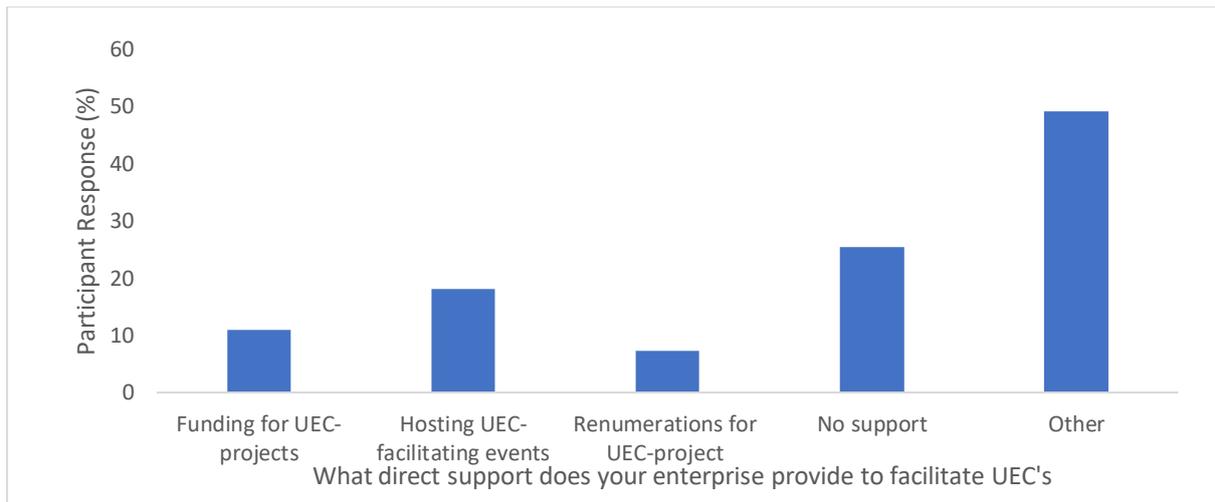


Figure 7: Percentage of participants reporting specific types of support for UECs in Sri Lanka.

Just under 50% of participants reported that their enterprise organisation offered other types of support for UECs. The types of support reported included training for graduates, technical advice, technical services, research collaborations, training for students, help disseminating research findings, knowledge transfer and data sharing.

For Thailand UECs provided more support with funding and hosting than seen in Sri Lanka.

See Figure 8 for the types of support provided by Enterprise partners for UECs in Thailand.

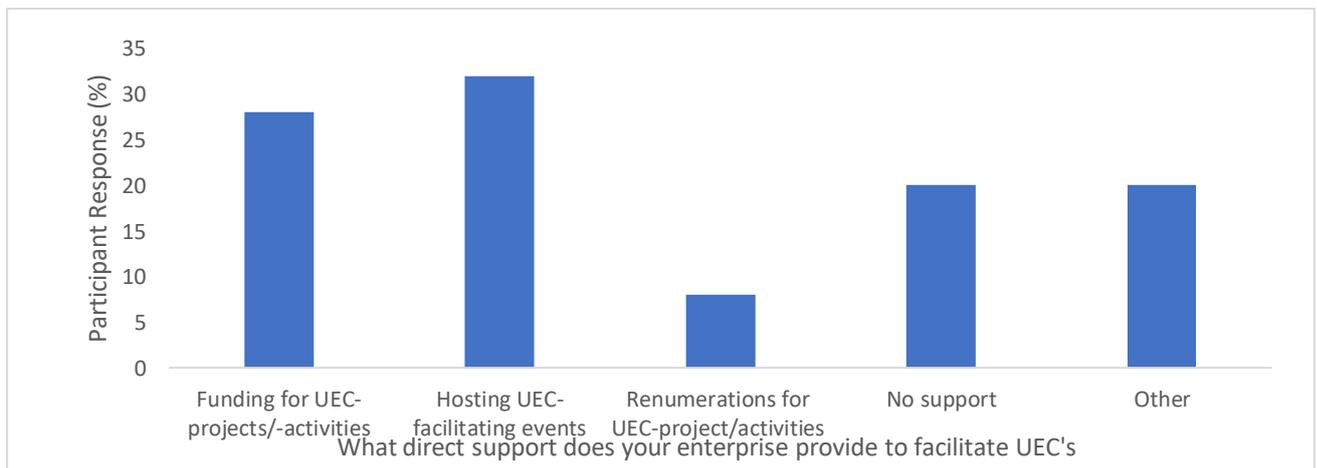


Figure 8: Percentage of participants reporting specific types of support for UECs in Thailand.

Additional types of support provided by Enterprise partners in Thailand included training workshops, safety consultancy, internships, and specialist advice.

Finally, the support provided to UECs in The Philippines by Enterprise partners can be seen in Figure 9 below.

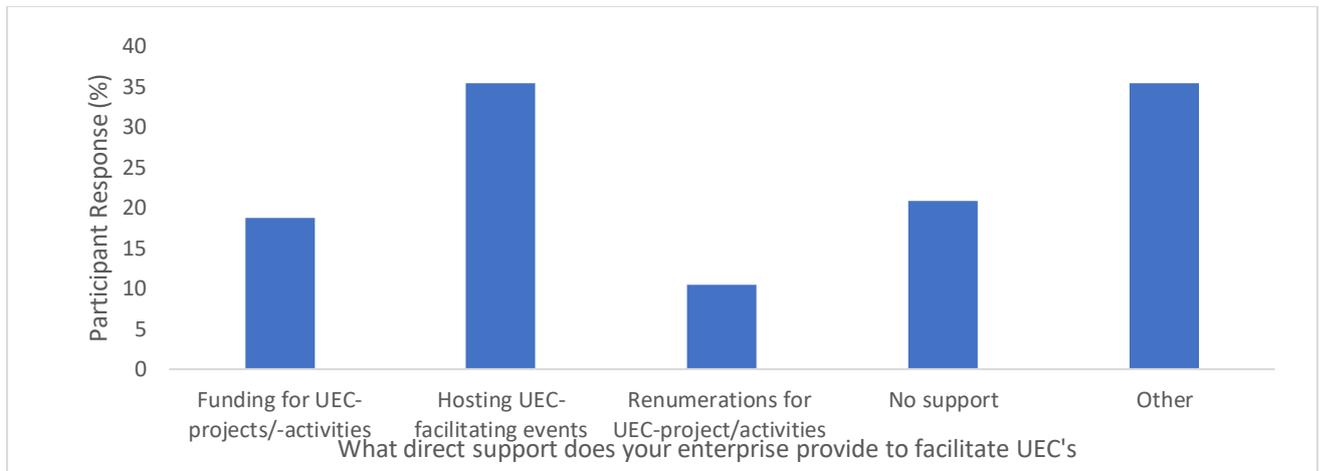


Figure 9: Percentage of participants reporting specific types of support for UECs in The Philippines.

Enterprise partners also noted that they provided UECs in The Philippines with support via student internships, student field trips, technical expertise, physical space and facilities, product donations, knowledge exchange and site visits for students.

Enterprise partner participants were asked to provide five barriers and five enablers to UECs. The responses were coded into the themes identified via the thematic analysis performed on the responses given by the Senior university managers in Task 1.3. See Figure 10 for the four main themes and subthemes.

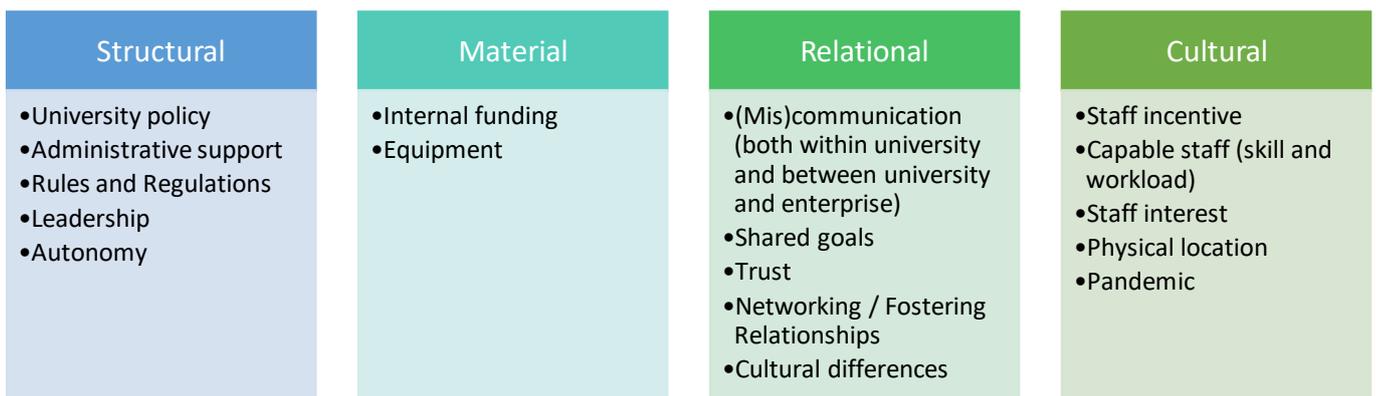


Figure 10: Four main themes relating to the barriers and enablers of UECs identified by senior managers across partner institutions.

In order to complete the coding, the first and second researcher read through the data set and coded the responses independently. The researchers compared their codes and agreed

upon which of the four main themes the Enterprise partners responses fitted into. The results of the analysis of barriers and enablers to UECs is presented by country below.

Sri Lanka

Key barriers and enablers reported by the Enterprise partners working with the three Sri Lankan partner universities (University of Peradeniya, University of Ruhuna, and University of Sri Jayewardenepura) are outlined here. (See Figure 11 below).

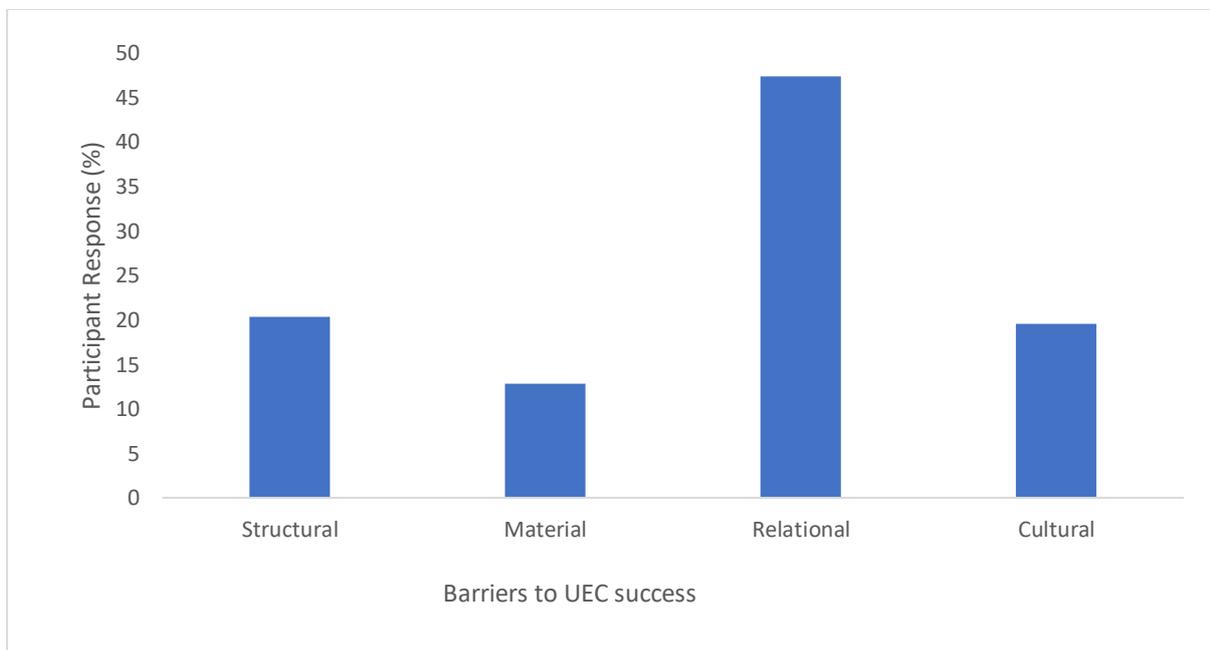


Figure 11: Main barriers identified by Enterprise Partners working in Sri Lanka to UEC formation and maintenance.

It is clear that the main barriers to UEC success as reported by Enterprise partners working with Sri Lankan universities are Relational. Enterprise partners noted that it was difficult to identify reputable university partners and that there was a lack of trust and poor communication between the enterprise organisation and the university. Structural issues such as the lack of administrative support, and a lack of clarity regarding intellectual property rights was also mentioned. Material and Cultural factors were also found to be important but to a lesser degree. Material factors included limitations in funding to get UECs up and running and lack of staff with the required expertise. Cultural issues identified by Enterprise

partners included the lack of a collaborative working culture between enterprise organisations and universities.

Figure 12 below outlines the enablers that Enterprise partners identified in relation to the formation and maintenance of UECs in Sri Lanka.

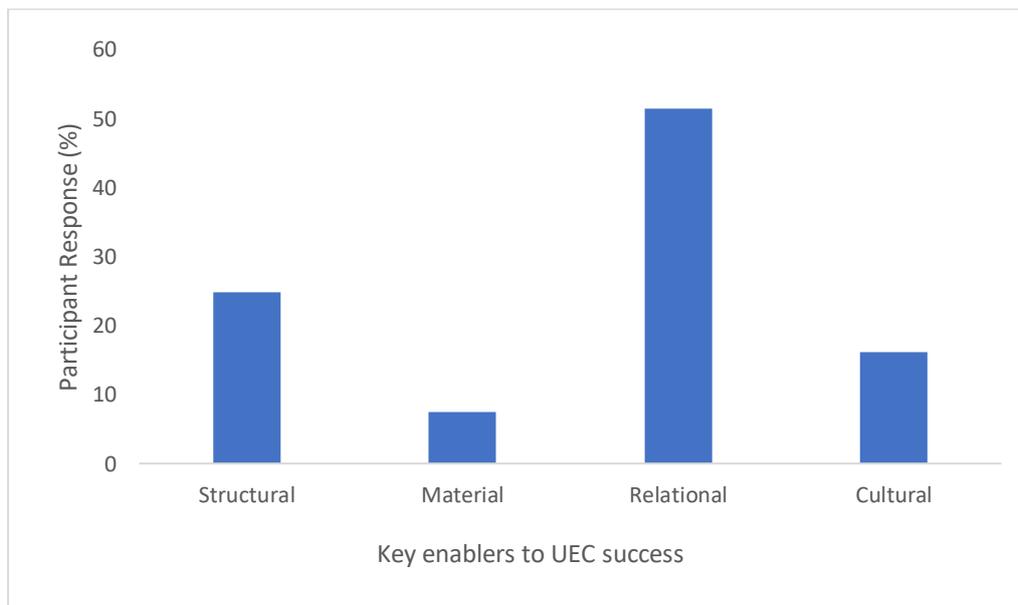


Figure 12: Key enablers that Enterprise partners identified in relation to the formation and maintenance of UECs in Sri Lanka.

In Sri Lanka Relational factors were the most reported enablers of UECs. Enterprise partners noted that an adaptive university management to work with and good levels of collaborative planning between the enterprise organisation and the university were important for success. With regard to Material enablers Enterprise partners noted that financial support was important, whether as an upfront capital investment or as tax reductions. With regarding to Structural factors several respondents noted the importance of administrative support with the simplification of bureaucratic systems a key enabler. Finally, the Cultural factors noted included measures which would build a culture of entrepreneurship, such as offering students and staff industrial training.

When reviewing selected comments from respondents we can see that having formal agreements (Structural) in place was mentioned most often. For example, respondents noted

the need for the “*Existence of a formal agreement between universities and enterprises*” or “*Having a formal agreement*” or having a “*Bridging mechanism between two sectors is needed.*”

Thailand

The barriers and enablers experienced by the Enterprise partners working with the three Thai partner universities (Chiang Mai University, Mahasarakham University, and Naresuan University) was explored next. Figure 13 outlines the main barriers identified in Thailand to UEC formation and maintenance.

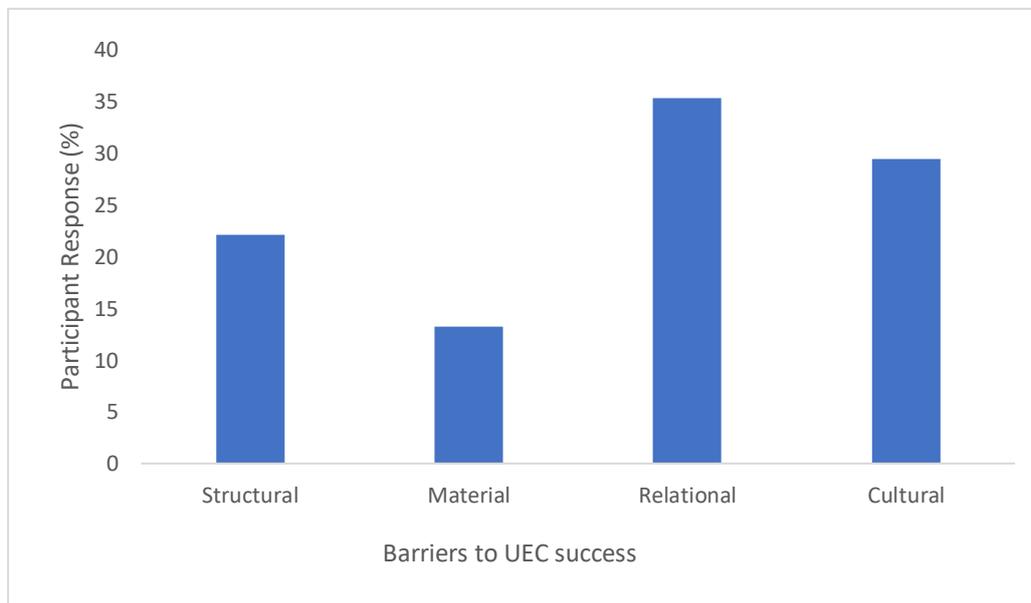


Figure 13: main barriers identified in Thailand to UEC formation and maintenance.

As in Sri Lanka, Thai Enterprise partners noted that Relational factors were often barriers to UEC success. Relational factors included universities not providing an expert database of staff available to support UECs and unclear policies. Cultural factors were also noted as being a barrier to UECs with lack of incentives and a lack of time allocated to university staff who were overburdened with other duties. The factors next most often reported were Structural factors with Enterprise partners noting the lack of formal agreements and the lack of general organisational support for UECs. The least mentioned barriers related to the theme

of Material factors. However, some Enterprise Partners did note that the lack of funding and resources, such as advanced software and equipment, could pose a barrier to UEC success.

As well as exploring the barriers to UECs experienced by Enterprise partners the survey also examined key enablers. Below, Figure 14 outlines the main enablers of UECs noted by Enterprise partners working in Thailand.

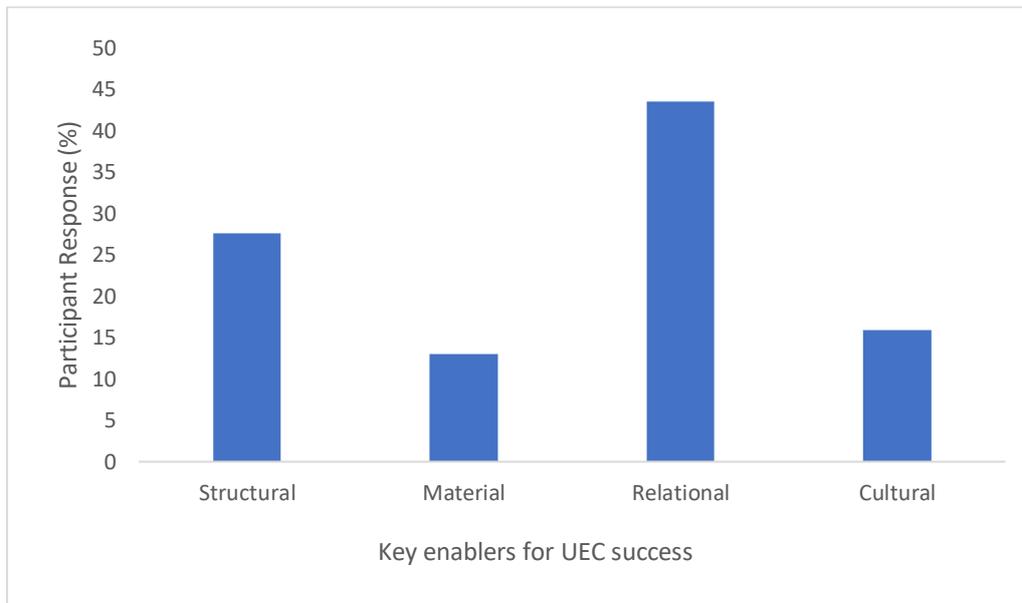


Figure 14: outlines the main enablers of UECs noted by Enterprise partners working in Thailand.

Relational factors were also noted as important enablers for UEC success. For example, good relationships between university and enterprise staff and strategies to enhance partner networks were seen as being important. Structural factors were the next most noted theme of enablers. Specifically good management supporting and having clear policies in place, such as relating to intellectual property, were noted as important. Cultural factors were the next type of enabler noted with the importance of university and enterprise partners sharing a common goal being highlighted. Finally, Material factors such as having a budget to support UECs and having access to the right equipment being good enablers of successful UECs.

From the comments provided by the Enterprise partners it is important to note that Relational factors were the most often noted. For example, participants commented that “Open

communication through personal visits, letters, and presentations” is needed. Participants noted that relationships with universities can be fostered through “Social Mobilization Activities”, “online sessions on our work and the interns” and “through our Local Governance Resource Center” and the “Business Continuity Management Council.”

The Philippines

Key barriers and enablers reported by the Enterprise partners working with the three partner universities from The Philippines (Ateneo de Manila University, Malayan Colleges Laguna, and Philippine Normal University) are outlined here. (See Figure 15).

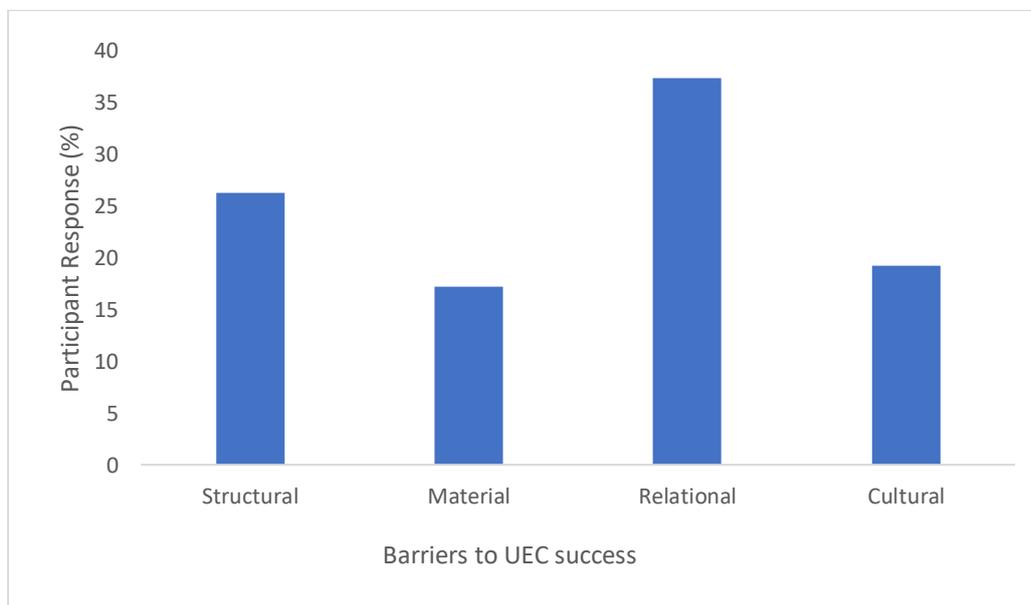


Figure 15: Main barriers identified by Enterprise partners working with partner universities in The Philippines to UEC formation and maintenance.

Enterprise partners working with universities in The Philippines also noted Relational factors most often when asked to list barriers to UEC success. These factors included difficulties with communication, misaligned goals and problems resolving conflict. The second most reported factors related to Structural issues such as problems with the procurement process, and lack of support from other stakeholders. Cultural factors were also noted, with Enterprise partners suggesting that university staff did not always have the right mindset to engage in

UECs or were closed to trying new approaches to research such as undertaking a collaboration with external organisations.

As well as reporting barriers to UEC success, Enterprise partners were also asked to report factors which acted as enablers. (See Figure 16 below).

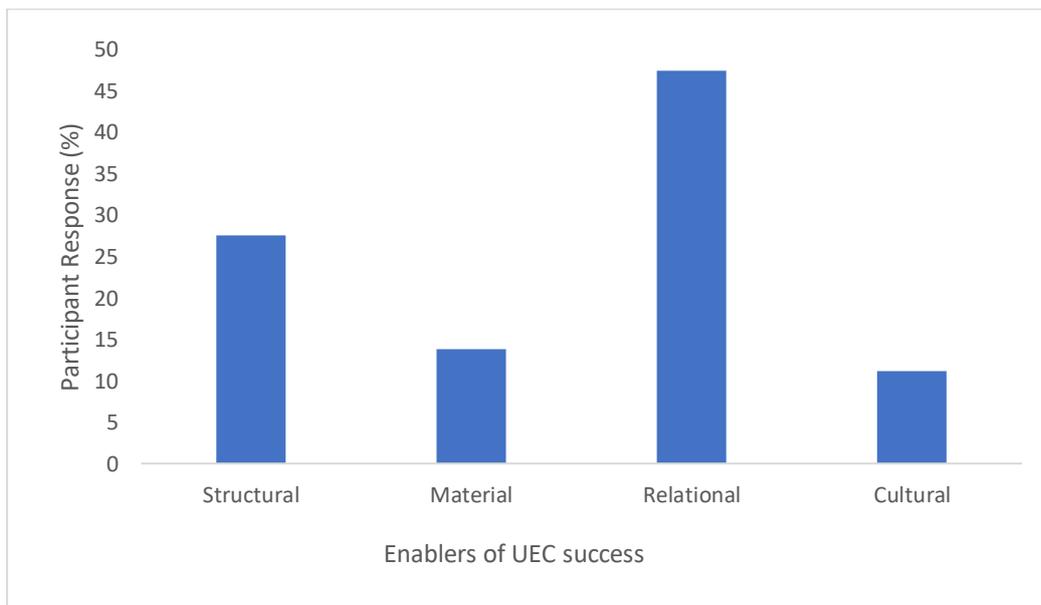


Figure 16: Main enablers identified by Enterprise partners working with partner universities in The Philippines to UEC formation and maintenance.

It is revealing that Relational factors were again cited as being important for UEC success.

Enterprise partners noted that having a harmonious relationship between enterprise organisations and universities was very important. Other participants noted that mutual respect between parties and an atmosphere of openness were both enablers of UEC success. Structural factors were also noted as important for UEC formation and maintenance, with good management and partnerships agreements being mentioned. Material factors were noted by the Enterprise partners and enablers included not only funding but also having the right personnel available to engage in UEC activities. Cultural factors were least likely to be mentioned by Enterprise partners as being enablers of UECs, but universities having competent, confident staff was considered important.

From the additional comments provided by the Enterprise partners Cultural factors had the most comments. For example, participants commented that more “*Academic consultants are needed*” and staff should be “*Willing to cooperate fully*” undertaking “*More collaboration activities*” and “*organize academic conferences.*”

Discussion

Enterprise partners, who have been working in UECs relating to disaster resilience and recovery with the nine South Asian university partners, were invited to complete a survey about their experiences. The results of the survey provide us with an insight into how enterprise organisations support UECs and the barriers and enablers that Enterprise partners face when working in collaboration with universities. The results presented here give us an insight in to UEC formation and maintenance from the perspective of the Enterprise partners. Further, this knowledge can be used to inform the strategic framework for undertaking UECs within the field of disaster resilience and recovery.

When examining the demographic information provided by the Enterprise partners the majority of UEC Leads are male and over the age of 34. The survey also found that Enterprise partners tended to be experienced members of staff with over 10 years of enterprise experience. Therefore, most of the Enterprise partners surveyed were male, older and more established in their careers. This finding suggests that there is an opportunity to increase the diversity of Enterprise partners and interventions to involve Enterprise partners who are female and earlier in their career should be considered.

One of the main findings from the survey was that the majority of Enterprise partners working with universities across South Asia in UECs related to disaster resilience and recovery were from the public sector or were NGOs. Less than one in four Enterprise partners came from industry. This appears to be a missed opportunity and strategies could be put in place to widen the types of enterprise organisations that universities work with. The

demographic information supplied by the Enterprise Partners also revealed that most enterprise collaborators were in the same country as the university. Therefore, as well as universities looking to increase the diversity of staff from Enterprise partners that they work with in UECs, universities could also look to increase their collaborations with enterprise organisations from private industry and from a wider geographic area.

The Enterprise partners who responded to the survey appear to be well supported by their organisation regarding UEC work with most respondents noting that they received time on their workload to engage in UECs. However, as with universities, most enterprise organisations do not give a specified set number of hours for UEC work on the workload of their staff. When workloads for UECs are not specifically noted there is a danger that other activities will take priority over UEC work. There can also be a reluctance to provide staff with the hours needed to attend networking events and engage in other relationship building exercises. With regard to resources the majority of Enterprise partners reported having documentation to support their UEC strategy. However, 31% of Enterprise partners in Sri Lanka did not have internal policy documents for UECs. Enterprise partners from Thailand were the most likely to have an external relations department (76%) but fewer Enterprise partners with links to universities in Sri Lanka and The Philippines reported that their organisation had an external relations department. Therefore, Enterprise partners may benefit from support in creating internal policy documents to help with UEC strategy and governance. Enterprise partners could also consider creating an external relations department in order to support their work with universities.

When asked about the type of direct support that Enterprise partners provided for University-Enterprise collaborations direct funding was only offered by around 20% of Enterprise Partners across the three countries. This is likely to be because the majority of Enterprise partners were from the public sector, which has limited resources. It is likely that universities

could receive more financial support if they partnered with private industry. With regard to other types of support about 30% of Enterprise partners reported that they hosted UEC-facilitating events and less than 10% of Enterprise partners offered remunerations for UEC project/activities. Given the levels of support noted here there is scope for universities to ask for more support from their Enterprise Partners, especially financial support. However, Enterprise partners did note a number of in-kind benefits that they offered as part of their UECs. This included enhancing the student experience (graduate training, student internships, facilitating student field trips and site visits for students), building staff expertise (technical services, technical expertise, data sharing and knowledge exchange) and offering practical support (physical space and facilities and product donations).

Across Enterprise partners working in Sri Lanka, Thailand and The Philippines, the most cited barriers and enablers were within the theme of Relational factors. Enterprise partners reported that networking was often difficult and that having the opportunity to meet and interact with university staff could help to develop more UECs. As well as networking Enterprise partners often mentioned the need for trust and for enterprise organisations and universities to have goals which align. Enterprise partners also noted that UECs worked better when communication was good and that systems were in place to resolve conflicts. Thai Enterprise partners noted that Relational factors could be improved by having an expert database of staff available to support UECs and making policies relating to UEC work clear and transparent. It is clear that Enterprise partners, along with university staff, struggle with the administrative burden associated with UECs. Simplification of the bureaucratic systems associated with UEC formation and maintenance would appear to be a key factor in UEC success. Universities and enterprise organisations should work together to reduce the paperwork and ensure that any formal agreements needed are clear and easy to administer.

The next most common barriers and enablers of UECs related to Cultural issues that Enterprise partners experienced when working with universities. Many Enterprise partners noted that there was a lack of a collaborative working culture between enterprise and that university staff did not always have the right mindset to engage in enterprise initiatives. Enterprise partners also noted that university staff often did not have time to commit to UEC activities. Enterprise partners of universities in Sri Lanka were the most likely to note that university staff were not incentivised to undertake UEC work and had limited time for UECs due to high teaching workloads. Therefore, it is important that university and Enterprise partners make sure that they share a common goal regarding the outcome of the UEC. Further, universities need to ensure that staff have time allocated to UEC work and are rewarded for good engagement with UEC projects.

Material factors were the least mentioned by Enterprise partners as being barriers and enablers for UECs. However, some Enterprise partners noted that financial support was an important enabler, and that capital investment and tax reductions could help UECs to form. Enterprise Partners also noted that financial investment to allow the purchase of equipment or for staff training could also contribute to a successful UEC. Therefore, universities and enterprise organisations should ensure that adequate funding is available to support UECs before starting on collaborator projects. Seedcorn funding may be available from the government but UECs should also attempt to be self-funding. Enterprise partners stand to gain from involvement in UECs and asking them to contribute with an initial investment is not unreasonable.

Conclusions and Future Research Directions

In conclusion, the results of the survey show that Enterprise partners experience many of the same barriers and enablers to UEC success as university staff. Relational factors were the

most reported enablers of UECs by both Enterprise Partners and university staff. However, whereas Enterprise partners were more likely to note Relational factors as being barriers to UECs, senior managers and staff in universities were more likely to note Structural and Cultural factors as barriers to UEC success. The results of this survey therefore suggest that it is critical that universities do more to enhance networking opportunities with potential Enterprise partners, especially internationally and those from private industry. Raising awareness of UEC opportunities by inviting potential Enterprise partners to networking events and establishing corporate start-up labs in universities are essential actions if more UECs are to be formed. Maintenance of UECs could be improved with better administrative and financial support as well as staff in universities and enterprise organisations having a better understanding of each other's limitations and motivations.