BUILD-IT PARTNERSHIPS SUSTAINABILITY REVIEW

Final Report

September 2021

ABSTRACT

USAID/Vietnam commissioned USAID Learns to conduct a Partnership Sustainability Review of Building University-Industry Learning and Development through Innovation and Technology Alliance (BUILD-IT), a five-year activity implemented by Arizona State University (ASU) and funded by USAID/Vietnam. BUILD-IT's goal is to leverage industry-university partnerships that link technology and engineering universities to the needs and capabilities of industry partners (IPs), to produce graduates who can become the next generation of leaders of inclusive, technology-based growth.[1]

This Sustainability Review assesses the sustainability of BUILD-IT's partnerships and provides recommendations to enhance the gains that BUILD-IT has made in establishing university-industry partnerships (UIPs). Focusing heavily on qualitative methods, including key informant interviews (KIIs), focus group discussion (FGDs), and Reflection Sessions with key university and industry stakeholders, the review identified key valuable aspects such as industry advisory boards (IABs), industry-supported project-based learning opportunities for students, focusing especially on females, and funding for enhanced laboratory and research facilities. Less valuable aspects, such as English for Engineering Concepts (EEC), focusing more on Accreditation Board for Engineering and Technology (ABET) than ASEAN University Network–Quality Assurance (AUN-QA) accreditation, and facilitating training with only ASU staff (rather than local experts more familiar with the Vietnam context), may be less sustainable. These resources may be redirected to developing more innovative project-based learning (PBL) and reaching more student beneficiaries with PBL opportunities.

BUILD-IT has made substantial contributions to participating universities' progress in achieving accreditation and autonomous function; however, universities need to exercise more control over the UIPs directly and to apply the concepts learned in the capacity building training to establish and manage their own UIPs going forward.

---

[1] BUILD-IT Program Description.

BUILD-IT PARTNERSHIPS SUSTAINABILITY REVIEW

Final Report

USAID Learns

Contracted under 72044019C00003

Prepared for:
Le Tong Giang, Contracting Officer's Representative (COR)
United States Agency for International Development/Vietnam
15/F, Tung Shing Square
2 Ngo Quyen Street
Hoan Kiem District
Hanoi, Vietnam

Prepared by:
USAID Learns
Social Impact, Inc.
Level 6, BIDV Tower
194 Tran Quang Khai Street
Hoan Kiem District
Hanoi, Vietnam

CONTENTS

LIST OF TABLES AND FIGURE

ACRONYMS

ABET	Accreditation Board for Engineering and Technology
ASU	Arizona State University
AUN-QA	ASEAN University Network–Quality Assurance
BUILD-IT	Building University-Industry Learning and Development through Innovation and Technology Alliance
CFT	Certified Facilitator Training
CTI	Co-active Training Institute
CTU	Can Tho University
DICE	Duration, Integrity, Commitment, Effort
DUT	Da Nang University of Science and Technology
EEC	English for Engineering Concepts
EPICS	Engineering Projects in Community Service
FGD	Focus Group Discussion
FY	Fiscal Year
GVN	Government of Vietnam
HCMC	Ho Chi Minh City
HE	Higher Education
HEEAP	Higher Engineering Education Alliance Program
IAB	Industry Advisory Board
IP	Industry Partner
IQA	Internal Quality Assurance
IUH	Industrial University of Ho Chi Minh City
KII	Key Informant Interview
KPI	Key Performance Indicator
LHU	Lac Hong University
MEP	Maker to Entrepreneur
MIS	Management Information Systems
MOET	Ministry of Education and Training
MOU	Memorandum of Understanding
MTT	Master Teacher Training
PBL	Project-based Learning
R&D	Research and Development
SHTP	Saigon High Tech Park
SOW	Statement of Work
STEM	Science, Technology, Engineering, and Mathematics
UIP	University-Industry Partnership
UP	University Partner
URI	Undergraduate Research Initiative
USAID	United States Agency for International Development
UT	Ho Chi Minh City University of Technology
UTE	Ho Chi Minh City University of Technology and Education
WEPICS	Women's EPICS

EXECUTIVE SUMMARY

BACKGROUND AND PURPOSE

In February 2021, the United States Agency for International Development (USAID)/Vietnam commissioned USAID Learns to conduct a Partnership Sustainability Review of Building University-Industry Learning and Development through Innovation and Technology Alliance (BUILD-IT), a five-year activity to support USAID/Vietnam to implement more efficient, effective, and transparent education activities, implemented by Arizona State University (ASU).

As a Global Development Alliance, BUILD-IT's alliance goal is to leverage government-industry-university partnerships that share its goal of linking technology and engineering higher education institutions to the needs and capabilities of Industry Partners (IPs), to produce graduates who can become the next generation of leaders of inclusive, technology-based growth.[2]

BUILD-IT has worked most intensively with six universities as strategic partner institutions: Da Nang University of Science and Technology (DUT); Ho Chi Minh City (HCMC) University of Technology and Education (UTE); Industrial University of HCMC (IUH); Lac Hong University (LHU); HCMC University of Technology (UT); and Can Tho University (CTU).

BUILD-IT was extended for two years starting at the end of Fiscal Year (FY) 2021 (October 2021) and scheduled to end in September 2023. In light of this extension, this Sustainability Review assesses the sustainability of BUILD-IT's partnerships and provides recommendations to enhance the gains that BUILD-IT has made in establishing university-industry partnerships (UIPs).

The objectives of this Partnership Sustainability Review are to:

1. Provide reflections and sustainability recommendations on BUILD-IT UIPs to inform the extension period.

2. Provide USAID/Vietnam with a case study based on BUILD-IT partnerships that can inform future models of university-industry-government higher education (HE) partnerships.

3. Provide reflection on the challenges and barriers to achieving effective autonomous operations under Decree 99 and inform key areas of need around specific criteria (i.e., financial independence, university governance, etc.).

The four research questions that guide this review are:

1. What aspects of the various UIPs that have developed and/or evolved through BUILD-IT's capacity building efforts are perceived to be the most valuable to different stakeholders? (a.) Why are these elements considered most valuable? (b.) What is in place to ensure these aspects are sustained? (c.) Is the infrastructure/plan for sustainability adequate to maintain these "most valuable" elements of UIPs? and (i) If not, what could be done to strengthen BUILD-IT partnerships in the next two years?

2. What aspects of the various UIPs that have developed and/or evolved through BUILD-IT's capacity building efforts are perceived to be less critical to various stakeholders? (a.) Why are these elements perceived to be less critical? (b.) Should there be an effort made to sustain elements/aspects deemed less critical by various stakeholders? (i.) If so, what would this require? And are plans in place to sustain these elements deemed by stakeholders to be less critical? and (ii.) If not, how could BUILD-IT resources/attention be modified in the next two years toward what stakeholders consider to be more critical elements of partnerships?

3. What are the key benefits that stakeholders perceive UIPs can and should provide to universities? What are the barriers preventing partnerships from fully providing these types of

---

[2] BUILD-IT Program Description.

support? For example: (a.) Role in enabling/supporting accreditation? (b.) Direct financial/resource support? (c.) Assistance in improving learning/opportunities for faculty and/or students? and (d.) Other essential benefits of UIPs.

4. Given the shift toward more autonomous universities in Vietnam: (a.) To what extent have BUILD-IT UIPs contributed to preparing BUILD-IT partner universities for more effective autonomous operations? and (b.) What barriers or challenges remain? What support is needed to achieve the Ministry of Education and Training (MOET) criteria for autonomy? What stakeholders can facilitate that support?

METHODS

Leveraging a "pause and reflect" approach, this study is an activity review rather than an evaluation and thus focuses on the how and why of BUILD-IT's partnership development efforts utilizing a mixed-methods approach, focusing heavily on qualitative data collection and analysis methods. The key stakeholders for this study include BUILD-IT's partner universities, IPs, implementing partner staff, and Government of Vietnam's (GVN) MOET.

The study kicked off with a thorough review of background documents, including BUILD-IT periodic reports and strategic planning documents, GVN policy documents including Decree 99, and other relevant documents. In addition, the review team took advantage of the regularly scheduled Annual Partners' Meeting to conduct four breakout sessions with some 70 BUILD-IT partners, to gather initial inputs into the activity. These inputs were incorporated into the main dataset and served as information points to finalize the methodology and data collection tools.

The review team conducted 35 virtual-based key informant interviews (KII) with individuals representing all four key stakeholder groups, and ten online focus group discussions (FGDs) engaging 25 university faculty/staff and 22 student respondents. Participants were selected using a snowball approach based on an initial contact list provided by BUILD-IT. Copies of all data collection instruments are included in Annex IV: Data Collection Tools.

FINDINGS AND CONCLUSIONS

Study Question 1 explores which aspects of BUILD-IT do partners find most valuable and why, and are they sustainable?

University partners (UPs) indicated they value:

- Outcomes of the capacity building training, including enhanced appreciation among university leadership for UIPs' contributions to promote quality education for students through curricular development, program accreditation and autonomy efforts, and ability to draw increased funding.
- The UIPs' contributions toward faculty development, including enhanced laboratory facilities and funding to implement learning activities through which teachers can apply innovative pedagogical methods taught by BUILD-IT trainers.
- Quality workforce promotion and soft skills reinforcement for students through applied learning opportunities like Engineering Projects in Community Service (EPICS), PBL, e-projects, and internships, which respondents felt translated into enhanced quality of new graduates ready to join the job market with in-demand skills.
- The UIPs established with BUILD-IT's support, especially in their strengthened role for industry advisory boards (IABs), which existed prior to BUILD-IT but have been enhanced and expanded in all six universities, with 76 active IABs operating in 2020.

Industry partners (IPs) also valued the opportunity to sponsor innovation through faculty research and student competitions, which represent win-win opportunities for UPs and IPs to collaborate on research and development (R&D) and student activities that raise the profile of both partner

institutions, including the IPs whose philanthropic donations and in-kind contributions translate into increased market share.

Study Question 2 asks which BUILD-IT aspects are less valued by partners and why, and if they should be sustained or have assets reallocated to more valuable aspects?

UPs indicated that three key areas were of less value to them and, therefore, were not as essential to sustain, including:

The English for Engineering Concepts (EEC) course was less valuable than the other activities because it is less established than other aspects, because of challenges like COVID-19 and challenges in organizing student schedules for an extracurricular activity. One university suggested the English course be adjusted to focus on more general workforce readiness topics.

BUILD-IT focused on training for Accreditation Board for Engineering and Technology (ABET) accreditation; however, UPs felt that the ABET accreditation was less valuable and requested more support for ASEAN University Network–Quality Assurance (AUN-QA) accreditation. The latter is less expensive and less challenging to achieve, and most UPs are pursuing it more often than ABET accreditation.

Trainings facilitated by ASU trainers from the United States were less valuable than if local experts played leadership roles in trainings. UPs expressed a desire for a wider variety of trainers, including those from Vietnam who are more familiar with local contexts and who could provide more localized support, including long-term assistance that universities could draw from after BUILD-IT ends.

IPs felt it was less valuable to implement the same project-based learning (PBL) curriculum without innovation. While the activities that BUILD-IT implements are well-established, IPs seek new and innovative projects that excite students and faculty and raise their profile. If UPs are to sustain PBL, they will need to be able to develop and implement innovative PBL on their own.

Study Question 3 asks what are the key benefits that UIPs can and should provide to universities? What are the barriers to full support?

The benefits that UIPs offer universities include: support for accreditation; funding to support science, technology, engineering and mathematics (STEM) education; enhanced profile and status; enhanced role of the IAB; quality workforce promotion and soft skills reinforcement for students; and promoting more female engagement in STEM careers.

The barriers to full support include: IPs' limited engagement in implementing activities, mentoring students, and participating in IABs; limited scope for students' activities; lack of available data to demonstrate outcomes that IPs need to justify continued long-term investment; promoting the continuous engagement of students and faculty in UIP-funded and supported activities; and barriers to expanding female engagement, including female reluctance to take on leading roles in some PBL activities, especially those focusing on automation.

Study Question 4 explores to what extent BUILD-IT has contributed to partner universities' autonomous operations, what support is needed to achieve the MOET criteria for autonomy, what barriers and challenges remain, and what is needed to overcome them?

As the institutional autonomy landscape is complex and varied between UPs, there is no one-size-fits-all model to address the challenges that they face in functional autonomy. Four out of the six partner universities have been granted official autonomy; the other two have submitted their applications and are waiting for approval.

However, even achieving the status of autonomy does not guarantee full freedom for the institution to set their own policies for tuition, course offerings, class sizes, and faculty and student selection. Although respondents acknowledged that the policy landscape has been improving over the past few years, there is still much to be done to enable universities to function autonomously.

RECOMMENDATIONS

BUILD-IT

- ASU should continue to expand provisions of training sessions to further enhance efficiency of stakeholders, especially senior leaders and MTT and CFT because they are those who are able to spread the values of capacity building training.
- In the last two years of BUILD-IT, ASU should focus attention on student activities that are well-established, such as PBL, EPICS, and e-projects, and should also explore strategies to provide more funding for those activities to increase impact by offering these experiential learning opportunities to a larger number of students that are more interesting and attract more female participants.
- BUILD-IT should work collaboratively and more closely with both industry partners and UPs to make students' experiential learning activities more 'visible' and attractive to students. BUILD-IT should seek more effective strategies to communicate experiential learning opportunities to a wider range of students to ensure any interested parties have an opportunity to participate.
- ASU should provide more focus on AUN-QA accreditation, which is highly demanded by UPs, while they continue offering ABET support for interested UPs.
- ASU should tailor and customize their capacity building training for leadership and faculty. Those individuals who have already completed training courses in the past through BUILD-IT, HEEAP, and other relevant trainings, should be offered more advanced trainings on topics like: longitudinal data tracking, resource planning, IAB development and strengthening, fundraising, and developing innovative projects for students, while maintaining initial training for entry-level staff. ASU should involve more local experts as trainers and diversify training staff in the capacity building trainings to offer more local expertise and to support the universities to build relationships with these individuals who can offer support after BUILD-IT ends.
- UPs appreciated BUILD-IT's efforts to enhance their capacity for effective autonomous operation and expected that BUILD-IT would continue to provide support for UPs' specific needs. However, more support and resources should be placed to help UPs implement the lessons learned into their practices, explore their challenges and barriers in the implementing process, and provide further support to ensure the sustainability of the activities.
- The implementing partner should help UPs to approach more IPs directly, rather than managing the relationship for them, to facilitate applied learning opportunities for UPs to generate more funding and enhance quality outcomes.
- BUILD-IT could consider using the DICE framework for change management and support UPs to use this framework to have more involvement from the university top leaders and to lead a positive change toward effective autonomous operation.
- Expand KPIs related to UIP development to include outcome-based indicators, rather than focusing largely on output level results.

UNIVERSITY PARTNERS

- UPs should be more proactive in networking with IPs and engaging them in UIP-related activities, including generating more active participation in IABs, facilitating student learning opportunities like internships and competitions, serving as mentors, and financing long-term investments from IPs. UPs should explore strategies to enhance the utility of IABs to provide more consistent inputs into the management of UIPs.
- UPs should develop their own playbooks on UIPs' activities including capacity building training, student-related activities, IAB management, and long-term strategies to maintain and expand accreditation to take ownership of the gains they have made under BUILD-IT and plan for long-term sustainability.

- UPs should ensure that longitudinal tracking of graduate outcomes meets IPs' needs for evidence of outcomes, so that these partners can continue to justify (or even expand) their investment long term.
- Change management is challenging; moving from a central command system to autonomous operation when related policies are incomplete is difficult. Universities should work in consultation with ASU to apply change models such as Kotter's 8-step change model, or DICE framework, to make institutional change more consistent.

INDUSTRY PARTNERS
- IPs should commit to full engagement in IABs to offer continuous curricular advice to university faculties, so these institutions can regularly update their programs to meet the demands of the labor market for new graduates with the skills to join the 21st-century workforce.
- IPs should be more proactive in working with universities to update applied learning activities so they remain fresh and enticing and invest more funds in student-related activities such as EPICS, MEP, and e-projects so that more students can join such activities. Mentors should also spend more time providing support, guidance, and feedback for students. This will increase the quality for these applied learning activities.

BOTH UNIVERSITY AND INDUSTRY PARTNERS
- Since most industry-sponsored and co-mentored experiential learning activities provided to students, such as EPICS, MEP, E-Projects and URI, are different from the traditional university extra-curricular activities, both university and industry partners and implementing partners should better help students understand the benefits brought about by these activities, ultimately making the activities more visible and attracting more students to these activities.
- UPs and IPs should explore innovative strategies to engage the GVN, especially MOET, like the partnership with SHTP (a quasi-governmental IP). This will help to overcome the challenge of there not being an MOU between USAID and MOET.

MOET

- MOET should work closely with universities, especially those who have been exercising autonomy for some time, to develop and/or improve policies and regulations to ease the process of universities exercising autonomy.
- MOET should liaise with other GVN governing bodies including the Ministry of Home Affairs, Financial Ministry, different Line Ministries, provincial governments, Vietnam National Universities, regional universities, and representatives of the Communist Party to clear the barriers for universities to exercise autonomy and to develop a workable plan/framework for university autonomy in Vietnam.

USAID

- USAID should consider signing an MOU with MOET to facilitate more engagement of higher education system policy makers in BUILD-IT and similar activities and to further develop and improve autonomy-related policies. The Vietnamese HE system is in the early stages of transitioning to autonomous operations, and support from an experienced donor like USAID would be a valuable asset in this process.

INTRODUCTION

In February 2021, the United States Agency for International Development (USAID)/Vietnam commissioned USAID Learns to conduct a Partnership Sustainability Review of Building University-Industry Learning and Development through Innovation and Technology Alliance (BUILD-IT), a five-year activity to support USAID/Vietnam to implement more efficient, effective, and transparent education activities.

In September 2015, Arizona State University (ASU) began implementing BUILD-IT in partnership with USAID/Vietnam with a total budget of US$6.7 million. In 2021, BUILD-IT was extended for two more years for an additional US$2 million that starts at the end of Fiscal Year (FY) 2021 (October 2021) and is scheduled to continue until September 2023. In light of this extension, this Sustainability Review provides an opportunity to assess the sustainability of BUILD-IT's partnerships and to provide recommendations to enhance the sustainability of the gains that BUILD-IT has made in establishing fruitful and lasting partnerships that are an essential element of quality science, technology, engineering, and mathematics (STEM) education, achievement of international accreditation, and autonomous operations for BUILD-IT's six active partner universities in Vietnam.

CONTEXT

As a Global Development Alliance, BUILD-IT's alliance goal is to leverage deep and diverse government-industry-university partnerships that share its goal of linking technology and engineering higher education (HE) institutions to the needs and capabilities of industry partners (IPs), to produce graduates who can become the next generation of leaders of inclusive, technology-based growth.[3] The objective of BUILD-IT, as stated in their quarterly reports and other project documents is to build a "world-class model for innovative technology and engineering HE" by creating a "public-private ecosystem that is designed to produce graduates who can solve problems and engineer solutions and value for Vietnam's social and economic development."

Since 2018, BUILD-IT has worked with six universities as strategic partner institutions: Da Nang University of Science and Technology (DUT); Ho Chi Minh City (HCMC) University of Technology and Education (UTE); Industrial University of HCMC (IUH); Lac Hong University (LHU); HCMC University of Technology (UT); and Can Tho University (CTU). All of these universities are located in the south of Vietnam except for DUT, which is located in the middle of the country. All are public institutions except LHU, which is a private university. Two are designated as regional universities: DUT and CTU, and all of them have active industry advisory boards (IAB) except DUT.[4]

BUILD-IT's support for these institutions is centered around three core activities:

Core 1: Leadership and Strategy toward University Autonomy, including executive leadership development for university leaders and policy makers to operationalize strategic planning goals toward achieving university autonomy.

Core 2: Academic Program Quality through Accreditation Board for Engineering and Technology (ABET)/ASEAN University Network–Quality Assurance (AUN-QA) Compliance, including a robust assessment and evaluation system for continuous program improvement supporting international accreditation; and

Core 3: Applied Project-based Curriculum Implementation, including hands-on learning opportunities strengthening industry-university linkages across multiple curriculum platforms,

---

[3] BUILD-IT Program Description.
[4] BUILD-IT Y5 Q2, *Quarterly Report* (2020): 15.

curricular partnerships, mentorships, and industry-sponsored practical opportunities to build students' professional and technical competencies.[5]

There are a number of key terms that are used throughout this report, including accreditation, autonomy, and sustainability, as well as some key BUILD-IT activities such as Engineering Projects in Community Service (EPICS) and Maker to Entrepreneur (MEP), which are defined in Annex III: Key Study Terms to clarify how they were understood and operationalized by the review team during this study.

PURPOSE AND AUDIENCE

The objectives of this Partnership Sustainability Review are:

1. Provide reflections and sustainability recommendations on BUILD-IT university-industry partnerships (UIPs) to inform the extension period.

2. Provide USAID/Vietnam with a case study based on BUILD-IT partnerships that can inform future models of university-industry-government HE partnerships.

3. Provide reflection on the challenges and barriers to achieving effective autonomous operations under Decree 99 and inform key areas of need around specific criteria (i.e., financial independence, university governance, etc.).

The primary audience for this report includes: USAID/Vietnam, ASU, and the BUILD-IT team in Vietnam, the six active partner universities that have been participating in BUILD-IT activities, the IPs working with these universities, and the various Government of Vietnam (GVN) ministries whose interests align with BUILD-IT's objectives. Secondary audiences include universities in Vietnam that are being added to the BUILD-IT portfolio for the final two years of implementation and other development projects with similar aims to build universities' capacity to engage in fruitful university-industry-government partnerships. A copy of the study's original Statement of Work (SOW) is included in Annex V: Statement of Work.

RESEARCH QUESTIONS

The four research questions that guide this review are:

1. What aspects of the various university-industry partnerships that have developed and/or evolved through BUILD-IT's capacity building efforts are perceived to be   the most valuable to different stakeholders?
    a. Why are these elements considered most valuable?
    b. What is in place to ensure these aspects are sustained?
    c. Is the infrastructure/plan for sustainability adequate to maintain these "most valuable" elements of university-industry partnerships?
        i. If not, what could be done to strengthen BUILD-IT partnerships in the next two years?

2. What aspects of the various university-industry partnerships that have developed and/or evolved through BUILD-IT's capacity building efforts are perceived to be less critical to various stakeholders?
    a. Why are these elements perceived to be less critical?
    b. Should there be an effort made to sustain elements/aspects deemed less critical by various stakeholders?
        i. If so, what would this require? And are plans in place to sustain these elements deemed by stakeholders to be less critical?

---

[5] Information in this section in this section excerpted from BUILD-IT's strategy statement available in all standard project documents, including quarterly reports and the Work Plan.

ii. If not, how could BUILD-IT resources/attention be modified in the next two years towards what stakeholders consider to be more critical elements of partnerships?

3. What are the key benefits that stakeholders perceive university-industry partnerships can and should provide to universities? What are the barriers preventing partnerships from fully providing these types of support? For example:
   a. Role in enabling/supporting accreditation?
   b. Direct financial/resource support?
   c. Assistance in improving learning/opportunities for faculty and/or students?
   d. Other essential benefits of university-industry partnerships, such as…?

4. Given the shift towards more autonomous universities in Vietnam
   a. To what extent have BUILD-IT UIPs contributed to preparing BUILD-IT partner universities for more effective autonomous operations?
   b. What barriers or challenges remain? What support is needed to achieve the MOET criteria for autonomy? What stakeholders can facilitate that support?

METHODOLOGY

OVERVIEW

Leveraging qualitative methods and a "pause and reflect" approach, this review presents an opportunity for stakeholders to talk candidly about what has worked well and what could be adjusted to make BUILD-IT partnerships more sustainable for the final two years of implementation. This approach differs in essence from an evaluation, which would be more focused on outputs and progress toward indicators, whereas this review focuses on the how and why of BUILD-IT's partnership development.

RESEARCH DESIGN

The study employed a mixed-methods approach to data collection, focusing heavily on qualitative data gathered through key informant interviews (KIIs) and focus group discussions (FGDs) from four stakeholder groups: UPs, IPs, GVN Ministry of Education and Training (MOET), students, and implementing partners. A full list of KII and FGD respondents is included in Annex II: Full Listing of Persons Interviewed.

RECRUITMENT PROCESS

In recruiting UP respondents, the review team adopted a snowball approach initiated via email with the primary point of contact provided by the BUILD-IT team for each university. From there, the review team organized one focus group for faculty/staff at each institution, with up to six individuals who had benefited from BUILD-IT's work (the average FGD size was four participants), and at least one KII per university (on average, each university contributed at least three individuals for KIIs). Student respondents were recruited through direct cooperation with the university points of contact and were conducted with three of the six active partner universities, with one additional FGD focusing specifically on EEC beneficiaries. The student FGDs ranged from 2 to 8 beneficiaries, with an average size of 5.5 participants per group.

For the IPs and the sole government representative, the review team contacted all individuals whose contact information was shared by BUILD-IT and invited them for individual interviews. Out of ten active IPs, seven organizations participated in interviews (with two IPs conducting two separate KIIs); the others did not respond or indicated they were not available to participate (three IPs had two respondents participate, reaching the total of ten respondents engaged).

DOCUMENT REVIEW

The review team initiated the study by reviewing BUILD-IT's Quarterly and Annual Progress Reports between the end of Year 4 and the start of Year 6 (Q1 FY 2021), the Year 5&6 Work Plan (June 2020), the Midterm Evaluation, the BUILD-IT 3.0 Concept Note (December 2020), PowerPoints from the 2019 and 2020 Annual Partner meetings, USAID/Vietnam's Fact Sheet for BUILD-IT, and ASU's project website. The review team supplemented this with additional background information, including GVN's Decree 99 policy document, and other academic research on university autonomy and international accreditation for Vietnam's universities, including studies published by ASU regarding their work in Vietnam. A full list of documents reviewed are included in Annex I: Full Listing of References and Reports Utilized.

ANNUAL STAKEHOLDER MEETING REFLECTION SESSION

As the BUILD-IT Annual Partners' Meeting was scheduled to take place during the review period, the review team took this opportunity to engage high-level stakeholders in a Reflection Session. This Reflection Session featured a breakout discussion organized by type of stakeholder, in which respondents could discuss three questions: (1) What motivates you to come to this meeting today?, What are the benefits of BUILD-IT partnerships for you and your organization?, (2) What are the key barriers or missing elements that are still needed to achieve sustainable results and make partnerships more sustainable?, and (3) In the next two years, what more can your organization contribute (or what contributions/support from other partners is essential) to strengthen UIPs to further the objectives of BUILD-IT?

The Annual Partners' Meeting was attended by more than 80 representatives of BUILD-IT and partner organizations, including universities, industries, and GVN (of which nearly 70 individuals participated in break-out discussion sessions). These discussion sessions were recorded and transcribed, and these initial inputs informed the methodology and contributed to the full qualitative data set that informed this Partnership Sustainability Review Report.

KEY INFORMANT INTERVIEWS

The review team completed a total of 32 semi-structured KIIs with 35 representatives of the five stakeholder groups (see previous list). The KII inputs represent a significant amount of data to this study because it was one of two key qualitative methods employed to collect data from key stakeholders, and the only data collection method that captured perspectives from all four types of stakeholders. As the study's sample focused on current active partners, it did not include past (inactive) partners or future partners (e.g., Hanoi universities that BUILD-IT plans to engage in the last two years of the activity). Table 1 details the number of respondents engaged in interviews, disaggregated by each key stakeholder group.

Table 1: Number of KII Respondents by Key Stakeholder Group, Disaggregated by Sex

Number of KII Respondents by Key Stakeholder Group, Disaggregated by Sex			
Stakeholder Group	**Total KII Respondents**	**Males**	**Females**
Implementing Partners	6	3	3
Government Partners	1	-	1
University Partners	17	11	6
Industry Partners	10	7	3
Students	1		1
TOTAL KII RESPONDENTS	35	21	14

* Student KIIs were not intended to be part of the research design but one student was sick for a pre-arranged FGD and was interviewed one-on-one at a later date to capture their inputs.

As the review team worked with the key UP point of contact to organize KIIs, the number of interviews conducted in each institution varied depending on their availability to engage in meetings. The KIIs were conducted virtually either in English or Vietnamese, depending on the respondent's preference. The interviews were recorded (with respondents' consent) and transcribed to ensure full documentation of the discussion content. Transcripts of Vietnamese KIIs were translated into English and included in the full data set. Copies of all data collection instruments are included in Annex IV: Data Collection Tools.

FOCUS GROUP DISCUSSIONS

Focus groups were organized with UP representatives and students, offering an opportunity for respondents to engage in discussion focused on gathering a wide range of perspectives from the various stakeholders engaged at these institutions. The review team conducted one FGD with faculty/staff from each of the six active institutions working with BUILD-IT, engaging a total of 25 respondents. Table 2 enumerates the FGD participants by university, disaggregated by sex.

Table 2: Number of Faculty/Staff FGD Respondents by University, Disaggregated by Sex

Number of Faculty/Staff FGD Respondents by University, Disaggregated by Sex			
	Total FGD Participants	Males	Females
Group 1 (LHU)	5	3	2
Group 2 (HCM UT)	2	1	1
Group 3 (IUH)	4	3	1
Group 4 (HCM UTE)	5	4	1
Group 5 (DUT)	5	2	3
Group 6 (CTU)	4	4	-
TOTAL FGD RESPONDENTS	**25**	**17**	**7**

In addition, the review team conducted four FGDs with students from three of the six partner universities, engaging 22 individuals studying engineering, IT, and project management disciplines who had participated in BUILD-IT's applied learning activities. Table 3 below provides additional breakdown of these student respondents.

Table 3: Student Respondents by University, Disaggregated by Sex

Student Respondents by University, Disaggregated by Sex			
	Total Respondents	**Males**	**Females**
Group 1 (LHU General)	6	3	3
Group 2 (LHU EEC)	2	1	1
Group 3 (DUT)	6	4	2
Group 4 (UTE)	8	5	3
TOTAL STUDENT RESPONDENTS	**22**	**13**	**9**

All FGDs were conducted using virtual platforms and were recorded (with respondents' consent) and transcribed to the extent necessary to ensure full documentation of the discussion content. Discussions were conducted in Vietnamese, based on the preferences of the respondents; transcripts were translated into English and included in the dataset for analysis.

The types of university representatives included in the full qualitative data included deans and vice-deans, BUILD-IT coordinators, faculty members who supported BUILD-IT efforts and/or were engaged in the activity's implementation (i.e., trainees), and one individual associated with the IAB. Table 4 details qualitative university respondents, disaggregated by sex and type of respondent.

Table 4: University Faculty/Staff Respondents*

By Type of Position (for KIIs and FGDs), Disaggregated by Sex

University Faculty/Staff Respondents* By Type of Position (for KIIs and FGDs), Disaggregated by Sex			
Type of University Representative	**Total Respondents**	**Males**	**Females**
University Leadership	17	14	3
Faculty/staff	16	7	9
Master Trainers	7	4	3
IAB Representatives	1	1	-
TOTAL UNIVERSITY RESPONDENTS	41	26	16

* Does not include university respondents engaged in Annual Partners' Meeting or Validation Workshop

SURVEY

The review team also administered a short close-ended survey to all respondents (except students); however, respondents were only able to provide inputs on the BUILD-IT activities in which they had participated. Since BUILD-IT implements many different activities, most of the response options had only a small number of respondents contributing inputs (between 4 to 22 respondents per activity). In addition, respondents demonstrated difficulty in assessing the relative value and potential sustainability of one activity versus another, so the overall results were not statistically significant and are not included in this report.

LIMITATIONS

Table 5 provides a list of study limitations and the mitigation strategies that were employed to lessen their impact on the Partnership Sustainability Review's data collection approaches and the validity of the data collected.

Table 5: Study Limitations and Mitigation Strategies

Study Limitations and Migration Strategies	
Limitation	Description and Mitigation Strategies
Limited Study Scope	As discussed above, this study is a sustainability review rather than an evaluation of BUILD-IT. This distinction limits its scope to forward-looking perspectives, rather than an assessment of what outputs and outcomes the activity has achieved thus far. To this end, the study does not assess the efficacy of elements like capacity building training for

Study Limitations and Migration Strategies	
Limitation	Description and Mitigation Strategies
	BUILD-IT faculty, but rather depends on respondents' self-assessments of the relative value and merit of BUILD-IT inputs.
COVID-19 Limitations	Due to the impact of COVID-19, data collection efforts were confined to virtual (online) environments. While this limits the extent to which the review team could observe the implementing environments directly, the health and safety of all parties must be of paramount importance so direct site visits had to be cancelled and these data gathered remotely. Despite this limitation, every effort has been made by the team to ensure the data reflect the situation on the ground, including hosting a validation workshop to review key findings, conclusions, and recommendations with the UPs, to ensure the accuracy of this review.
Respondent Bias	Respondents may have misremembered experiences, conflated them with inputs from other projects, and/or report them inaccurately to gain some perceived benefit or avoid an anticipated consequence (including loss of USAID support). To mitigate this potential bias, the review team read a protection statement at the start of each meeting (KII or FGD) to inform respondents that there is no benefit or repercussion for frank dialogue, all information shared is kept anonymous and will not be attributed to them by name or other identifiers.
Researcher Bias	Researchers may misunderstand a respondent's meaning or record the data inaccurately. This limitation was mitigated to a large extent by using recordings to capture qualitative content accurately, summarizing inputs back to the respondent for verification and/or clarification to diminish the potential that an idea could be misunderstood. Research team also hosting a validation workshop to validate key findings with key stakeholders involved in data collection.
Limited Sample Size	This review does have a limited sample size and was also dependent on the implementing partner to provide contact information for key respondents. This limitation is especially prevalent during COVID when in-person data collection opportunities are limited (see above). The review team worked to mitigate this by using the snowball approach to recruitment, to include the voices of as many stakeholders as possible into the data set. The review team also validated the findings with key respondents and triangulated data with other inputs, including background documents and compared with other respondents' contributions to find areas of consensus or disagreement.
Survey Fatigue	As this review was conducted during a period when the BUILD-IT activity was also doing a lot of strategic planning work (and evaluation of their efforts to date), some limited number of respondents declined to participate in data collection or commented that they felt oversampled. The review team worked in close consultation with USAID and ASU to mitigate this issue to the greatest extent possible, although there was little that the review team could do to alleviate this issue since these individuals had already been engaged in data collection and the overlap had already occurred.

FINDINGS AND CONCLUSIONS

STUDY QUESTION 1

What aspects of the various BUILD-IT UIPs, or partnerships stemming from capacity building or other support provided by BUILD-IT, are perceived to be the most valuable to different stakeholders?
- a. Why are these elements considered most valuable?
- b. What is in place to ensure these aspects are sustained?
- c. Is the infrastructure/plan for sustainability adequate to maintain these "most valuable" elements of UIPs?
    - i. If not, what could be done to strengthen BUILD-IT partnerships in the next two years?

FINDINGS

University Partners Values

Capacity building training for leadership and faculty

Throughout BUILD-IT's implementation, ASU has invested significant efforts toward capacity building training for UP stakeholders, including a wide range of activities to enhance the efficacy of senior leadership, department heads, and lecturers, which promoted quality education for students. Therefore, it is not surprising that when asked about what aspects of the various UIPs that have developed and/or evolved through BUILD-IT, ASU's capacity building efforts are perceived to be a most valuable aspect to different stakeholders, and that a majority of participants in both FGDs and KIIs discussed the capacity building workshops and trainings from ASU.

Leadership values: Enhanced appreciation for UIPs

BUILD-IT's capacity enhancement activities brought a number of notable benefits for UPs, one of which is university leaders' enhanced appreciation for UIPs. UP leadership valued that capacity building training contributed to quality education, program accreditation and autonomy efforts, as well as enhancing their capacity to attract more funding through UIPs. They "*learned from BUILD-IT's advice on the mission, vision, goals*" and they "*did not have these in the system before.*" Many university leaders have adopted an entrepreneurial mindset and developed better strategies to advance their university's goals for accreditation, achieving key performance indicators (KPIs), communicating with IPs and other stakeholders within the university, and expanding UIPs as **win-win partnerships**.

> *"When we partner with businesses, we often expect them to offer us something; that is the case in the past. Currently, leaderships and lecturers also think about UIPs, how to put the problems very clearly so that both sides can win. Now that the university has some knowledge acquired from projects… [we] will also want to re-train businesses on these issues. Thus, businesses see that in addition to the university's request, the university can give some benefits in return."* (LHU Leadership)

This clearly demonstrates the leadership's expanded appreciation for the potential for establishing and expanding UIPs. They started to realize the need to engage with the labor market, they have reached the new level of win-win collaboration. They now focus on the depth of UIPs: "*instead of seeking more industry partnerships, we have to maintain existing partnerships where we have a good relationship and ensure they have benefits.*" They have realized that to maintain a long-term relationship, the interests of the business must be determined. Their enhanced appreciation of UIPs resulted from BUILD-IT's capacity building trainings, which has also contributed to attracting more investment from IPs.

> *"Through BUILD-IT, we also learned from experiences of domestic and foreign universities, thereby raising sponsorship from businesses to develop the faculty of technology in Can Tho University to the national level. What we obtained was not cash but modern equipment. For example, thanks to the introduction by BUILD-IT, Rockwell came to Can Tho University. After*

two years of struggling with import and export procedures, we finally completed the development of an Industry 4.0 laboratory for the Mekong Delta. Rockwell sponsored more than VND 7 billion and the university also spent VND 5 billion. The rector also supported this. We finally have a very good laboratory. Factory of Industry 4.0 within a university is this model. We are implementing this model. In the near future we will re-train engineers from businesses. Our faculty of technology has received many supports from businesses" (CTU Leadership)

The development of leadership's enhanced appreciation for UIPs are evident, indicating this aspect has high potential for sustainability. They have realized the role of UIPs in financing activities within and beyond their university. They have applied BUILD-IT's capacity building lessons into their improved approaches to communicate effectively to sustain and expand UIPs, and to develop new ones.

Faculty values: Pedagogical Innovation

Pedagogical innovation for university lecturers was reported to be of high quality and had potential for sustainability through development of Master Teacher Training (MTT) and Certified Facilitator Training (CFT). Capacity building trainings positively influenced lecturers and many respondents shared how helpful the trainings on pedagogical innovation have been to their pedagogical knowledge, since most of them had not been equipped with these teaching methodologies before BUILD-IT.

Many faculty respondents said that they have been involved in teaching since they graduated, but they did not have a comprehensive understanding about the underlying theories or philosophies for every teaching method they used. In other words, BUILD-IT trainers helped them to understand why and in what circumstances they should use which teaching approach. Since they better understand the usefulness of project-based learning (PBL) methods for technical students through BUILD-IT trainings, they have changed their mindset and feel more dedicated to applying PBL methods in their classes. Pedagogical training sessions held by BUILD-IT have changed their perspective of teaching methodologies, encouraging their students to study in a more innovative way, and *"they have used digital tools to increase student engagement."* Now lecturers are on top of the teaching approaches, and they have gained confidence in using updated approaches to teaching and learning actively:

> *"Because we are the ones who are updated with the latest knowledge about teaching methods, assessment methods and educational trends of the world, we feel more confident. In the past, it was all about habits and conventions without putting much thinking in how we do things? And now, it's very different, we even argue over active teaching methods to arrive at the best solution, not following habits anymore." (LHU Faculty)*

This aspect has potential for sustainability through the development of MTTs and CFTs as UPs have developed a group of key lecturers who will share this training with their colleagues through pedagogical innovation workshops within their university. More importantly, those who participated in such workshops felt they are helpful, and as a result, they have spread the values of the workshops and enhanced the motivation of other lecturers to participate in those workshops. The sustainability of pedagogical innovation is evident within UPs because lecturers indicated that they will continue to employ and share active teaching methods even after BUILD-IT ends.

Faculty and student values: Quality workforce promotion and soft skills reinforcement for students

One of the core aspects of BUILD-IT's UIPs is the provision of hands-on learning opportunities for students. The quality of industry-sponsored and co-mentored experiential learning activities such as EPICS, MEP, E-Projects, URI, PBL, and student internships were highly rated by both participating students and faculty staff. Although these activities are extra-curricular,[6] they were considered by both faculty/staff and students to be more valuable than the traditional university extra-curricular activities. As most traditional university extra-curricular activities are interest-based (e.g., student performances,

---

[6] Except the case of EPICS at CTU, where it has been made as an elective subject at the time of this report.

interest clubs, and volunteer activities), they help students develop soft skills but not disciplinary/professional knowledge and skills. On the other hand, other activities such as student-led scientific research activities or professional workshops are practical opportunities for students to understand and develop discipline-specific knowledge and technical skills but are weak in enhancing students' soft skills. BUILD-IT activities bridge this gap.

All BUILD-IT applied learning activities required students to use their professional knowledge to work collaboratively to solve real-world problems; thus, they are rich in professional knowledge training and in soft skill enhancement. Student respondents in FGDs repeatedly mentioned teamwork, communication, presentation, project design, time management, research, critical and creativity as essential skills they enhanced through their participation in BUILD-IT activities. All student respondents agreed with a student from DUT that EPICS and MEP helped them develop many practical skills, beyond those that they could learn and develop at the university:

> *"In addition to theoretical knowledge we learn at university, we really want to have a program that can provide **exposure to practical experience** so that we can build products that are useful and usable … after participating in the program, I actually developed many skills and knowledge that would not have been taught at university." (DUT student)*

Students who participated in E-projects, EPICS, MEP, and PBL agreed that these activities have *"a well-designed roadmap that links theoretical knowledge with practice"* and with the knowledge and skills gained from these activities, they confidently consider themselves ready to become *"part of an international workforce."*

Both faculty and student respondents felt this development was a direct result of the opportunities they were exposed to through BUILD-IT, as well as the support they received when implementing these applied learning projects through the engagement of faculty advisors and industry mentors. EPICS' design thinking was also appreciated by teaching staff and student respondents. Students identified community needs and developed initiatives to solve a social problem. They presented these initiatives to a panel of judges and sought to persuade them that their ideas were worth further investment. They also conducted interviews with target customers to adjust their products to meet target customers' needs then worked together to develop the final products. E-projects are designed through a similar process, except that the focus is to solve problems posed by businesses. Both EPICS and E-projects are very practical: *"they serve as the connection bridge between the university and businesses, as well as the community."* In addition, EPICS and MEP groups often consist of students from a variety of disciplines, so students can collaborate with individuals in a multidisciplinary setting. For instance, STEM students have opportunities to learn how to design and promote their products in the market, and business students experience similar collaboration in their discipline:

> *"When working as groups during the project, students receive a lot of benefits in terms of skills and knowledge about **teamwork in a multidisciplinary setting** that they don't have the opportunity to study when **locked into a single discipline." (DUT Faculty)***

Students had an opportunity to work in a diverse group of students from all school year levels (eg.,a minimum of 30 percent female group members in each group) working together on an idea that has been developed based on their disciplinary knowledge and also aiming to address the needs of their community. They also received support from faculty who act as in-charge teachers, providing guidance and assistance for them whenever they need. BUILD-IT activities, therefore, enriched students' social capital as it brought great opportunities for students to *"build a relationship circle"* with *"talented students"* and *"supportive teachers."* These were all considered valuable learning aspects for students in their study, at work, and in life:

> *"EPICS was a platform and **a springboard** for our future activities…I also met and learned from a lot of **talented students** and our lecturers were very supportive, and this year our product is also designed for a community service goal in this Covid 19 situation, so I feel excited to be able to **deliver high-impact products**." (DUT student).*

Students who participated in EPICS, MEP, E-projects, and PBL activities also suggested that BUILD-IT's facilitated contests provided "*meaningful practical experience*" and "*concrete values.*" MEP relates to EPICS in that MEP helps students launch their products developed in EPICS in the market. This created an exciting, productive, and successful learning experience for STEM students:

> "*For the activity I am impressed most, it must be MEP as it was developed with **technical components of EPICS,** where we managed to bring such technical applications to market and commercialize our products… **We are engineering students and have quite limited knowledge of economics**. However, with MEP we have access to this knowledge, including market survey methods and ways to trade our products to the market, **applying our technical knowledge in a more practical way**. This is to bring a sense of reality to my technical application.*" (UTE student)

Students' professional skills enhancement also benefited from a limited number of internship opportunities provided by Intel and First Solar and facilitated by BUILD-IT. Respondents stated these internships improved students' technical knowledge and professional skills development because they were exposed to authentic situations happening within the IPs. Through this opportunity, they gained an understanding of the working culture of the companies and an opportunity to sample planned occupations to ensure they are a good fit for students' interests and needs.

> "*I think the greatest value that I gained from the internship at First Solar is that I got exposure to a **professional and modern working environment**, as well as **work styles of industry-leading professionals** in their field. It gave me clearer directions for my career.*" (UTE student)

Apart from valuable support, knowledge and skills gained from joining BUILD-IT activities, students also acknowledged that the stipends they received during their internships or the financial support for running EPICS, MEP, E-projects, and URI increased their motivation. The certificates they received after training and internships with Rockwell, First Solar and Intel, and from other projects and activities such as EPICS, MEP, URI and E-projects were considered real assets to enhance their profiles when they start searching for jobs. Several student respondents have recently graduated and found jobs, each affirming that the experience and certificates they gained provided much support to improve their employment prospects. They all felt confident in the process of looking for jobs and in carrying their tasks on the job:

> "*Regarding the outputs of the EPICS and MEP programs, one of the first advantages would be when we are shortlisted for interviews. It seems that my CV is highly rated, and I am very confident in presenting the projects I have worked on. I can present things properly in a well-organized manner and that's what employers would want to hear.*" (LHU student)

One female student had just graduated from DUT and was employed as a leader for a small team in her company. She shared that her experience as a team leader in Women's EPICS (WEPICS), helped her develop leadership and problem-solving skills. This enabled her to perform tasks more effectively than other co-workers, even those who were more senior than her. Another recent graduate from DUT, also found MEP experience valuable for her current work:

> "*Thanks to MEP, we learned skills that are now helpful in my job. I am now working at a printer ink distribution company, and I think it's important to understand customer needs and wants so that we can address these and eventually **bring value to our customers**. That's the key goal in working with our customers.*" (DUT Student)

Improved employment prospects for students can also be found in other UIPs' programs such as scholarships and Saigon High-Tech Park (SHTP) Maker Innovation Space. According to some respondents, IPs including First Solar and Rockwell, offer scholarships for underprivileged students who will later participate in training and do an internship with the IP. Upon their internship completion, they can compete for a permanent position with the IP. UPs and IPs also collaborate with a quasi-

governmental industry partner, SHTP, through students' competitions to recruit high-quality human resources professionals. Recognizing numerous benefits BUILD IT experiential activities brought about for students in enhancing soft skills and employment prospects, students and faculty staff who have been involved in those activities indicated their expectation that they would work hard to sustain these activities. They also could see that IPs show their long-term commitment in those activities.

> *"For this module, I think it can be sustained if businesses see the commitment of lecturers and students as well as if the performance quality is good enough, then they are willing to invest several million a student per month, which is not a high investment, provided we can provide quality and commitment. … Following this path, businesses will increase their orders as long as we can meet their needs regularly and then expand this network." (DUT Leadership)*

University-Industry Partnerships (UIPs) strengthen Industry Advisory Boards (IAB)

BUILD-IT's Y6 Q1 report indicates that 76 out of the total existing 110 (69 percent) IABs were active in the calendar year 2020. However, some institutions' IABs were more active than others: UTE and IUH had 90 percent of their IABs active, whereas UT and LHU's IABs were only 32–33 percent active.[7] Capacity building for top leaders has helped them to realize the significance of establishing and involving IPs in IABs. One senior leader talked about the benefits of engaging IPs in IABs. He shared in the FGD that:

> *"Development of training programs is essential; that's the first thing. Second, they will participate in actual training in a number of topics, i.e., participation in actual instruction. Third, they can participate in councils and thesis defense committees and provide guidance to implementation of research projects. Fourth, they receive students for internships." (DUT Faculty)*

Another respondent emphasized that the real partnership between UPs and IPs comes from their meaningful inputs for course content, relevant assessment, teaching and learning approaches. IPs advise UPs on updating their training programs to be closer to the current demands of the labor market. This type of partnership in IABs is considered the *"real collaboration"* by many correspondents.

However, a BUILD-IT team member indicated that "*many IABs have evolved beyond that model*" because, in addition to the above-mentioned benefits of IABs, a lot of IPs provide applied learning experiences that offer students opportunities to participate in site visits and internships, or compete for scholarships. Furthermore, some IABs also facilitated deeper partnership between university and industry through *"IAB discussions,"* fostering mutual understandings of the needs of each side, and then "*supporting the program improvement.*"

Some respondents expressed a desire to expand IABs to all training programs, and they wished to sustain IABs as a model for a win-win partnership. Another top leader from a private university said that they have learned the values of IABs through BUILD-IT, and since then, they have had great progress in establishing IABs for their training programs (developing from two IABs to ten IABs out of twenty majors). Since the university leadership understood the advantages of IABs, they have had strong commitment of *"building more IABs for the remaining ten majors"* after the BUILD-IT project ends.

Industry Partners Values

Enhanced quality of new graduates in STEM careers

As reported earlier, UIP-supported applied learning opportunities, including PBL, EPICS, e-projects, and internships have enhanced the quality of students' workforce readiness and reinforced soft skills development. This is a top value for IPs since a primary motivation for their participation is being able

---

[7] BUILD-IT QPR Y6 Q1, p. 17–18.

to recruit quality graduates in STEM, who have the skills and knowledge to be ready to fill in-demand jobs upon graduation. A respondent from an IP said:

> *"I think this is a two-way relationship, in terms of the company: the company has vacancies to fill, then I can reach out to students and recruit faster. From the university side, of course, in the group that we target, students will know the jobs that they need more easily, not like in the past. There are many companies in the market; how do students know about the right jobs? On the contrary, while there are many candidates, how do businesses know which one to target? So, this is the bridge between the two needs, both in the short and long term." (Industry Partner)*

From the perspective of UPs, when it comes to internships, respondents said this is a win-win mechanism for UIPs. The partnership is no longer just a give and take transaction as it used to be; now IPs also benefit from UIPs, as one UP stated:

> *"With intern salary payment, the internship will be much more efficient. Enterprises pay a salary, so students have to meet the enterprise's requirements. We require an intern's salary to be about VND 4–6 million per month [about $200–250 USD]. After that, all intern programs work like that. At first, enterprises react because they think they are helping students, but in the negotiation, I said that you are not helping us only, we are also helping you, just let students work, pay the salary of about 30–40 percent of an engineer, but students can be as efficient as mature engineers. Then, among interns, enterprises can choose future engineers and employees that they like. Enterprises don't need to pay for re-training these interns; after the internship, they will start working immediately. That's a win-win mechanism." (UTE Accreditation Manager).*

This is a win-win situation; on the one hand the companies can easily recruit a high-quality labor force, and on the other hand *"students will be equipped to access better job opportunities if they want."* This aspect, therefore, has the potential to be sustainable if universities can sustain UIPs using BUILD-IT strategies to establish, maintain, and strengthen them.

Sponsoring innovation through faculty research and student competitions

Apart from providing financial support for practical learning opportunities for students, IPs also sponsor innovation through faculty research and student competitions. Some respondents said that undergraduate research initiatives (URIs) have been running under their sponsorship, while others said that they annually sponsor student competitions, such as start-ups competition and automation competitions. Also, one respondent emphasized the need to *"build up the capacity in organizing and in doing research for faculty."* IPs all agreed that the ultimate purpose of doing so is to capitalize on the technological and knowledge assets built in the UPs to further industry objectives. As one BUILD-IT Implementing Partner (ASU) commented, their support helps universities to establish labs within their campus:

> *"I think that is a demonstration of the sustainability of the corporate partnership with the university. We have a partnership with UTE and that's a long-term, sustainable partnership. We established the lab several years ago to continue to support the upgrade of lab equipment, and they support the automation at UTE and incorporate … into their curriculum, into their program. They introduce it to the students, introduce them to working professionals. They've demonstrated academic and corporate ownership." (BUILD-IT Implementing Partner).*

From the perspective of UPs, IPs have gained some highlighted values through engaging in faculty research and students' activities. It will be a more cost-effective approach for IPs to collaborate with UPs in research and development (R&D). They are also able to reduce R&D expenses if they involved students and lecturers in some PBLs and e-projects. One point of contact from a university specifically stated that:

> *"Businesses benefit from this in a way that they no longer need to allocate R&D expenses, which can be transferred to universities. The cost to build an R&D team of at least 2–3 people, if allocated and transferred to universities, would be more efficient in HR development, where businesses have the human resources addressing their needs while universities have additional revenue from such R&D allocations. … The project-based learning model brings benefits to all three parties. Businesses have quality human resources and reduce R&D costs to a minimum to focus on product PR and advertisement. Second, the lecturers can focus on their lessons. Third, the students can work on real-life assignments that reflect actual jobs available at businesses. Project-based learning is a win-win-win situation."*
> *(LHU Faculty)*

Since this aspect is beneficial to both UPs and IPs, it has the potential to be sustainable. Other respondents from UPs indicated that they can sustain this UIP-supported activity with established laboratory equipment and/or access through partners like SHTP. This excerpt is extracted from an interview with SHTP in which the respondent discussed the importance of having management information systems (MIS):

> *"In the past, we had a lab which was very small and with inadequate equipment and machinery. When students and lecturers came here, they couldn't use them to research and develop new products or complete their products in the best manner. After having the Maker Innovation Space under the BUILD-IT project, we were equipped with new machinery and equipment."* *(SHTP Representative)*

Increased market share in Vietnam

As discussed earlier, IPs have benefited from UIPs in recruiting high quality new graduates and reducing R&D expenses. In addition to these values, many respondents also stated that IPs can potentially increase their market share in Vietnam. By sponsoring students' activities such as EPICS, project-based learning and e-projects, and students' competitions, IPs can promote their images and advertise their products. As some said that they did so as a way of marketing their brand and making the name of the company more popular among students and the wider community. In addition, some respondents stated that after doing internships in their companies, students will become more familiar with the IPs' products. As a result, when these graduates join the workforce, they are more likely to suggest their company to use the products they used and experienced. These are the two ways IPs can increase their product sales and enhance their brand reputation. The representatives from IPs are also aware of this value. One of them said:

> *"Part of sustainability is now that we have educators and students who are being exposed to the technologies that [we] are known for…. Those industries are then benefiting because they now have students graduating, who have been exposed to [our] capability, and we are contributing to the sustainability and development of Vietnam's education capability. Because those students have been exposed to [our] technologies, they are likely to be utilizing and better utilizing those technologies when they're in the workforce."* *(Industry Partner)*

This value can be sustained if IPs continue their efforts in strengthening this win-win partnership. IPs can have a long-term commitment in existing partnerships and they can consider expanding partnerships in other aspects, so that the values they gain are greater and more comprehensive.

CONCLUSION

In conclusion, the most valuable aspects of BUILD-IT include:

- BUILD-IT's capacity development training enhanced UIPs through effective leadership and pedagogical innovation.
- IPs have expanded universities' capacity to foster productive UIPs and strengthened the IABs and MIS to promote win-win partnerships.

- IPs contributions enhanced the quality of STEM education, preparing partner universities' new graduates to join the workforce through experiential learning opportunities such as E-projects, EPICs, MEP and PBL.
- BUILD-IT partnerships have promoted innovative research through faculty and student activities funded by IPs and implemented by universities.
- IPs and UPs continue to be motivated to engage in win-win UIPs to enhance their brand reputation.

These aspects all have potential to be sustainable if university leaderships are more proactive in applying capacity building lessons from BUILD-IT to strengthen the win-win mechanism in UIPs whereas IPs continue to have long-term commitment in investing UIPs-related activities and further engaging in IABs and MIS, opening more opportunities for UIPs promotion and expansion at both depth and width.

CASE STUDY: MAKER INNOVATION SPACE

To develop UIPs that enhance STEM students' applied learning opportunities to build in demand workforce skills, BUILD IT supported three UPs to establish Maker Innovation Spaces: in June 2017, **Saigon Hi Tech Park Incubation Center** established a Maker Space, offering Saigon a place to use high tech prototyping tools for engineering projects. In August 2017, **Da Nang University** (DNU) developed the second Maker Innovation Space to serve students and start ups in the central region of Vietnam. A third Maker Innovation Space was developed in 2019 at **Can Tho University** (CTU) to become a place of exploration, innovation, and creativity for students in Mekong Delta region. Through this work BUILD IT has supported 15,733 users to conduct research and create innovative models and prototypes.

The Maker Innovation Space at CTU represents a partnership that can inform future models of UIPs because of the university's significant investment in the space and how it has leveraged it to facilitate more investment. USAID's initial contribution of $105,000 was matched by CTU with about twice that amount (VND 5 billion, approximately US$215,000), demonstrating the leadership's enhanced mindset and their commitment to the long term development of UIPs.

> *"Maker space has become a spotlight of Can Tho University, a place for students and staff to translate theories in STEM fields into prototypes for technological solutions, fostering their critical thinking and creativity. It enhances the interest in STEM for high school students in the region through their visits and practical lessons there. It has also been designed to become an R&D place for medium and small size enterprises, a training venue for industry partners."* (CTU Leadership)

With their Maker Space, CTU has attracted numerous enterprises to invest more funding and sponsorship for activities. Rockwell attended the Grand Opening event in 2019 and, upon seeing the assets that were available, donated an additional US$300,000 in laboratory equipment to further develop its capacity. This initial investment has strengthened existing partnerships with IPs including Dow Chemical and expanded to new enterprises such as Solutions, Japan's Kuneo Corporation. According to BUILD IT's Y6 Q1 report, CTU engaged BUILD IT to coach its mechatronics course in the Maker Innovation Space, which was to be integrated into their formal curriculum ahead of a forthcoming AUN QA accreditation review, demonstrating their expanded capacity and enhanced curricular quality through this effort.

To promote sustainability, BUILD IT has established a Maker Innovation Space Network to mobilize public private partnerships to develop these spaces within Vietnamese public institutions and to train faculty to integrate the spaces into their engineering programs. The MS network promotes sustainability by facilitating opportunities for partners to "share ideas, strategies, partnerships, and identify funding opportunities" (BUILD IT Quarterly Report Y6 Q1, p. 57). At the time of this study, LHU had developed its own Maker Space through non BUILD IT funding; UT and UTE were pursuing similar spaces. Through further expansion of the Maker Space concept, USAID can support future generations of university graduates in Vietnam to achieve inclusive, technology based growth, which fits squarely into Vietnam's ongoing effort to revolutionize its economy under the Vietnam 2035 strategy.

STUDY QUESTION 2

What aspects of the various BUILD-IT UIPs, or partnerships stemming from capacity building, or other support provided by BUILD-IT, are perceived to be less critical to various stakeholders?
    a. Why are these elements perceived to be less critical?
    b. Should there be an effort made to sustain elements/aspects deemed less critical by various stakeholders?
        i. If so, what would this require? And are plans in place to sustain these elements deemed by stakeholders to be less critical?
        ii. If not, how could BUILD-IT resources/attention be modified in the next two years toward what stakeholders consider to be more critical elements of partnerships?

FINDINGS

University Partners Find Less Critical

English for Engineering Concepts (EEC)

EEC is a relatively new addition to the BUILD-IT activity portfolio and has faced numerous challenges in its limited implementation process thus far. It was intended to be a free English program provided by Arizona University, utilizing a free account from Pearson, who also provided the pre-test and post-test for the course. While EEC had strong initial enrollments, attendance reduced significantly during this extracurricular course, and in the end, only 30 percent to 50 percent of the original student group remained to complete the post-test. The reasons cited by respondents for this drop in enrollment include: competition with regular course loads, the impact of COVID requiring online meetings, and that students expected the course would be taught by a native speaker of English, rather than their regular instructors.

> *"When enrolling, as soon as we said this was an Arizona program, the students immediately thought, 'Hey, this is an American program, is it taught by an American teacher?' Students expected something new and high quality from the US, but in the end, it's still our teachers who give lessons." (HCM UT faculty)*

In addition, the content of the course was challenging because it is difficult to design one English curriculum to meet the needs of a diverse range of engineering students, with different vocabulary needs:

> *"I see a few small problems…about the training content of the program. For the engineering vocabulary, part of the course book provided by the project, it was divided into two parts, mechanical engineering and electrical engineering. In this class, there were both mechanical and electrical engineering students, and the course book provided different topics for each group of students. So in one topic, each group of students would provide their responses in different ways." (UTE student)*

Integrating students who are pursuing STEM careers outside the engineering field further exacerbated this challenge. Thus, students from other disciplines (e.g., IT) found the course content irrelevant to their needs, whereas students from engineering found it repetitive:

> *"We mostly knew the content because it's our specific major. So, the content mainly repeated and summarized what we have already learnt. In addition, the course was quite short, only 2 months, so we didn't see much improvement." (LHU student)*

These factors significantly lowered student motivation to complete the EEC course especially as it conveyed no formal credit for students. It was also organized during the semester when students with full course loads may not be able to attend a class that meets three times a week. Furthermore, the certificate students could receive when completing the course did not meet their expectations:

> *"The last day of exams still have 8 students or 10 students. Those students took the exam, Pearson did not grant certificates even though students have requested that but Pearson still did not grant. BUILD-IT has a certificate, but it is a certificate of completion of the course."* (UTE faculty)

Faculty from one UP suggested that students would derive more value from a course that focused more on general workforce readiness with vocabulary and would prepare students for activities like job applications, interviews, and work in an English-speaking environment. Some students commented that their university already offers this course, but in others, this is not available or is not oriented towards STEM careers specifically.

When asked for suggestions for further improvements, respondents provided various recommendations: redesign the course contents and structure; make the course a credit-bearing course; involve more IPs in the course design and delivery with a portion of the program spent for students to practice EEC in the workplace; or have more input and engagement from the implementing partners and Pearson into its development. Nonetheless, the EEC course has faced many challenges and is not a thriving part of the BUILD-IT portfolio, especially compared to other more effective applied learning activities.

Focusing more on ABET than AUN-QA accreditation

As AUN-QA is the regional standard for accreditation, there has been a high demand among Vietnam universities for coaching for AUN-QA. While most of BUILD-IT's UPs follow AUN-QA, this is *"not the field of expertise of professionals from BUILD-IT and BUILD-IT's experts specialize in ABET, which is an American standard."* Therefore, respondents felt that BUILD-IT could offer significant support for ABET accreditation. However, their UPs could not follow ABET because of its high cost, so AUN-QA offered them a better alternative for accreditation.

> *"Training programs in the Faculty of Technology are developed based on ABET with the desire to obtain ABET accreditation. However, the cost of ABET accreditation is too high; the university cannot support it. So, for the time being, we aim at obtaining AUN accreditation and maybe ABET in the future."* (CTU Leadership)

One respondent shared the belief that late-coming universities that follow ABET accreditation can greatly benefit from BUILD-IT, whereas universities previously following AUN or other accreditation standards may just reference some commonalities. Another respondent also commented on training sessions in which ASU experts trained them on AUN, stating:

> *"If the university does not follow ABET but follows AUN, the training on AUN-QA provided by BUILD-IT will be purely theoretical. Because they don't have experts involved in that area, those trainings are not practical."* (UTE Leadership)

To dig deeper into internal quality assurance (IQA), which is an important aspect in accreditation, one respondent explicitly stated that BUILD-IT support for this aspect is limited, stating:

> *"The project has not had highly qualified resource persons in internal quality assurance. Because initial experts for the project are ABET experts, even [ASU trainers] have experience in strategic management, but strategic management is at governance level while internal quality assurance involves a lot of other factors, and BUILD-IT does not have such experts. Therefore, when the university worked with BUILD-IT on IQA, the project support was limited to training sessions by [trainer] on KPIs to implement our mission and vision, while we had to cover other parts related to IQA."* (IUH Leadership)

The above excerpts and discussion clearly demonstrate that training on ABET is perceived to be less critical, and UPs seek more assistance with AUN-QA. Nevertheless, one respondent from DUT

acknowledged the contribution of BUILD-IT to their accreditation: *"It is possible to say that the project contributes roughly 30 to 40 percent to my university's accreditation."*

Another respondent, however, said his university can now be independent of getting training courses accredited, stating:

> *"BUILD-IT support is scattered on the quality assurance in line with ABET while we are following AUN standards, and we have been developing our quality assurance system by leveraging our own people and resources. In other words, we have been performing program assessment and quality accreditation by ourselves. This is the momentum we have built on our own and the foundation for the future and we should not be affected by the closure of BUILD-IT."* (UTE Leadership)

Although there has been limitation in coaching about AUN-QA, UTE is quite active and independent in pursuing their accreditation through that process. While UPs appreciate the coaching on ABET, they also need and seek expanded support for their AUN-QA accreditation efforts with experts who have stronger backgrounds to provide more AUN-QA focus.

Limited variety of training experts and lack of diversity in specialization of trainers

As reported for Question 1, although capacity building training sessions regarding teaching approaches are highly appreciated by stakeholders involved, participants expected a greater variety of trainers from the implementing partner. Over half of respondents feel bored with *"old faces"* as they were too familiar with the trainers' styles and seek trainers with a broader range of knowledge. They believed that trainees would feel more excited to join training sessions if they could learn with a wider variety of experts. As one participant said:

> *"I've seen [ASU trainer] deliver the training many times. This might lead to repetitions, and people will not be able to escape from what the teachers have shared. … What I mean is, if the trainers just deliver the same set of trainings, then when it's announced that these trainers will have a course to deliver, people will probably be less interested. In the previous Higher Engineering Education Alliance Program (HEEAP) class, there were many trainers, and there was a diversity of approaches. That made the training more engaging."* (CTU Leadership)

Another respondent expressed concern over the fact that experts from BUILD-IT's implementing partner did not have a thorough knowledge of the contextual features of Vietnamese universities, and sometimes they failed to address the issues raised by participants in the training sessions. It is essential that experts for capacity building trainings have an insightful understanding about local features of teaching practices in Vietnamese universities:

> *"What we need is someone with hands-on experience about the Vietnam context, so the Build-IT project should invite people with such a profile. … If the experience shared is about what happened in the US and not relevant to Vietnam, then it'll also be a problem. They brought experts here for training, but in the end, we couldn't obtain anything useful."* (CTU Leadership)

UPs desire more Vietnam-based trainers with insightful knowledge and experience about local contexts. Many respondents also complained about the repetitive content found in the training courses on pedagogical innovation. Most of them experienced the HEEAP project when they were sent to America to intensively study innovations in teaching approaches. Therefore, when they joined training courses by ASU in Vietnam, they saw repetitions and suggested that ASU conduct capacity building trainings to a more advanced level so that they can maintain motivation and their interest in spreading the values of such sessions across their university.

Interestingly, one respondent in a CTU FGD revealed that a limited variety of training experts and lack of diversity in specialization of trainers are *"a shortcoming of the project when it comes to implementation."* This respondent commented that:

> *"Recently they mentioned training on quality management and quality assurance, and I suggested some local experts, but they said it would incur additional cost or some of their regulation only accepted their people." (CTU Leadership)*

To make trainings more effective, the respondents felt that the implementing partner of BUILD-IT should explore opportunities to diversify training staff, especially local trainers, and help the universities to establish relationships with these individuals in the long term, so they may offer continued support after BUILD-IT ends.

Industry Partner Find Less Critical

Implementing the same curriculum without innovation

The IPs all reported good experiences and relationships with BUILD-IT partners, including ASU and the UPs. However, the one area they found less critical is continuing to offer the same activities year after year, without innovation. As one key partner phrased it:

> *"I see the work we did for the last two years already done, so I don't want to repeat those activities. There are also the activities that the students get . . . the teacher knows how to do it so if we repeat that, I don't think we can have a lot of engagement." (Industry Partner)*

These excerpts imply that IPs could lose interest in engaging the UPs' activities if they fail to refresh them. The IPs did not see a need for them to contribute to the activities without innovation because the universities can run these activities by themselves once they are established. These IPs suggested that BUILD-IT's applied learning activities can and should be updated on a regular basis and include other topics that are more relevant to the prospective working environments of graduates. These could also include topics that stakeholders claimed were more appealing to young women, who were said to sometimes be reluctant to pursue projects on topics like automation but were thought to be generally more attracted to topics that address social problems, like EPICS.

If the six partner universities are going to be able to sustain these partnerships and continue to foster innovative learning experiences for their students, they need to be able to identify and operationalize these opportunities on their own. BUILD-IT can signal and then push the UPs to be innovative in implementing activities, as well as advise them on that effort. It seems that UPs are now focusing on directly partnering with IPs in financial investment in labs and facilities, rather than engaging them in activity implementation.

Regarding UPs, IP respondents also indicate an interest in developing different approaches to make UIP activities more refreshing and innovative. For example, one BUILD-IT IP shared that: *"We recently launched a program called Inspire One Thousand, which offers free training for one thousand under-represented people, which might be a good opportunity. We also want to make sure that we address the gender divide, we are trying to bring more women along in this journey." (Industry Partner).*

Another BUILD-IT partner from the Annual Partners' Meeting expressed willingness to be more directly engaged in coaching and mentoring of students, and another partner working in the education sector also shared their plan to further contribute to UIP activities by sharing their resources with UPs to help them increase online teaching opportunities, stating:

> *"BUILD-IT UPs can use our assets to increase online teaching opportunities. We can grant access to some of our valuable resources." (Industry Partner)*

Overall, although BUILD-IT IPs stated that they were on good terms with UPs, they found one aspect less critical, which is implementing the same activities without transformation. They showed their goodwill in offering more opportunities and facilities for UPs to innovate. The UPs seemed to be slow

in this aspect, and they should be aware of the significance of innovation and keeping UIPs current and engaging.

CONCLUSION

BUILD-IT aspects perceived to be less critical include:

- EEC has faced challenges that limit its efficacy and potential for sustainability. Universities prefer more focus on general workforce readiness to appeal to a broader audience.
- BUILD-IT's accreditation support has focused strongly on ABET, but some universities need more support for AUN-QA accreditation efforts.
- UPs desired a greater variety of experts in capacity building training sessions, and they also expect the presence of local experts who are insightful of their local context.
- IPs find the strategy of implementing the same curriculum without innovation to be less critical than exploring new and innovative activities, especially those that would attract more females to applied learning opportunities.

STUDY QUESTION 3

What are **the key benefits** that stakeholders perceive UIPs **can and should provide to universities**? What are the **barriers** preventing partnerships from fully providing these types of support? For example:

a. Role in enabling/supporting accreditation?
b. Direct financial/resource support?
c. Assistance in improving learning/opportunities for faculty and/or students?
d. Other essential benefits of university-industry partnerships, such as…?

FINDINGS

Benefits

UIPs offer a number of key benefits to the UPs, including support for **accreditation**; **funding** to develop **research facilities**; enhanced **status** within Vietnam's HE sectors; **enhanced role of the IAB** in promoting innovative, quality STEM curricula; and promoting **female engagement** in STEM. Each of these benefits is considered in more detail in the following.

Support for accreditation
UIPs are a key factor in universities' quest for program accreditation because they offer significant contributions to raise the quality of STEM curricula and facilities on which to learn based on the latest technology and innovation trends. Since 2016, BUILD-IT's UPs have achieved accreditation for 67 programs: 60 AUN-QA, four ABET, and three Co-active Training Institute (CTI) accreditations.[8] The extent to which this can be directly attributed to BUILD-IT's work is not clear, but respondents did acknowledge the contribution that BUILD-IT has made to their accreditation efforts whether they are pursuing AUN-QA or ABET standards (see Study Question 2 for a full discussion of this issue). IPs have contributed significant inputs to BUILD-IT to enable this development, which is appropriate for their role, and should continue to do so going forward.

Funding to support quality STEM education
Funding is a critical issue for UPs as they pursue autonomous operations and receive less financial support from GVN. Thus, UIPs have a strong role to play in addressing this financial gap, as demonstrated by large contributions from partners like Dow and Rockwell. UPs have engaged in UIPs to diversify funding streams, which enables them to finance key inputs required to promote quality STEM education, including research facilities for students and faculty to work on cutting-edge technological tools. This is especially true for the Maker Space and Innovation Space activities, which attract more IP investment and serve as a catalyst to promote interest in STEM careers for students because of the UPs' enhanced profile (see Case Study on Maker Innovation Spaces for more details).

Enhanced profile and status

The UIPs raise the university's profile, including the ability to attract a higher caliber of new students to their programs, to charge more for their tuition (where allowed by GVN regulation), and to graduate students who will become strong alumni and bring even more investment back to the institution.

> *"We really expect to have partnerships with the business sector, especially U.S. companies, in two areas. First, it is investment on resources, i.e., upgrade of lab systems for experiments in engineering courses, specialized in the fields of high-tech applications in Industry 4.0 in line with the national digital transformation. Second, we also expect industry engagement in our training and research activities. We would expect them to help us in quality accreditation of both lecturers and students by having them engaged in joint*

---

[8] BUILD-IT QPR Year 6 Quarter 1, p. 11.

development and implementation of research and training programs of both sides, which will add some value to the profile of the university." (UT Leadership)

Enhanced role of IAB

IABs are considered essential inputs to UIPs and promote greater sustainability through strong engagement of IPs in workforce development curricula and activities at the university. However, the support that BUILD-IT provides was more essential for universities that need more support to establish and manage these relationships, such as LHU and IUH, who requested more support for their IABs to operate effectively.

> *"For quality accreditation, the audit team must consult stakeholders, with businesses as one of the important stakeholders. … For the last two years of BUILD-IT, the university would like BUILD-IT to support the formation of an industry advisory board for each program to operate effectively." (IUH Leadership)*

As presented in Question 1, IUH has strong participation in their existing IABs, with 90 percent of their 20 existing IABs meeting actively in 2020. LHU, on the other hand, has only one-third (33 percent) of its IABs actively participating, and only six total IABs established (the lowest number of all UPs), so they could use additional support to develop and successfully facilitate active IABs in the final two years of BUILD-IT.[9]

Conversely, other universities, like UTE and CTU, indicated that they had already established partnerships with the larger IPs prior to BUILD-IT, so they felt more confident to manage these relationships on their own, without BUILD-IT facilitating them on their behalf. UTE has a strong 96 percent active participation rate for their 23 IABs, and CTU's 15 IABs were 60 percent active in 2020.[10]

> *"To be honest, as I have mentioned, the relationships between the university and businesses have been established a long time ago. Many partners are more sustainable than the partners introduced by BUILD-IT. However, through BUILD-IT project, we learned how to approach businesses and how to deploy projects in cooperation with businesses. … Yes, we have acquired that knowledge. Based on what we have learned from BUILD-IT, we will further develop existing projects and existing relationships with businesses." (UTE Leadership)*

Promoting female engagement in STEM

BUILD-IT has a strong focus on females through gender responsive programming; this helps promote diversity and inclusion in STEM programs. BUILD-IT has developed a playbook specifically for female participation and has quotas for the number of female participants in PBL like EPICS and e-projects.

> *"We're trying to engage female participation in every aspect of the BUILD-IT evening leadership field. We're trying to engage more female leaders into activities for STEM and PBL activities. … we're trying to increase the percentage of female engagement from faculty into mentorship and coaching for the students." (BUILD-IT Implementing Partner)*

Many UPs and IPs indicated they give women candidates priority in selection processes to promote higher percentages of females in STEM fields. Five out of the six UPs offer incentives to encourage female participation, such as reduced tuition, preference in selection for enrollment and scholarship selection processes. The sixth university, UT, does not offer this because, in their view: "*this university has a high percentage of female students, so we don't need to attract them anymore.*"

---

[9] BUILD-IT QPR Y6 Q1, p. 17.
[10] Ibid.

In 2016, DUT organized an EPICS competition specifically for female students, called WEPICS. They found the experience to be successful in engaging female students in areas they would normally be more reticent to participate, as demonstrated in the following quote:

> *"We organized a WEPICS Competition in cooperation with BUILD-IT. It is a whole module integrating EPICS and MEP [to] promote the role of women as researchers who get ideas from the community, apply them in research, and develop that research into a start-up. … Female-exclusive competitions will help them promote their capacity. When competing with male students, they are shy. As the lead-in, they will be very proactive."* (DUT Faculty)

IPs also demonstrated commitment to promoting females in STEM and an understanding of the need to "*build the pipeline of female talent*" early in females' educational process; *"Don't wait until university; start young … that's the only way we will be sustainable."* Some IPs offer females priority in selection for job and internships opportunities, including Dow and Wiley. Oracle does outreach and promotes female inspirational speakers. Pearson says two out of three innovation award winners were female and used female training of trainers to design courses online.

> *"BUILD-IT did a really good job at keeping women in STEM front and center as a focus for all IPs. But most of the rectors and deans that we were working with were men. So that's tough to influence. Hopefully, elevating faculty is the first step in building the pipeline toward better female engagement and leadership."* (Industry Partner)

Respondents from both UPs and IPs feel that there could be more engagement from IPs' female employees and leadership to serve as mentors and role models for young women pursuing STEM careers. Respondents also felt that PBL opportunities could be better tailored to the interests and skill sets of female participants.

In contrast to the feedback from industry leaders and faculty, students in FGDs felt that BUILD-IT had sufficiently promoted female participation in student activities without requiring female-only activities. Students in FGDs sometimes joked that female students were considered more privileged as without sufficient female participation, they could not form a team and join EPICS or MEP. While less than 10% of students at most STEM schools are female, calling 30 percent female team members sometimes was challenging. All respondents who are female students (9 students/3FGDs) acknowledged the way BUILD-IT put female students in the center for their activities and they saw no further need for change to the current arrangement:

> *"I see that as of now, all activities have requirements for female participation. In those activities, there are also quantity requirements which I think are very reasonable. That could promote the participation of female students. I don't think it's necessary to have a program purely for girls because I find it better to have interactions between male and female students. And as a girl, I found no difficulties when participating in the program's activities. I also got a lot of support from mentors and male peers. So, I think things are very good now."* (UTE student)

Barriers

Limited Scope of BUILD-IT student activities

Although students joining BUILD-IT activities stated that they felt "*very positive*" about BUILD-IT's activities and that all their requirements and expectations were "*met and surpassed*," there were still areas that were identified as limitations regarding student activities. The scope of BUILD-IT is very modest to the potential number of students who might be interested in participating, if there was greater awareness about BUILD-IT activities. Because participation is limited to a small number of beneficiaries, they are reaching only those students who have strong English language skills, professional knowledge, and soft skills as is, which excludes those without these skills and thus those who would benefit most from the activities.

Information about BUILD-IT student activities was not always well articulated and communicated to students. As discussed earlier in RQ1, BUILD-IT student activities are different from other extra-

curricular activities provided in the university. However, students who are not informed about the value of the opportunity may not recognize the potential benefits of participation. The information shared about these activities by the universities did not explain this value to the students; thus, many students were reluctant to join in.

Many students felt there was a communication problem: not only was the information unclear, but the communication channels were limited. Student respondents said that many of their friends did not know the existence of these activities even when they had been in the university for the last four years.

> *The first thing I see is that information has **not been able to reach them**. Besides, the program hasn't been able to attract their attention. This is a new direction of research, not the application of what is learned in school. It is a new direction for the students, so **if we can't create any motivation or attraction, they will ignore and will not pay attention** (UTE student).*

Several students suggested that they had participated because they were encouraged by their lecturers or senior students. Word of mouth was a popular channel leading student to BUILD-IT student activities. Although EPICS has been implemented by BUILD-IT for more than five years at the time of this report, the information about the annual contests was poorly documented. Even for those who participated in EPICS in 2021, it was not easy for them to find any information about EPICS:

> *"After I joined EPICS, there were times when I searched for videos about pitching of the EPICS program, but they were not available online." (DUT student).*

One of the reasons for the information about BUILD-IT activities to be poorly disseminated was that the *scope of these activities was very small*. EPICS - the activity with the largest number of participating students accommodates about 30 students per year at a university of more than 10,000 students. Most other activities were smaller in size. One student respondent suggested that he was the only one in UTE participating in URI in a year since First Solar can only accommodate a few student interns per school year. Thus, even without extensive advertising, UPs still reach a sufficient number of students joining BUILD-IT activities, but the range of students who are aware of the opportunity is limited. Nonetheless, students also expected that if more students knew about these activities, the overall quality of the programs would be elevated. A similar suggestion was made for the internship program:

> *"The program is not well communicated to students, so there is not much selection. Because in order to participate in the internship, we have to attend a course and take the test and also undergo an interview. The more the program is communicated, the more qualified students will know about it, and that will improve the quality of the program." (UTE student)*

Since most BUILD-IT activities for students were organized in the form of different contests with limited numbers of participants, they were not designed to reach the majority of students. Student respondents suggested that there are **limited chances for students in need to join these projects** because of limited skill sets. Only those with strong English language skills who achieved the highest results in their study and were perceived to have good soft skills would be selected to join. Thus, it is not surprising that most student respondents from one university were from *Faculty for High Quality*. Students said they were unsure about the selection criteria but felt they were selected for BUILD-IT based on their English language skills and having a "*lighter*" learning curriculum. Although only a small number of students can participate in BUILD-IT activities each year, some students participated in multiple activities or participated in a single activity more than once. This further limited opportunities for 'ordinary' students who want to develop good English and soft skills to join in:

> *"We were told that maintaining a team was challenging thus **EPICS selected students having soft skills**. This was one of **its downsides as many students with inadequate soft skills could not join** even though they really wanted to." (DUT student)*

Another factor affecting the quality and impact of BUILD-IT student activities was that these activities were often organized during the semester. It was hard for students to "*balance the workload for study and inputs for BUILD-IT activities*," most of which were three or six months in length. Students suggested that these activities could be organized during their summer vacation when they can invest more time to develop more quality products for their projects.

A stronger option is to make these applied learning activities part of the formal curriculum, even as an elective as CTU has done with EPICS. This would enable students to focus on the learning experience as a credit-bearing class rather than as an extracurricular offering:

> "*When we focus on competitions like this too much, it means we cannot spend a lot of time on the lectures within the formal curricula. I think in the future, if possible, participants in programs like this will be waived from some parts of the formal curricula. That would help relieve our burden and give us more time.*" (DUT student)

IPs' limited engagement

While IPs contribute significant investment in terms of financial donations, funding for competitions and applied learning activities, and contributions to develop laboratory equipment, some UP respondents felt that it would be beneficial to students' learning outcomes if individuals representing the IPs would increase their role in implementing activities more directly and mentoring students for applied learning activities such as EPICS and MEP, in which students are creating prototypes or conducting research that could be beneficial to IPs R&D interests.

> "*For example, EPICS and MEP, if the business wants to promote its image in terms of community support or promote the start-up brand for students, they would take the role of sponsors in such competitions. An e-project directly solves their problems; they place their orders and pay for services of participating lecturers and students. So, there are clear connections through e-projects while, for the remaining projects or Woman Stand, etc., businesses can participate to further strengthen their image.*" (DUT Faculty)

> "*For URI, there are a few teams a year, but the number is limited. BUILD-IT provides financial support. We have mentors from Dow, but the number of mentors is limited because not everyone can be a mentor. Not many teams.*" (CTU Leadership)

Students also voiced out their expectation of having more opportunities to be mentored by experts from IPs. For projects like EPICS and MEP, students had a chance at the initial stage to meet their mentors and listen to the mentors' presentations. They also had a meeting to present their ideas for a mentor, but little time was spent for them to gain feedback from the mentor. Students considered that opportunity as "*a meeting to meet someone we could share our issues,*" thus they suggested that "*I would call them listeners. Not exactly mentors.*"

Evidence of Limitations

Some IP representatives shared that they face challenges in sustaining their investment because they lack longitudinal evidence to justify investment to their stakeholders. They asked for clearer data on how these investments increase students' employability, so they can demonstrate the impact of this support for their colleagues and shareholders. However, as these data are required to be collected and reported by the universities as part of their accreditation process, this may be an issue of the UPs not sharing the data effectively with IPs to address this issue.

Challenge of ensuring a good partnership fit

One IP reported that shortly after they joined BUILD-IT, they decided to sunset the product that they had agreed to share with BUILD-IT, and they also did not have an ongoing interest in developing the Vietnam market, so the partnership was no longer a good fit for their long-term strategy. They

continued to honor their commitment because of their interest in working with ASU on other activities but did not make a big contribution to BUILD-IT.

Another partner also indicated that their product was English-language focused, so it did not seem to be a good fit for the Vietnam market: *"I think the biggest challenge is just the language barrier. Our contents are in English, and unfortunately, we're not about to translate into Vietnamese … I would say that is the biggest challenge we have. When the product is just in English, then the audience is much smaller."*

Difficulty in promoting continuous engagement

For some experiential learning activities, especially those like EEC that are elective courses, UPs can face challenges in promoting continuous engagement of both students and faculty. University respondents indicated that students are not always motivated to invest their time and energy into extracurricular courses for which they do not get credit, especially one that meets irregularly, which has been a challenge during COVID-19. As BUILD-IT has developed key curricula including EPICS, universities are working to establish this course as a credit-bearing elective, to circumvent this challenge.

One IP who provides a lot of experiential learning opportunities for students and fresh graduates reported that they still saw a need to enhance soft skills. The PBL activities offered by BUILD-IT facilitate key opportunities for students to develop these essential skills further and expand them in scale:

> *"I'm not saying interns don't have enough soft skills to do full-time work, but this is a common ground that the university has to improve … in order to be able to get recruited more easily, students should go to work on projects or social activities to improve these skills. … This is what I think the university should invest more in, this is the gap that even if they go to any company in the future, they need to close." (Industry Partner)*

Barriers to female engagement

While BUILD-IT has a strong focus on females, there is still a need to promote diversity and inclusion in STEM programs. Respondents also felt that participation of female IPs was limited as mentors and role models for young women pursuing STEM careers and suggested that more experiential learning opportunities be offered that are tailored to the interests and skill sets of female participants.

UPs indicated that some females are reluctant to take on some roles in mixed-sex group work because they feel it is less attractive to them, or they are intimidated in taking on some roles, specifically dealing with automation, Deep Racer, prototypes, and taking leadership roles in group activities. However, with sufficient encouragement and support, females can succeed in these aspects.

CONCLUSION

The key benefits of UIPs include:
- Funding to develop university facilities and activities that engage students and faculty in real-world learning activities.
- Raising the profile of both university and IPs through development of the university's capacity, industry's brand recognition, and utility in Vietnam's labor market.

Barriers to UIPs' full utilization include:
- Limited direct engagement of IPs in applied learning activities, desire for more project-based innovation, and female engagement.
- Lack of student and faculty motivation for extracurricular activities, limited funding which in turn limits the scope of these opportunities.

The UIPs contribute many key benefits to both UPs and IPs that create win-win partnership models, including funding, equipment, and support for quality curricular development. There are still barriers to be overcome in their full utilization because some UPs are engaged in only a superficial capacity (in name only without active participation) or because the partnership is not a good fit for the needs of the UP. Overcoming these obstacles can further enhance the quality and sustainability of these UIPs.

CASE STUDY: FIRST SOLAR's UPS

First Solar, a U.S. based firm, opened a branch in Vietnam three years ago; their factory is located within the Southeast Industrial Park in Cu Chi, Saigon, which is accessible to three main cities in south Vietnam, including HCMC. The factory provides a shuttle bus for workers to access the facilities, so they draw workers from all the surrounding urban areas. They work with five or six universities in the area to promote quality STEM education and enhance the workforce readiness skills of new graduates, including two BUILD IT partner universities: UTE and UT.

First Solar represents an exciting model for BUILD IT because they were not brought into the project like most of the other partners directly by ASU. Their engagement is a product of their collaborative relationship with Rockwell. As stated in the BUILD IT Y5 Q2 report, First Solar has *"crafted a partnership through its sponsorship and attendance at the Automation PBL Competition."* Since that time, First Solar has expanded their engagement and now supports many BUILD IT activities, including the Rockwell Automation Competition, for which they donated US$1,000 for faculty stipends and offered two paid internships to the winners of the competition in 2020. They also work with UTE and UT to organize job fairs, plant tours, workshops, and internships.

These paid internships, which are three to six months in duration, are offered to a limited number of students each year with the intent that First Solar will hire at least one of these individuals for a full time permanent position at the end of the internship. In 2020, First Solar offered six internships and hired one individual for a permanent job; in 2021, they plan to offer up to ten scholarships with the hope of hiring two permanent workers. The representative indicated that *"First Solar wants to increase this ratio in coming years because the company wants to create a favorable environment for internships."* This UIP is an excellent demonstration of the potential these partnerships can offer in terms of applied learning activities for students that link directly to the STEM career job market in Vietnam.

First Solar's human resources department is proactive in reaching out to universities in the area to facilitate win win UIPs, working with university leadership to organize a variety of activities for students. First Solar sees these UIPs as the most direct route to access the human resource capital they need to hire qualified workers graduating from local universities:

> *"The company has vacancies to fill … the university is the center to know what are the needs of specialized students … when they graduate and what topics students need support. We work with the university to mix and match those needs together, so we can work with students in execution."*

BUILD IT has recognized the value and potential of this collaboration, as it *"demonstrates a direct workforce pipeline for talented Vietnamese automation students to master advanced American automation equipment and be employed by an American company in Vietnam."* It also demonstrates how UPs can leverage the enhanced capacity for UIP development that BUILD IT has brought through their partnerships with multinational firms, to establish new and fruitful partnerships with companies that have strong local presence and can participate in applied learning experiences by providing mentors and staff to work with students directly.

STUDY QUESTION 4

Given the shift toward more autonomous universities in Vietnam,

    a.   To what extent have BUILD-IT UIPs contributed to preparing BUILD-IT partner universities for more effective autonomous operations?

    b.   What barriers or challenges remain? What support is needed to achieve the MOET criteria for autonomy? What stakeholders can facilitate that support?

FINDINGS

The Complex Landscape of Institutional Autonomy

When discussing institutional autonomy in the Vietnamese HE system, the general concern has long been documented in the literature: how to empower universities to have an appropriate level of freedom in handling their own affairs versus the government and the society's need to have sufficient supervision over the university. It is suggested that the more balance that exists between these two needs, the more effectively universities could exercise autonomy and at the same time ensure social accountability.[11]

Nonetheless, in interviews with different BUILD-IT partners, this balance was not in focus. When it came to the discussion about institutional autonomy, different stakeholders emphasized different factors that they considered important for UPs to effectively exercise autonomy. MOET indicated concern about universities' ability to exercise autonomy. The BUILD-IT team paid special attention to what they have been doing to enhance UPs capability in autonomous operation. UPs themselves, on the other hand, were predominantly worried, or even suspicious, about the possibility of being able to decide on internal affairs even after achieving autonomous status.

Partners' concerns reflect the reality of the HE system. As documented in the literature, Vietnamese HE system, especially public universities, are currently in transition from central command governance to autonomous operation.[12] At present, universities' ability to efficiently and effectively exercise autonomy, without the guidance and support from the governing bodies, is a real challenge.[13] In this transition, when the policies and implementing documents are still incomplete and when UPs are under different layers of management (see Figure 1 for details), UPs' concerns about the extent of their freedom to handle their own affairs were reasonable and are an ongoing challenge that they must address.
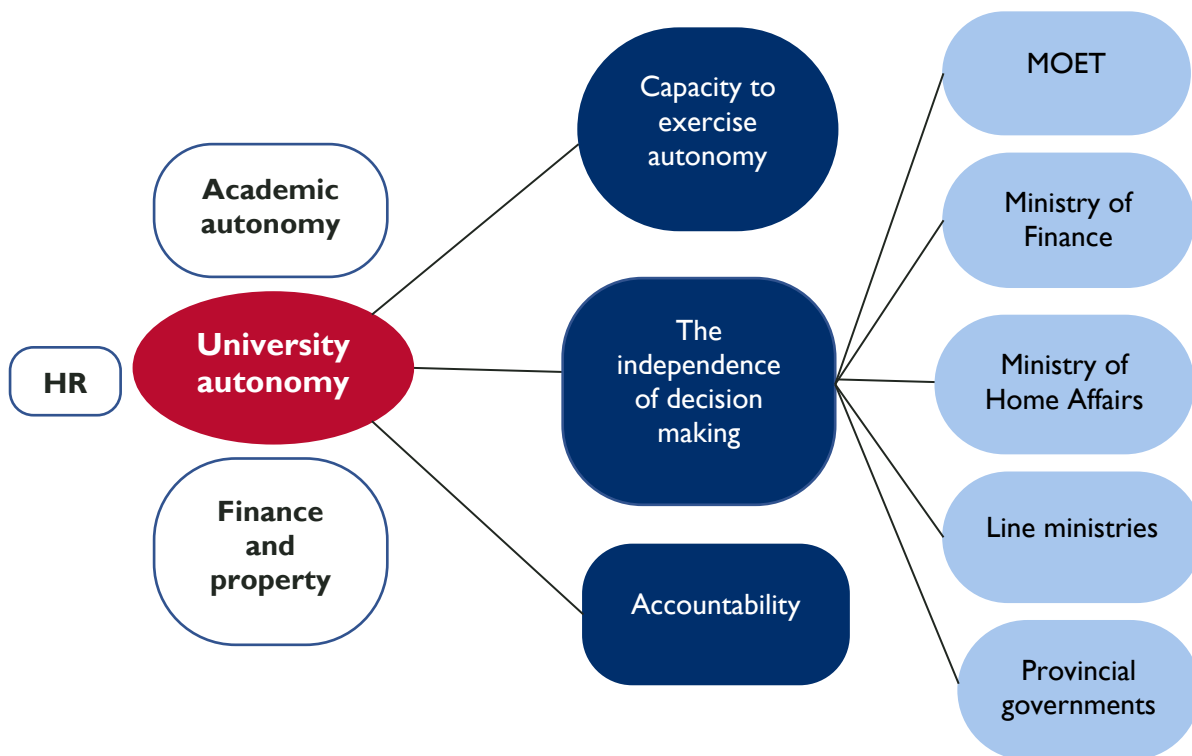
---

[11] Dao, 2021; Maassen, Gornitzka, and Fumasoli, 2017; Mai, Do, Mai, and Nguyen, 2020; Roness, Verhoest, Rubecksen, and MacCarthaigh, 2008.

[12] Tran, 2015.

[13] Dao, 2021.

Figure 1: Landscape for Institutional Autonomy in the Vietnamese HE System

Autonomy-related policies and documents in Vietnam (Law 8, Law 34, Resolution 77, and Decree 99[14]) specified regulations in three aspects:

1. Autonomy in terms of academic and specialized operations (*academic autonomy*)
2. Autonomy in terms of organizational structure and personnel (*HR/Personnel autonomy*)
3. Autonomy in terms of finance and property (*financial autonomy*)

Different partners also had slightly different foci when discussing aspects of autonomy. BUILD-IT has worked hard to help UPs develop an entrepreneurial mindset necessary for successful autonomous practices in all three areas (i.e., academic, personnel, and financial autonomy).

To what extent have BUILD-IT UIPs contributed to preparing for more effective autonomous operations?

Several university leaders refused to answer this question, either because they had not/just been granted autonomy and were still unsure what autonomy was or they could not see a direct and clear connection between BUILD-IT UIPs and the issues they faced when exercising autonomy. Some leaders from UPs discussed either BUILD-IT's overall contribution in helping them prepare for/exercise autonomy, or their recognition of UIPs' general role (not necessary under BUILD-IT) in their autonomous operation. However, in general, UP leaders recognized the interconnection between BUILD-IT's three core activities and how these activities have been designed to help them understand the co-relationship between institutional autonomy, accreditation assessment, and business management (UIPs), to change their mindset, and to enhance their capability to exercise autonomy. Most university leaders understand the importance of UIPs and shared the same point as one of the KIIs:

> *"To be autonomous, the university must be able to diversify its sources of income, there are two streams of revenue, one is tuition fees, sustainable but not disruptive; if we want*

---

[14] Please see details of these legal documents in Annex 1.

disruptions, they should come from industry partners, for example, grants or aids or technology transfer." (UT Faculty)

As presented in the findings for study questions 1 and 3, UIPs support universities to improve quality in various aspects, ultimately contribute to enhancing university capacity in exercising autonomy, specifically in the areas of academic, personnel, and financial/property autonomy, as follows:

Academic autonomy: The collaboration and input from IPs (through various platforms such as IAB, PBL programs, internships, and various student quality enhancement programs—e-project, EPICS, and MEP) were all considered valuable for UPs to develop, appraise, and promulgate quality training programs. This helped UPs attract high quality incoming students, better satisfy the increasingly demanding needs of the labor market, increase the reputation of their universities, and generate more funding for their activities. Several university leaders have recognized the necessity to adopt the UIPs model toward the provision of better services to customers while optimizing the cost and operational system.

Personnel autonomy: UP respondents generally acknowledged that human resource capacity enhancement has been a strength of BUILD-IT. The project has a strong focus on capacity building for both university leaders and lecturers. University leaders have been exposed to various opportunities to enhance their ability to develop the vision, mission, strategy for their universities, and various measures and KPIs to help them follow up with the strategy implementation process. This is especially beneficial for UPs because once they achieve autonomy, they are given the authority in deciding their organizational structure and personnel to perform professional tasks (Decree 99).

For university lecturers: Lecturers have benefitted from such programs as MTT and CFT. These training courses/workshops assisted them with modern teaching methodologies, which helped them further in improving the teaching and learning experience and in developing the mindset of continuous improvement. If support for faculty staff to implement the lessons learned from MTT and CFT courses into their teaching practices is in place, this bottom-up initiative for program improvement will create a positive impact on the university's ability to develop quality training programs and enhance their academic autonomy.

Financial and property autonomy: When discussing the support from UIPs for their financial autonomy, most UP respondents showed a special interest in such issues as how to generate funding from cooperation with businesses, and how businesses can support UPs to increase resources. Although the number of BUILD-IT IPs was considered small and their engagement, inputs, and investment in different UPs varied, UP respondents acknowledged the contribution of BUILD-IT IPs in both finance contribution and resource development. Several labs and maker spaces in such UPs as UTE, CTU, or in SHTP were set up thanks to the support from BUILD-IT and IPs (Rockwell); these were considered a very valuable financial contribution. The support from other partners such as Dow, Oracle, or Amazon Web Service was also recognized as valuable resource inputs, which helped enrich the practical learning experience for both faculty staff and university students.

Apart from the support and contribution in enhancing their capacity for exercising academic, personnel, and financial autonomy, UIPs (especially the collaboration with big names such as Rockwell or Siemen) increased their institutional brand image, raised their quality profiles, and supported their international accreditation process. The involvement of these well-known multinational enterprises also attracted other IPs to their collaboration. Thus, UP leaders mostly agreed that sustainable partnership with IPs is important to enhance their capacity to effectively exercise autonomy.

From the interviews with both the BUILD-IT team and UPs, it became clear that BUILD-IT has done a good job in providing UPs with various support to help UPs recognize the importance of UIP development, and gradually develop the ability to be able to maintain meaningful partnerships with their existing IPs (mostly local), to nurture the relationship with existing IPs and to expand the partnership with new IPs. Most UPs recalled the time before BUILD-IT; UPs already had many contacts with local firms, but most collaborations were just like "one-off" or "come and go," the connection was mostly ad hoc or based on personal connections. Little intention of investing in an ongoing

partnership existed. Relationship management was the skill UPs have learned from BUILD-IT's coaching and mentoring. Respondents acknowledged these skills as valuable for their UIPs development. Several UPs (e.g., UTE and CTU), are now keen to "categorize" IPs, to maintain and nurture the relationship with some strategic partners, and to attract more investment from the industry. These are all valuable for their process of autonomous operation.

What support is needed to achieve the MOET criteria for autonomy? What stakeholders can facilitate that support?

Among six UPs, LHU is a private university, which has been exercising autonomy since its establishment. IUH has been exercising autonomy since 2016, following Resolution No. 77. UTE has been granted autonomy for two years, and UT, VNU Ho Chi Minh City each have been autonomous for five months. The other two UPs, CTU and DUT, have both submitted their autonomy proposals to MOET since 2018 and were waiting for approval.

When asked if any support is needed to help the CTU and DUT achieve the MOET criteria for autonomy and be granted institutional autonomy sooner, leaders from both universities assured that "*BUILD-IT cannot help.*" They also did not think that they had any problem in satisfying MOET's criteria for autonomy; they had revised the proposal for autonomy following MOET's request and resubmitted, the only thing they could do now is wait.

Remaining Barriers and Challenges

Policy barriers

Although four out of the six BUILD-IT active UPs have gained institutional autonomy, they mostly suggested "gaining autonomy is a small part," the hard part is to figure out how far, or to what extent, they can be independent of their governing bodies to decide their own matters—for example, if they have the autonomy to increase tuition fees, to do research, and to get the financial support or funding stream from corporate or private-sector investment, and so on. Policy barriers seemed to stand out as the most significant barrier for BUILD-IT UPs when exercising autonomy. In the transition to autonomy, all universities, even those that have been granted autonomy, still have to operate with caution. Too much paperwork, too many overlapping policies issues by different governing bodies, and unclear policy terms repeatedly surfaced in UPs' responses. Although UP respondents also acknowledged the effort of MOET and the government in improving the situation and suggested that the issue of such legal documents like Law 34, Decree 99, and most recently Decree 60 has provided clearer legal conditions for universities to exercise autonomy, the real practice of institutional autonomy was still reported by universities as challenging. They could not raise the tuition fees as high as they wished, and they could not change their programs freely. They did not dare to reduce the credits for general programs such as physical study or Marxism-Leninism, which often take a large portion in their teaching curriculum. Even though respondents in some UPs recognized that EPICS could be very beneficial for their students, and they could run it as a core program, they did not think they could do so:

> "*As part of Southeast Asia assessment, some experts suggested that this [EPICS] could become compulsory, but lecturers are now on the fence because the fact that a subject, which is elective, is made compulsory is subject to stricter regulations, and the design of the module again must comply with the regulations of the MOET.*" (CTU Leadership)

Private universities have been given more authority in exercising autonomy; LHU leaders suggested that their level of autonomy was reasonable; however, MOET regulations have often not been kept up to date with the development of the HE systems and the society. Even when courses have been made online, or when sending students to enterprises for on-the-job training have been considered positive initiatives, universities still had to follow the strict regulations regarding the ratio between lecturer/students or follow hard requirements regarding school infrastructure. These types of regulations negated the effort of the university in quickly adapting to the new environment and to optimize funding. They still found themselves being tied with outdated policies and regulations.

Adding to the dated and unclear policies is the fact that universities are often under different layers of management. Among the six active UPs, only three of them (LHU, UTE, and CTU) are operating directly under MOET; UT Ho Chi Minh is under VNU Ho Chi Minh; DUT is a regional university, and IUH is under the Ministry of Industry and Trade. Autonomy-related policies did not capture this feature well. Most major decisions made by these universities still need approval from their line ministry or VNU or regional university that they belong to. The autonomy landscape is discouraging. Change management toward effective autonomy is challenging. UP leaders remain doubtful that the effort they have to make change will pay off, or to what extent they can be independent of their governing bodies. These insecurities make it hard for UPs to overcome resistance and move forward.

Internal barriers in UPs

The data also revealed many UP internal factors preventing them from effectively exercising autonomy, and the most significant factors are often involved in the decisive role of the rector or rector board in each university. None of the research participants from public universities were at that level, and when asked about autonomy issues, they often suggested that we should seek advice from the rector or university council. Several participants, who were categorized as leaders in the list provided by the implementing partner, explicitly suggested that autonomy for the university only rests in the highest management level, and they were only leaders at faculty and department levels (mid-level management). One university mid-level leader shared his thought in the Annual Partners' Meeting:

> "They give us some more autonomous rights. But somehow, I still don't feel that we really have the right. Like, if I want to change the curriculum or I want to use the money for human resources, for anything else, it's very difficult. We have to pass I don't know how many layers to get approval to use the money to do the things that I think is good for our faculty members or our students." (University Leadership)

Similar stories were told by both UPs and BUILD-IT team members. This was not hard to understand as the university account holder in public universities is always the rector (that has been stated in the Law No. 8, Article 20, and repeated in Law 34, Article 14). Some faculty/department leaders hesitated to sign a Memorandum of Understanding (MOU) with IPs to receive what they call a "not significant amount of money" for their activities. They were worried about the amount of work it would take them to receive that money and also doubted the possibility of receiving the full amount of money, and being able to spend the money as planned.

Adding to this financial dependence is the slow-changing mindset of the university's high-level leader. Although most mid-level leaders in our interviews understand the need to develop win-win partnerships with IPs, they confessed that the lack of resources and the traditional mindset of the top leaders in most UPs made their desire to develop win-win partnerships with IPs hard to become reality:

> "Often, universities only invite businesses when they need something, and when things are done, they just say goodbye. The consequence is that businesses don't see how big the role they're playing is. Universities tend to think they're on the top of the world and that they provide society with resources." (DUT Leadership)

BUILD-IT team members also recognized that the levels of proactiveness of different UPs in the project activities varied, and there seemed to be a clear difference between LHU a private UP and the public UPs. While LHU has been very proactive and tried to make the most out of support from the BUILD-IT team, a similar type of entrepreneurial mindset could not be seen in most public UPs.

Another barrier for several BUILD-IT UPs (e.g., UT, VNU Ho Chi Minh, DUT, or CTU) who aimed to become research-oriented universities was that they all have limited resources, and beyond focusing on research development, there were often not many resources, nor motivation left for UIPs. This coupled with the traditional mindset have placed these universities in a dilemma between the desire to become research universities and the desire to enhance practical teaching and learning. Universities leaders shared similar thoughts as the observation of a BUILD-IT team member:

"It's just as schools want to focus on research, they move away from the focus on the industry. And the school they are sensitive, they don't like that they're teaching universities. They want to be research universities, but that is in some sense a distraction from the important part about getting the students the skills they need." (BUILD-IT Implementing Partner)

Barriers from implementing partners

When it came to the topic of institutional autonomy and the support from the implementing partner, the implementing partner's lack of local understanding is a point that stood out in interviews. Although autonomy has not been the key focus of this project, ASU experts had been willing to provide support for UPs in preparing autonomy proposals or providing several related training courses. UPs soon recognized that what they learned was not applicable in the Vietnamese context. Participants in most FGDs shared similar comments as:

"When it comes to autonomy, the organizational model of universities in Vietnam is completely different from the U.S. This should be taken into account so we can figure out what from such models can be applied. Bringing a perfect model to apply in Vietnam will not work." (CTU Leadership)

They also suggested that in the transition to autonomy, they need consultative information to develop a workable strategy, but noted that such information should be practical and applicable in the Vietnamese context, otherwise, it would be "a waste of time."

Lack of local understanding was also recognized by a member of the BUILD-IT team when they talked about training provided for Vietnamese trainees. The trainers who were American and did not understand the Vietnamese context often had the following problem:

"They don't really understand how different it is to be a Vietnamese faculty than to be … Singaporean faculty. They will naturally assume that the faculty has a lot more agency over their curriculum. Like I can change that. I can do that. I can do that. But … they [The Vietnamese faculty] couldn't do that." (BUILD-IT Implementing Partner)

UP respondents, many of whom have been engaged since the HEEAP project, acknowledged the inputs from ASU related to different facets in university operation, especially those courses related to teaching methodology. However, they all wondered about the implementation of the lessons learned from the project, which was totally up to the UPs, and indeed, most of the time, up to individual participants joining such training courses. BUILD-IT does not provide financial support for the implementation process, nor does it have close supervision over this process in UPs. Several UP leaders said that they had tried to work hard to apply the things they learned from the project in their university practices, but they did it voluntarily, and received no financial compensation for their effort, either from the university or from BUILD-IT. They suggested that they could not expect faculty staff, whose salary was very low and were often overloaded with many other ongoing commitments, to spend their time and effort figuring out the way to apply the lessons learned into teaching practice:

"Their [faculty staff] adoption of training knowledge is within the scope of their courses voluntarily … it's a long way to go from learning to implementation … the money they could spend for change is very low and they can't work following such detailed requirements. I would praise anyone who volunteers to apply what they learned into practice. It is not to blame the university; the problem is that its resources are quite limited." (DUT Leader)

Other barriers

Local IPs' mindset: UP respondents also suggested that they could see that the cooperation between universities and IPs in IABs in the U.S. institutions was quite comprehensive, both sides' commitment and persistence were visible. Although they tried to adopt some lessons in developing relationships with IPs, they did not expect to reach that level of IAB in Vietnam. On one hand, university mindset

changing was slow (as discussed previously). On the other hand, most local firms in Vietnam did not have a similar mindset as those in the United States. This was also recognized by a BUILD-IT member:

> *"It's not that only the schools don't have the full mindset for the Industry Advisory Board . . . the companies in Vietnam also don't have that mindset. They didn't go to a school like that … They're using high salaries to attract students, it just pulls and pushes employees from one company to another. They're not doing that long-term mindset: we should develop a workforce pipeline … U.S. companies do have the mindset about long-term investment in a pipeline so that is self-serving motivation."* (BUILD-IT Implementing Partner)

Apart from these differences in the context for autonomous operation between the United States and Vietnam, several respondents also pointed out some distinctive sociocultural differences between the two countries. Vietnam is a collectivist culture with a much larger cultural power distance, top-down approach is still the norm in most public universities. Red tape, corruption, paperwork, and bureaucracy are still realities in Vietnam. These were discouraging and negatively affected UPs' efforts in applying lessons learned from the project into real school practices.

CONCLUSION

- There seem to be many institutional voids in the landscape for autonomy in Vietnam that have been unknown by the implementing partner when designing activities for UPs.
- In the transition from the central command system to autonomous operation, capacity building lessons provided by the implementing partner were all considered valuable; however, the gap between learning and doing does exist.
- Various barriers and challenges for effective autonomous operation remain, both for UPs who have gained the autonomous status and those who haven't. This requires higher level interference that may not be within the scope of this project.

RECOMMENDATIONS

BUILD-IT

- As capacity building has proved to be helpful for stakeholders within UPs, ASU should continue to expand provisions of training sessions to further enhance efficiency of stakeholders, especially senior leaders and MTT and CFT because they are those who are able to spread the values of capacity building training.
- In the last two years of BUILD-IT, ASU should focus attention on student activities that are well-established, such as PBL, EPICS, and e-projects, and should also explore strategies to provide more funding for those activities to increase impact by offering these experiential learning opportunities to a larger number of students that are more interesting and attract more female participants.
- BUILD-IT should work collaboratively and more closely with both industry partners and UPs to make students' experiential learning activities more 'visible' and attractive to students. BUILD-IT should seek more effective strategies to communicate experiential learning opportunities to a wider range of students to ensure any interested parties have an opportunity to participate.
- ASU should provide more focus on AUN-QA accreditation, which is highly demanded by UPs, while they continue offering ABET support for interested UPs.
- ASU should tailor and customize their capacity building training for leadership and faculty. Those individuals who have already completed training courses in the past through BUILD-IT, HEEAP, and other relevant trainings, should be offered more advanced trainings on topics like: longitudinal data tracking, resource planning, IAB development and strengthening, fundraising, and developing innovative projects for students, while maintaining initial training for entry-level staff. ASU should involve more local experts as trainers and diversify training staff in the capacity building trainings to offer more local expertise and to support the universities to build relationships with these individuals who can offer support after BUILD-IT ends.
- UPs appreciated BUILD-IT's efforts to enhance their capacity for effective autonomous operation and expected that BUILD-IT would continue to provide support for UPs' specific needs. However, more support and resources should be placed to help UPs implement the lessons learned into their practices, explore their challenges and barriers in the implementing process, and provide further support to ensure the sustainability of the activities.
- The implementing partner should help UPs to approach more IPs directly, rather than managing the relationship for them, to facilitate applied learning opportunities for UPs to generate more funding and enhance quality outcomes.
- BUILD-IT could consider using the DICE framework for change management and support UPs to use this framework to have more involvement from the university top leaders and to lead a positive change toward effective autonomous operation.
- Expand KPIs related to UIP development to include outcome-based indicators, rather than focusing largely on output level results.

UNIVERSITY PARTNERS

With the current landscape for institutional autonomy, the role and the proactive level of the UPs' top leaders is the decisive factor for the UP effectively exercising autonomy. Beyond this, BUILD-IT's impact also seems to vary among different UPs. This reflects different mindsets of UP rector boards, different levels of investment among different UPs on BUILD-IT activities, and different UP ability to leverage the support of BUILD-IT to enhance their UIP development and their ability to exercise institutional autonomy. University rectors should recognize their important role in leading the change and should be more proactive and supportive. More support and investment from the top leaders for BUILD-IT activities also contribute to the success of the project and contribute valuable resources for capacity building, which is necessary for efficient and effective autonomous operation.

- UPs should be more proactive in networking with IPs and engaging them in UIP-related activities, including generating more active participation in IABs, facilitating student learning opportunities like internships and competitions, serving as mentors, and financing long-term investments from IPs. UPs should explore strategies to enhance the utility of IABs to provide more consistent inputs into the management of UIPs.
- UPs should develop their own playbooks on UIPs' activities including capacity building training, student-related activities, IAB management, and long-term strategies to maintain and expand accreditation to take ownership of the gains they have made under BUILD-IT and plan for long-term sustainability.
- UPs should ensure that longitudinal tracking of graduate outcomes meets IPs' needs for evidence of outcomes, so that these partners can continue to justify (or even expand) their investment long term.
- Change management is challenging; moving from a central command system to autonomous operation when related policies are incomplete is difficult. Universities should work in consultation with ASU to apply change models such as Kotter's 8-step change model, or DICE framework, to make institutional change more consistent.

INDUSTRY PARTNERS

- IPs should commit to full engagement in IABs to offer continuous curricular advice to university faculties, so these institutions can regularly update their programs to meet the demands of the labor market for new graduates with the skills to join the 21st-century workforce.
- IPs should be more proactive in working with universities to update applied learning activities so they remain fresh and enticing and invest more funds in student-related activities such as EPICS, MEP, and e-projects so that more students can join such activities. Mentors should also spend more time providing support, guidance, and feedback for students. This will increase the quality for these applied learning activities.

BOTH UNIVERSITY AND INDUSTRY PARTNERS

- Since most industry-sponsored and co-mentored experiential learning activities provided to students, such as EPICS, MEP, E-Projects and URI, are different from the traditional university extra-curricular activities, both university and industry partners and implementing partners should better help students understand the benefits brought about by these activities, ultimately making the activities more visible and attracting more students to these activities.
- UPs and IPs should explore innovative strategies to engage the GVN, especially MOET, like the partnership with SHTP (a quasi-governmental IP). This will help to overcome the challenge of there not being an MOU between USAID and MOET.

MOET

- MOET should work closely with universities, especially those who have been exercising autonomy for some time, to develop and/or improve policies and regulations to ease the process of universities exercising autonomy.
- MOET should liaise with other GVN governing bodies including the Ministry of Home Affairs, Financial Ministry, different Line Ministries, provincial governments, Vietnam National Universities, regional universities, and representatives of the Communist Party to clear the barriers for universities to exercise autonomy and to develop a workable plan/framework for university autonomy in Vietnam.

USAID

- USAID should consider signing an MOU with MOET[15] to facilitate more engagement of HES policy makers in BUILD-IT and similar activities and to further develop and improve autonomy-related policies. The Vietnamese HE system is in the early stages of transitioning to autonomous operations, and support from an experienced donor like USAID would be a valuable asset in this process.

---

[15] Although MOET is the direct governing body of only 40 universities in the HE system, it is the government agency performing the state management function of the HE system. Its tasks and powers prescribed in the Governmental Decree No. 123/2016/ND-CP dated 01/9/2016 include submitting to the Government and the Price Mister the draft laws, draft resolutions of the National Assembly, long-term, medium-term and annual development strategies, plans, and important projects and national works within the Ministry's state management scope or as assigned by the Government and the Prime Minister.

DISSEMINATION AND UTILIZATION

At the end of the data collection period, as a first step in disseminating the results of the Partnership Sustainability Review, the review team, supported by USAID Learns, conducted an Initial Findings Presentation for USAID/Vietnam and ASU to review the initial findings of the field work. This session included a full report on the research sample achieved, as well as preliminary findings as the review team understood them at the end of the data collection period (prior to full analysis). The session was presented in a PowerPoint presentation via virtual platform and allowed USAID/Vietnam and ASU to provide feedback and clarification on the preliminary findings.

Following the data analysis period, the review team hosted a virtual Validation Workshop to which all individuals from the six partner universities who had contributed to the data collection effort through KIIs and FGDs were invited to listen to the initial findings and validate their accuracy, as well as provide any clarification or reinforce key findings, conclusions, and recommendations that they felt were essential to the sustainability review. USAID representatives were also invited to join the workshop to listen to the feedback and interact with these key university stakeholders through breakout discussion sessions.

After the validation workshop but prior to report submission, the team hosted a virtual out-brief presentation for USAID/Vietnam and ASU. This session provided an interactive opportunity for the review team to present the full findings, conclusions, and recommendations identified through full data analysis and for USAID and ASU to clarify any remaining issues prior to submission of the first report draft.

Finally, the team will host a Results and Reflection session for USAID about the recommendations of this review, and to discuss action-oriented strategies to operationalize them for the final two years of BUILD-IT. This session will be an opportunity to work with USAID and the implementing partner to establish a clear action plan to promote full utilization of the results. A two-page summary brief of this plan will be shared with key stakeholders among university and IPs to disseminate the results of the study and how it will influence the activity's strategic plan for the last two years of implementation.

ANNEX I: FULL LISTING OF REFERENCES AND REPORTS UTILIZED

ABET Accreditation. https://www.abet.org/accreditation/

Arizona State University website for Building University-Industry Learning and Development through Innovation and Technology Alliance Project (BUILD-IT). https://builditvietnam.org/

Arizona State University website for Higher Engineering Education Alliance Project (HEEAP). https://heeap.org/

ASEAN University Network. http://www.aunsec.org/aunqa.php

Danielson, Dr. Scott, et al. (2016). "Comparison of AUN-QA and ABET Accreditation." *American Society for Engineering Education 23rd Annual Conference and Exposition.* https://peer.asee.org/comparison-of-aun-qa-and-abet-accreditation.pdf

Decree 99 (December 2019). Decree 99/2019/ND-CP Elaborating and Providing Guidelines for a Number of Articles of Law on Amendments to the Law on Higher Education. https://vanbanphapluat.co/decree-99-2019-nd-cp-providing-guidelines-law-on-amendments-to-the-law-on-higher-education

Government of Vietnam. Decree No. 60/2021/ND-CP, Stipulating the Financial Autonomy Mechanism of Public Non-Business Units, issued June 21, 2021 *(Decree 60)*.

Ibid. Decree No. 99/2019/ND-CP, Elaborating and Providing Guidelines for Several Articles of the Law on Amendments to Law on Higher Education, issued November 30, 2019 *(Decree 99)*.

Ibid. Law No. 08/2012/QH13, Law on Higher Education, issued June 18, 2012 (*Law No. 8*).

Ibid. Law No. 34/2018/QH14, Law on Amendments to the Law on Higher Education (*Law 34*).

Ibid. Resolution No. 77/NQ-CP, Resolution on the Pilot Renovation of the Operation Mechanism of Public Tertiary Education Institutions During 2104–2017, issued October 24, 2014 (*Resolution 77*).

Maassen, P., Å. Gornitzka, and T. Fumasoli. (2017). "University Reform and Institutional Autonomy: A Framework for Analysing the Living Autonomy." *Higher Education Quarterly* 71(3): 239–250.

Ngoc Anh, Mai, Do Thi Hai Ha, Mai Ngoc Cuong, and Nguyen Dang Nui. (2020). "Models of University Autonomy and Their Relevance to Vietnam." *Journal of Asian Public Policy*, 1–17.

Nielsen, Ann, Yeukai Mlam, and Hang B. Duong (2019). "Primary Research on the Design of the Education Workforce in Vietnam." Arizona State University Background Paper Transforming the Education Workforce. https://educationcommission.org/wp-content/uploads/2020/02/vietnam-research-report.pdf

Roness, P. G., K. Verhoest, K. Rubecksen, and M. MacCarthaigh. (2008). "Autonomy and Regulation of State Agencies: Reinforcement, Indifference or Compensation?" *Public Organization Review* 8(2): 155–174.

Thomas, Asha, and Justin Paul. (2019). "Knowledge Transfer and Innovation Through University-Industry Partnership: An Integrated Theoretical View." *Knowledge Management Research & Practice* 17(4): *436–448*, DOI: 10.1080/14778238.2018.1552485.

Thanh Binh, Dao. (2021). "University Autonomy and Internal Control: A Case Study of Vietnam Public Higher Education Institutions." *Laplage em Revista* 7(1): 589–601.

Thi Huong Quynh, Nguyen, et al. (2021). "Policies on Science and Technology Activities in Higher Education Institutions: Current Situations and Solutions." *IOSR Journal of Humanities and Social Sciences* 26(1): 46–55. https://www.iosrjournals.org/iosr-jhss/papers/Vol.26-Issue1/Series-9/G2601094655.pdf

Thi Tuyet, Tran. (2015). "Governance in Higher Education in Vietnam—A Move Toward Decentralization and Its Practical Problems." *Journal of Asian Public Policy* 7(1): 71–82.

USAID. (June 2017). Project Work Plan, Building University-Industry Learning and Development through Innovation and Technology Alliance Mid-term Evaluation.

USAID. (July 2019). Building University-Industry Learning and Development through Innovation and Technology Alliance Partner meeting.

USAID. (September 2019). Building University-Industry Learning and Development through Innovation and Technology Alliance Project FY 2019 Q4 Quarterly and Year End Report, Period July 1–September 30, 2019.

USAID. (December 2019). Building University-Industry Learning and Development through Innovation and Technology Alliance Project FY 2020 Q1 Quarterly Report, Period October 1–December 31, 2020.[16]

USAID. (March 2020). Building University-Industry Learning and Development through Innovation and Technology Alliance Project FY 2020 Q2 Quarterly Report, Period January 1–March 31, 2020.

USAID. (June 2020). Building University-Industry Learning and Development through Innovation and Technology Alliance Project FY 2020 Q3 Quarterly Report, Period April 1–June 30, 2020.

USAID. (June 2020). Project Work Plan, Building University-Industry Learning and Development through Innovation and Technology Alliance Project Year 5–6, Period July 1, 2020—September 30, 2021.

USAID. (June 2020). Fact Sheet for Building University-Industry Learning and Development through Innovation and Technology Alliance Project. https://www.usaid.gov/vietnam/documents/fact-sheet-building-university-industry-learning-and-development-through-innovation

USAID. (July 2020). Building University-Industry Learning and Development through Innovation and Technology Alliance Partner meeting.

USAID. (September 2020). Building University-Industry Learning and Development through Innovation and Technology Alliance Project FY 2020 Q4 Quarterly Report, Period July 1–September 30, 2020.

USAID. (December 2020). Building University-Industry Learning and Development through Innovation and Technology Alliance Project FY 2021 Q1 Quarterly Report, Period October 1–December 31, 2020.

USAID. (December 2020). Building University-Industry Learning and Development through Innovation and Technology Alliance 3.0 Concept.

USAID Vocational and University Leadership and Innovation Institute Fact Sheet. https://www.usaid.gov/sites/default/files/documents/1861/FS_VULII_Eng.pdf

World Bank. (April 2020). Improving the Performance of Higher Education in Vietnam: Strategic Priorities and Policy Options.

---

[16] The report title incorrectly states it covers the period from October 1 to December 31, 2020; it should be 2019.

ANNEX II: FULL LISTING OF PERSONS INTERVIEWED

FULL LISTING OF PERSONS INTERVIEWED			
DATA COLLECTION RESPONDENTS			
AFFILIATION	RESPONDENT TYPE	TOOL	NUMBER OF RESPONDENTS
MOET	Leadership Higher Education Department	KII	I
ASU BUILD-IT	Chief of Party	KII	I
	Project Director	KII	I
	Program Manager	KII	2
	Technical Lead	KII	I
	Former Country Director	KII	I
UNIVERSITY PARTNERS			
CTU	Leadership Faculty of Technology (2)	FGD	4
	Leadership of QA Center		
	Leadership International Cooperation		
	MTT/CFT	KII	I
	Leadership Faculty of Technology	KII	I
HCM UT	Leadership Faculty of Computer Science and Engineering	KII	I
	Manager	KII	2
	Faculty		
	MTT/CFT	KII	I
	BUILD-IT Coordinator	FGD	2
	Faculty		
HCM UTE	Faculty	KII	I
	Leadership, MTT/CFT	KII	I
	Accreditation Leadership	KII	I
	Accreditation Leadership	FGD	4
	IAB Leadership		
	BUILD-IT Coordinator		
	MTT/CFT Students	FGD	8
IUH	Faculty	KII	I
	MTT/CFT	KII	I
	Deputy Head of Training	FGD	4
	Leadership		
	Faculty		
	Faculty		
LHU	Leadership	FGD	5
	Leadership International Relations & Public Private Partnerships		
	Leadership QA and Management		
	BUILD-IT Coordinator		
	IT Faculty Students		8
	Faculty	KII	I
	MTT/CFT	KII	I
	Faculty	KII	2

	Leadership		
DUT	Faculty (2)	FGD	5
	Leadership Examination and QA Department		
	BUILD-IT Coordinator		
	MEP and E-project Coordinator Students		5
	MTT/CFT	KII	I
	BUILD-IT Coordinator	KII	I
	Student	KII	I
INDUSTRY PARTNERS			
	DOW	KII	2
	First Solar	KII	I
	Oracle	KII	2
	Pearson	KII	I
	Rockwell	KII	I
	Saigon High-Tech Park	KII	I
	Wiley	KII	I

ANNEX III: KEY STUDY TERMS

BUILD-IT Key Terms

As there are key terms that are used throughout this report, this section offers a summary definition of the following terms: accreditation, autonomy, and sustainability, as they were understood and operationalized by the review team during this study.

<u>Accreditation</u>: Universities in Vietnam can seek accreditation of their academic programs from a variety of different granting bodies to certify that degrees awarded by these institutions reflect a level of quality that can be recognized by other institutions and employers as meeting international standards. ABET accreditation is awarded by the Accreditation Board for Engineering and Technology (ABET), a private non-governmental organization based out of Baltimore, MD; it must be renewed every six years. AUN-QA accreditation is a Southeast Asian regional standard that is awarded to both academic programs and/or institutions by the Association of Southeast Asian Nations University Network (AUN); it must be renewed every four years.

<u>Autonomy</u>: The process of universities achieving autonomous status is strongly influenced by the Government of Vietnam's (GVN) 2019 publication of Decree 99, of which Article 13 provides guidelines for universities to exercise institutional autonomy and accountability. It provides the regulations on three aspects of institutional autonomy:

Academic autonomy: Autonomous universities[17] have the right to design and define academic programs and curricula, select students (via methods and quotas), introduce new degree programs, conduct distance learning, and establish cooperation with overseas partners.

Organizational autonomy: Authorizes autonomous public institutions to decide their organizational structure and personnel, and "reorganization and dissolution" of public service providers. They must implement internal regulations in compliance with applicable laws.

Financial autonomy: Higher education institutions may exercise financial and property autonomy in compliance with applicable laws and implement internal regulations on finance and property.

In exchange for this autonomy, higher education institutions are required to comply with regulations and requirements on periodic and ad hoc reporting from competent authorities; quality assurance of their training programs and operations; and full transparency about all university policies and systems (e.g., accreditation of the institution and its programs; admission policies; lecturers by discipline; graduates by discipline; rates of graduates employed 12 months later, etc.). Public universities are also required to make regular reports to the Ministry of Education and Training (MOET) regarding new training programs implemented, as well as updating the national higher education database with training outputs and financial updates.[18]

<u>Sustainability</u>: To ensure that respondents understood and applied the key term of "sustainability," the focus of this research, the review team worked in collaboration with USAID to create a definition for sustainability that would be read at the outset of each KII and FGD to define how the term is operationalized for BUILD-IT. This study views sustainability of BUILD-IT university-industry partnerships (UIPs) to have potential for sustainability on two levels:

- UIPs continue to function in the same way, or similar, to how they have operated under BUILD-IT, with the same IPs and projects developed by ASU;
- Universities demonstrate expanded capacity to facilitate new UIPs on their own, with new partners they recruit and manage using BUILD-IT's systems and strategies to do so.

While the former measure is certainly a goal of the activity, the latter measure is the true demonstration of partnership sustainability. However, it is important to clarify that the six partner

---

[17] Elaborated in the Law on Amendments to the Law on Higher Education.
[18] Information summarized in the above paragraph excerpted from Decree 99 (2019), p. 1–3.

universities engaged in UIPs before BUILD-IT, and it is beyond the scope of this study to determine what percentage of change to attribute directly to BUILD-IT's effort. This is especially true because many of the institutions and individuals included in this study were also engaged in previous activities implemented by ASU in Vietnam prior to BUILD-IT, including the Higher Engineering Education Alliance Program (HEEAP; 2010–2015) and its extension project, the Vocational and University Leadership and Innovation Institute (2012–2015). As HEEAP was mentioned extensively in our data collection efforts, it is very clear that these earlier efforts have contributed significantly to the overall development of several of BUILD-IT's current active partner universities, which indicates a long-term relationship between ASU and many of these universities.

Across these three core activities, BUILD-IT facilitates UIPs to support the project's objectives. These UIPs have contributed to BUILD-IT on a number of levels, including direct financial support to enhance science, technology, engineering, and mathematics (STEM) equipment available in the university, advising on development of STEM curricula to reflect industry innovations, and/or funding for applied learning activities for students such as competitions. The following section summarizes some of these key student-focused BUILD-IT activities to which IPs have made significant contributions:

Industry Advisory Board (IAB): According to the BUILD-IT quarterly reports, the IAB is an organizational group through which "BUILD-IT facilitates industry commitment to curriculum collaboration between faculty and industry … [by] providing improved learning experiences for students, and opportunity for projects, internships, scholarship, and ultimately a program reputation that will enable placement of graduates."[19]

Engineering Projects in Community Service (EPICS): EPICS is a project-based learning opportunity combined with service learning and entrepreneurial mindset in which students work in groups to develop a prototype; EPICS is funded by Dow. The pilot course was launched in 2018 and expanded to all six partner universities over the following two years.[20] As of Year 6 Quarter 1, some 311 students had participated in EPICS, with a 37 percent female participation rate.[21] A limited number of female-only groups, referred to as WEPICS or Women's EPICS, were also organized to promote female participation and engagement.

Maker to Entrepreneur (MEP): MEP is also funded by Dow and is a follow-on for students who complete EPICS and want to advance their prototypes into products through an incubation experience that focuses on sales and marketing of the prototype.

English for Engineering Concepts (EEC): EEC is a pilot course that provides students English language instruction focusing on engineering topics. Four of the six active partner universities participated in EEC during 2020: IUH, UTE, UT, and LHU.

---

[19] BUILD-IT QPR Y6 Q1, p. 4.
[20] *Ibid.,* p. 94.
[21] *Ibid.,* p. 20.

ANNEX IV: DATA COLLECTION TOOLS

Informed Consent Statement

Hello, my name is _____ and I am working with Social Impact on behalf of the United States Agency for International Development (USAID)/Vietnam. We are conducting this assessment of the sustainability of the university-industry partnerships that were established by the BUILD-IT activity implemented by Arizona State University. Our goal is to provide recommendations to strengthen and sustain these university-industry partnerships as a successful model for Vietnamese public universities to transition to autonomous status. You are invited to participate in this interview because of your involvement in BUILD-IT. We kindly request approximately one hour of your time to hear about your thoughts and opinions.

There are no direct benefits and risks to you from participation in this interview beyond informing potential improvements in USAID's programming. Participation in this study is completely voluntary. You are free to decline to participate, to end participation at any time for any reason, or to refuse to answer any individual question without penalty. You can choose not to participate for any reason, without any consequence, and you will not be asked to share why you have decided not to participate.

FOR IN-PERSON MEETINGS ONLY

Given the COVID-19 pandemic there are several reasons you may choose not to participate in the study. If you or someone in your household or workplace has been feeling sick including having a cough or high temperature in the past two weeks, we ask you not to participate for your safety and the safety of others. Likewise, if you are not comfortable meeting in person or have concerns about the ability to accommodate safe protocols in your place of work (such as, social distanced seating, personal protective equipment, well-ventilated meeting areas, etc.) or if you do not feel comfortable the day of the interview for any reason, you can decline to participate or end the interview early without any consequence. Also, please note that due to COVID 19 we will be keeping an internal log of all interviews including your name and contact information to facilitate contact tracing should any member of the review team become ill so that we would be able to inform you.

All responses that you provide during this interview will be kept confidential. Only a handful of researchers directly involved in this study will have access to your personal information, and your personal identifiers will not be shared with anyone outside of the review team. We would also like your permission to audio record this interview to make sure we do not miss any important details in our notes. This recording will be deleted after we have completed typing up all notes. Your responses will be numbered and the code linking your number with your name will be stored in a password protected online server. After we have completed the study, this information will be destroyed. Your name and other identifying information will not be published in any reports, and your responses only from our interview will be combined with others' responses and presented in a public report.

Do you have any questions about this interview? If you have any concerns, you may contact Sarah Auten the Review Team Leader at sauten@socialimpact.com or the Social Impact Institutional Review Board at irb@socialimpact.com or +1 703 465 1884 with questions about the study or results. I can leave a copy / email a copy of this form with you if you would like.

I have read the above information, have had the opportunity to ask any questions about this study and agree to participate in this study.

Do you agree to participate? Yes / No

Do you agree to have this interview recorded? Yes/No

IMPLEMENTING PARTNERS (ASU & BUILD-IT VIETNAM TEAMS)

KII - ASU & BUILD-IT TEAM MEMBERS

1. What has been your role in working on BUILD-IT (probe: specific role in supporting university-industry **partnerships**)?
2. What has been enhanced in terms of the capacity development and support facilitated by BUILD-IT that will enable universities to become more autonomous? (probe: what **evidence** is this opinion based on, e.g., demonstrated changes in university systems and practices)?
   a. What more could be done to enhance this?
   b. Are there other BUILD-IT inputs that have influenced greater university autonomy aside from the capacity development? If so, what were they, and how did they influence this?
3. In your opinion, what are the most valuable activities of BUILD-IT's partnerships to support enhanced quality and autonomy for the six partner universities? To support international accreditation efforts?
   a. Why do you consider these most valuable?
   b. What measures are in place to ensure these aspects are sustained?
   c. What could be done to strengthen them?
4. What activities of the university-industry partnership efforts are less critical or distract from furthering university efforts to achieve enhanced quality and autonomy? International accreditation?
   a. Why are they less critical?
   b. Should they be sustained, or should BUILD-IT's efforts be redirected to other activities?
5. What are some of the challenges that university partners will face in sustaining the gains supported by BUILD-IT?
6. Do you feel that universities achieving international accreditation status will face challenges to sustain this status after USAID funding ends?
   a. How could this be increased? What are the key elements that can increase the likelihood of sustaining this accreditation status?
7. How has COVID-19 affected BUILD-IT's efforts to sustain their investment in university-industry partnerships? (probes: impact on university, industry, and government partners; level of engagement in BUILD-IT activities)
8. To what extent are government partners engaged in BUILD-IT?
   a. Do you have any suggestions to encourage their continued participation after USAID funding ends?
   b. Are there ways in which this government support could be made more effective?
9. In what ways have you observed industry partners demonstrating their commitment to continuing their support for BUILD-IT partner universities after USAID funding ends?
   a. Why do you feel this way (probe: what **evidence** is this opinion based on, e.g., demonstrated commitment from industry partners, new initiatives starting without BUILD-IT's facilitation)?
   b. What challenges will universities face in sustaining UIPs after BUILD-IT ends?
   c. How could this support be incentivized more effectively?
10. Are there other businesses or industries that BUILD-IT has not engaged that should be included in these partnerships? (probe: local/Vietnamese businesses, other sectors not yet engaged)
    a. What are the barriers to engaging these other businesses or industries?
11. Did the issuance of Decree 99 in 2019 require BUILD-IT to adjust its strategy, or influence how it approached the issues of partnership sustainability and government's support for autonomous universities?
12. Do you feel that the development of a playbook in some activities (such as Maker Space, Women in PBL, EPICS, IAB, digital immersion learning, program accreditation, institutional

accreditation, and certified facilitator training/master teacher training) can help sustain the gains of UIP activities?

13. What has BUILD-IT done to promote stronger female participation in STEM fields?
    a. Were these approaches effective?
    b. Are there ways in which they could be improved?
14. Do you have any other suggestions you wish to share to make BUILD-IT more practical and effective?

KII–MINISTRY PARTNERS

1. What has been your role in working on BUILD-IT (probe: specific role in supporting university-industry **partnerships**)?
2. How does your ministry support the goal of enabling stronger partnerships between universities and industries?
3. What are some of the challenges that your ministry faces in achieving this goal?
4. Do you feel that universities in Vietnam have fully implemented Decree 99 and succeeded in becoming fully autonomous?
    a. What have been the challenges in this process? (probe: how has the ministry responded?)
5. What are the main barriers that universities in Vietnam face in achieving international accreditation?
6. Do you have any recommendations to make university-industry partnerships more sustainable going forward? [probes: USAID support, government engagement]
7. Do you have any recommendations for USAID to implement more effective higher education activities that promote strong partnerships between universities and industries?
8. Do you have any recommendations to promote stronger outcomes for females in STEM fields?
9. How likely is it for university partners to sustain outcomes of UIP activities upon the completion of BUILD-IT? What are you going to do to further support university partners then?

KII–UNIVERSITY PARTNERS

For

- ***Faculty and staff actively engaged in program accreditation***
- Master trainers/faculty engaged in project-based learning, MIS, or other partner-supported activities

1. In your opinion, what is the most valuable UIP activity?
    a. Why do you consider this to be most valuable?
    b. What measures are in place to ensure this activity is sustained?
    c. What could be done to strengthen this effort?
2. What aspects of the university-industry partnership efforts are less critical or distract from furthering university efforts to achieve enhanced quality and autonomy? International accreditation?
3. Do you see value in working to sustain these elements even though they are not as crucial or distracting from the primary objectives? If not, how could BUILD-IT's resources and efforts be redirected for these next two years to promote university quality and autonomy?
4. What is the most important benefit of university-industry partnerships to you and your university?
5. Have you personally observed any systemic changes in the way that your university engages with industry partners since partnering with BUILD-IT? (probes: policy changes, structural changes)?
    a. If so, in what way?
    b. If not, does your university have a formal approach to engaging with industry partners and attracting their contributions? (probe: please describe it)

6. What support do you think is needed from your faculty/school, the university, BUILD-IT, and/or industry partners to support the following efforts:
    a. International accreditation?
    b. Direct contributions of financial or in-kind resources?
    c. Improved quality and learning opportunities for students?
    d. Faculty development?
7. If USAID funding from BUILD-IT ended today, how many of your current industry partnerships would continue for more than five years? How could this be increased?
8. If USAID funding ended today, to what degree do you feel your university could sustain the gains in quality and curricular development that have been achieved through BUILD-IT? How could this be increased?
9. Do you feel that the development of a playbook in some activities (such as Maker Space, Women in PBL, EPICS, IAB, digital immersion learning, program accreditation, institutional accreditation, and certified facilitator training/master teacher training) can help sustain the gains of UIP activities?
10. Do you have any recommendations to promote stronger outcomes for females in STEM fields?
11. Do you have any other suggestions you wish to share to make BUILD-IT more practical and effective?

KII–INDUSTRY PARTNERS
1. What are the short-term and long-term benefits that your company has gained in university-industry partnership?
2. What challenges has your company had in the implementation of industry partner activities? How could these challenges be reduced or corrected?
3. Have you observed specific ways in which university-industry partnerships can be implemented more successfully?
4. Could you describe what you would envision as key characteristics or traits of a successful model of university-industry-government higher education partnerships?
5. Do these types of partnerships better prepare students for employability? If so, in what way? (e.g., knowledge, professional and soft skills, English competence, etc.)
6. What should be done to sustain the outcomes of partnership activities for students in the next two years and after BUILD-IT ends?
7. Do you have any plans for further nurturing students who are engaged in your partnership programs (e.g., recruiting them into your company, ongoing mentoring, etc.)?
8. How can industries support the development of sustainable applied learning programs and expand their reach to a larger scale?
9. Have you been engaged in supporting the work of the IAB? Do these roles help strengthen the university partner's capacity? (probe: in what way?)
10. What can your organization contribute more, and what support is needed from government and university partners, to strengthen and sustain university-industry partnership?
11. Do you have any recommendations to promote stronger outcomes for females in STEM fields?
12. Do you expect that your organization will continue to partner with universities after BUILD-IT ends? Why/why not? (probe: will it be to the same extent that they invest in BUILD-IT?)

FGD–GENERAL UNIVERSITY GROUP
1. Please introduce yourselves and what has been your role in working on BUILD-IT (probe: specific role in supporting university-industry **partnerships**)?
2. In your opinion, what are the most valuable aspects of BUILD-IT's partnerships to support enhanced quality and autonomy for the partner universities? To support international accreditation efforts?
    a. Why do you consider these most valuable?
    b. What measures are in place to ensure these aspects are sustained?

3. What aspects of the university-industry partnership efforts are less critical or distract from furthering university efforts to achieve enhanced quality and autonomy? International accreditation?
4. Do you see value in working to sustain these elements even though they are not as crucial or distracting from the primary objectives? If not, how could BUILD-IT's resources and efforts be redirected for these next two years to promote university quality and autonomy?
5. Have you personally observed any systemic changes in the way that your university engages with industry partners since partnering with BUILD-IT? (probes: policy changes, structural changes)?
6. What support do you think is needed from your faculty/school, the university, BUILD-IT, and/or industry partners to support stronger and more sustainable partnerships?
7. Do you have any recommendations to promote stronger outcomes for females in STEM fields?
8. Do you have any other suggestions you wish to share to make BUILD-IT more practical and effective?

FGD–STUDENT GROUP
1. Please briefly introduce yourselves and the activities under BUILD IT project that you have been involved in?
2. What, in your opinion, is the most valuable aspect of the activity(ies) you participated in? Why was this valuable? (Probes: skill enhancement, practical learning experience, employability enhancement).
3. What do you think is the drawback of those activities? (Probes: limited funding/facilities, small number of participants, repetition, lack of female participation...)
4. Do you think many students want to participate in those activities? Why and why not?
5. What is your suggestion to improve the effectiveness of such activities? And to expand the activities so more students can benefit from them?

FGD - IAB MEMBERS
1. Could you please briefly introduce yourself, including the tasks you are in charge of in IAB?
2. Could you describe what commitment to industry-university partnerships look like to you? How would you characterize such a relationship in terms of its approach to communication, its level of engagement, and the types of initiatives that would be implemented as a result?
3. To what extent do you feel that your experience in the IAB has been a sustainable relationship? How could this be made more sustainable?
4. Has the IAB made contributions to support enhanced curriculum development through BUILD-IT? If so, what was your contribution? If not, were you invited to provide these inputs?
5. What types of support do you think have been the most beneficial for the IAB to provide to BUILD-IT thus far? (probe: how does this differ between universities?)
    a. Is this support that requires continuous effort? Is it sustainable?
6. What aspects of the university-industry partnership efforts are less critical or distract from furthering university efforts to achieve enhanced quality and autonomy? International accreditation?
7. Do university partners provide feedback and progress updates? If so, what are the processes for sharing updates? If not, would these types of updates be useful in promoting deeper engagement?
8. Do you have any other suggestions to maintain (or increase) the efficiency of IABs?
9. What other support is needed to sustain IAB activities? (probes: from government, university, and industry partners?)
10. What other benefits do you expect that industry partners will gain through more autonomous universities?

Survey for University and Industry Partner Representatives

To be administered via Survey Monkey to university and industry partners participating in KIIs prior to the interview.

1. What type of BUILD-IT partner organization do you represent?
   - ☐ University
   - ☐ Industry

2. With which organization are you affiliated?
   [For university partners]
   - ☐ Da Nang University of Science and Technology
   - ☐ Ho Chi Min City University of Technology and Education
   - ☐ Industrial University of Ho Chi Min City
   - ☐ Lac Hong University
   - ☐ Ho Chi Min City University of Technology
   - ☐ Can Tho University

   [For industry partners]
   - ☐ Autodesk
   - ☐ Amazon Web Services
   - ☐ Oracle Academy
   - ☐ Microsoft
   - ☐ Intel
   - ☐ Dow
   - ☐ National Instruments
   - ☐ eSilicon
   - ☐ Rockwell Automation
   - ☐ Siemens
   - ☐ Saigon Hi-Tech Park
   - ☐ Pearson
   - ☐ Wiley
   - ☐ Other (please specify): _____

3. With which of the following BUILD-IT activities or services have you been engaged, supported, or participated in: (please select all that apply)
   - ☐ Amazon Web Services activities (including Hackathon, Deep Racer)
   - ☐ Certified Facilitator and Master Teacher Training
   - ☐ Continuous Program Improvement (CPI) (including playbook development)
   - ☐ Curriculum Development for Project-Based Learning (with industry partners)
   - ☐ e-Projects with industry partners
   - ☐ Engineering Projects in Community Service (EPICS) and Dow Vietnam STEM program (including sustainability planning)
   - ☐ English for Engineering Concepts/English Ecosystem
   - ☐ Faculty Development coaching (including leadership development, training on KPIs)
   - ☐ Industry Advisory Boards (IAB; including playbook development)
   - ☐ Institutional Quality and Accreditation (IAQ) Activities (including ABET, AUN-QA consultation)
   - ☐ Internships and Career Development Activities
   - ☐ Learning Management Systems Training with Pearson (including Moodle training, sustainability planning)
   - ☐ Maker Innovation Network and Maker Innovation Spaces (includes proposal development, peer coaching, playbook development)

- □ Maker to Entrepreneur (MEP) Program for EPICS faculty to guide teams' development w/Dow Vietnam
- □ Oracle Cloud Academy Teaching Program
- □ Rockwell Automation Competition and Micro-automation Labs
- □ Saigon High Tech Park (SHTP) collaboration for Maker Innovation Spaces
- □ Scholarships for students from partner universities
- □ Software licenses and access facilitated through UIPs (general)
- □ Undergraduate Research Initiative (URI) for students to develop faculty-guided research
- □ Wiley Leadership Challenge curriculum development
- □ Women in Project-Based Learning (PBL) Playbook Development
- □ Other   (please   specify):

_____

4. [For each type of activity selected in Question 3 above]: To what extent do you feel this activity is valuable to achieving BUILD-IT's objectives?

To what extent do you feel this activity is valuable to achieving BUILD-IT's objectives?					
	Very essential to sustain	Somewhat essential to sustain	Neutral	Not very essential to sustain	Not at all essential to sustain
→ to be populated with responses from Q3 above	□	□	□	□	□

5. [For each type of activity selected in Question 3 above]: To what extent do you feel that BUILD-IT should make an effort to promote the sustainability of these activities?

To what extent do you feel that BUILD-IT should make an effort to promote the sustainability of these activities?					
	Very essential to sustain	Somewhat essential to sustain	Neutral	Not very essential to sustain	Not at all essential to sustain
→ to be populated with responses from Q3 above	□	□	□	□	□

6. How long have you been working with the BUILD-IT activity?
    - □ Less than six months
    - □ Six months to one year
    - □ One to two years
    - □ More than two years

7. What is your sex?
    - □ Male
    - □ Female
    - □ Other

8. What is your age range?
    - □ Under 25 years old
    - □ 26–45 years old

☐   46 and above

ANNEX V: STATEMENT OF WORK

USAID Learns—Statement of Work (SOW) Vietnam Sustainability Review of BUILD-IT Partnerships
March 2021

USAID LEARNS BACKGROUND

Social Impact, Inc. (SI) is implementing the new USAID/Vietnam Learns contract. The scope of the five-year project is to support USAID/Vietnam staff and partners to implement more efficient, effective, and transparent programs by improving: (1) USAID and industry partners (IPs) capacity to achieve expected results; (2) USAID's understanding and tracking of projects performance; and (3) collaboration, learning, and adapting (CLA).

BACKGROUND

USAID funds Arizona State University (ASU) to manage BUILD-IT, a higher education (HE) activity that has worked with 11 universities and several industry partners over the last 6 years. The activity focuses on developing university-industry partnerships in technology and engineering to improve program offerings to students for training or other skill building that are more relevant to industry needs. USAID commissioned a midterm evaluation in 2018 with key recommendations, which led to mid-course program adjustments, including a reduction in the number of university partners. USAID has granted a two-year extension of BUILD-IT that starts at the end of FY 2021. This sustainability review of BUILD-IT partnerships is an opportunity for stakeholder reflection among industry, academic, and government partners to inform future USAID programming, including during the extension period.

The wider context is that the Government of Vietnam (GVN) has a new policy to increase university autonomy and reduce financial dependence on the government. Successful university-industry partnerships keep academic programs relevant, help universities be more responsive to market needs, strengthen innovation, and are a required element of applications for academic accreditation. Whether the six strategic university partners currently are considered autonomous under the policy, or are trying to achieve that designation, all have indicated opportunities for improvement in effective autonomous operations. Thus, this review is an opportunity to explore the challenges and barriers to effective autonomous operations, university needs, and ideas for integrated partner solutions.

STUDY OBJECTIVES

USAID wishes to strengthen and sustain university-industry partnerships as a successful model for Vietnamese public universities in their transition to autonomous status. Even with the shift to greater university autonomy, MOET will continue to play a critical role in supporting and regulating the HE space in which university-industry partnerships operate. Learnings from this case study review of BUILD-IT partnership sustainability is intended to support three objectives:

a. Provide reflections and sustainability recommendations on BUILD-IT university-industry partnerships to inform the extension period.

b. Provide USAID with a case study based on BUILD-IT partnerships that can inform future models of university-industry-government HE partnerships.

c. Provide reflection on the challenges and barriers to achieving effective autonomous operations under Decree 99 and inform key areas of need around specific criteria (i.e., financial independence, university governance, etc.).

SUGGESTED LEARNING QUESTIONS

1. What aspects of the various university-industry partnerships that have developed and/or evolved during involvement with BUILD-IT and capacity building efforts have proved, are perceived to be, the most valuable to different stakeholders?
    a. Why are these elements considered most valuable?
    b. What is in place to ensure these aspects are sustained?
    c. Is the infrastructure/plan for sustainability adequate to maintain these "most valuable" elements of university-industry partnerships?
        ii. If not, what could be done to strengthen BUILD-IT partnerships in the next two years?
2. What aspects of the various university-industry partnerships that have developed and/or evolved during involvement with BUILD-IT and capacity building efforts have proved, are perceived to be less critical to various stakeholders?
    a. Why are these elements perceived to be less critical?
    b. Should there be an effort made to sustain elements/aspects deemed less critical by various stakeholders?
        iii. If so, what would this require? And are plans in place to sustain these elements deemed by stakeholders to be less critical?
        iv. If not, how could BUILD-IT resources/attention be modified in the next two years toward what stakeholders consider to be more critical elements of partnerships?
3. What are the key benefits that stakeholders perceive university-industry partnerships can and should provide to universities? What are the barriers preventing partnerships from fully providing these types of support? For example:
    a. Role in enabling/supporting accreditation?
    b. Direct financial/resource support?
    c. Assistance in improving learning/opportunities for faculty and/or students?
    d. Other essential benefits of university-industry partnerships, such as…?
4. Given the shift toward more autonomous universities in Vietnam,
    a. What has been the most helpful in preparing the university for more effective autonomous operations?
    b. What barriers or challenges remain? What support is needed to achieve the MOET criteria for autonomy? What stakeholders can facilitate that support?

OVERVIEW OF METHODS

Desk review. The review team will conduct a desk review of activity documents and other relevant literature to inform the inception report.

BUILD-IT Annual Meeting: Sustainability Review Kick Off. The review team would like to introduce the sustainability review to key stakeholders during a session at the BUILD-IT virtual annual meeting on April 9th. The goal would be to gather an initial set of data from key stakeholders, from which interview questions and focus groups protocols would be finalized for data collection. The review team would also introduce the possibility of subsequent requests to meet with those stakeholders present at the meeting individually, or in small (virtual) focus groups, with the review team in the weeks following the annual meeting.

Reflection-Based Data Collection and Analysis. Data collection methods will be detailed in the inception report; however, the review team anticipates that these will include spaces for reflection on

sustainability practices. Initial thinking is to group similar university and industry stakeholders for targeted focus group discussions (FGDs), e.g., FGDs with university leadership across BUILD-IT partner universities, FGDs with industry partners that support Maker Innovation Spaces (MIS) in different BUILD-IT partner universities. The team would also conduct KIIs with select representative universities and industry partners, as well as from government, BUILD-IT, and USAID to understand their past experience, concerns, and future priorities for university-industry partnerships. Following university-industry FGDs and KIIs with key stakeholders, the review team would lead facilitated sessions in which government (MOET), USAID, and BUILD-IT representatives could collaboratively reflect on key challenges and opportunities identified in university and industry FGDs.

Respondent Sample. The study will engage a sample from the following illustrative categories of stakeholders. Those expected to be at the April 9 annual meeting are noted, a sample of people in those positions will also be asked to participate in further data collection (KIIs, FGDs, and/or other methods to be specified in the inception report). This list is intended to reflect the categories of stakeholders to include the inception report will elaborate the sample size, as well as the specific methods and methodology of the review.

- BUILD-IT university partners (six universities with active partnerships)
    - University leadership (annual meeting)
    - Faculty/staff active in program accreditation
    - Master trainers/faculty involved in project-based learning, MIS, or other partner-supported activities.
    - IAB members (university and industry members)
- BUILD-IT industry partners
    - Software/technology/manufacturing companies Learning Management Systems member hub (Oracle), autonomous vehicle programming and cloud computing (Amazon Web Service), support for MIS, student competitions and capstone projects, automation lab (Rockwell, Dow, Siemens, SHTP Incubation Center, etc.); Moodle trainings (Pearson), etc.
        - Leadership (annual meeting)
        - Local representative(s)—familiar with implementation of partnership
- BUILD-IT ASU staff
    - Leadership (annual meeting)
    - Vietnam local staff—familiar with implementation of partnerships
- MOET
    - Representative(s) (annual meeting)
- Ministry of Industry and Trade
    - Representative(s) (annual meeting)

SPECIFIC TASKS AND TIMELINE

SPECIFIC TASKS AND TIMELINE		
TASKS	**TIMELINE** (Dates: morning Vietnam/evening prior day U.S.)	**RESPONSIBLE**
1. Sustainability Review		
Revised SOW sent for review/comments	Tuesday March 9	Learns Review Team, submit to USAID/ASU for review comments within 2 days (AM Vietnam, Thursday March 11)
Meeting on revised SOW	Thursday March 11	Learns, USAID, and ASU meeting
SOW finalized and resubmitted	Approved SOW Thursday March 18	Learns resubmits final SOW to USAID
Kick off (with TL, TM), USAID & ASU Learns—questions to bridge SOW to inception report & Learns presents draft plan for annual meeting facilitation	Week of March 29th	Learns, USAID, and ASU meeting
Finalization of facilitation plan & preparations	Week of April 5th	Learns, USAID, ASU meeting (if needed, or email updates)
University-Industry-GOV partnership meeting—Learns to use part of remote meeting to kick off data collection (interactive real-time survey) and reflection	Friday April 9th	Learns—Facilitation of online meeting segment
Inception report submitted	Tuesday April 13th	Learns submits inception report USAID (& ASU) - 1 week review (comments by April 20th, Final inception report by 27th)
Remote data collection: KII, FGDs—data collection check-in meetings	Starting April 27th (3 weeks) Week of May 3 & Week of May 17 (if needed)	Learns, USAID, ASU meeting
Out-brief/initial pause & reflect facilitated session	Week of May 24	Learns reports out initial findings to USAID, ASU

SPECIFIC TASKS AND TIMELINE		
Submit draft sustainability review	Thursday June 24	Learns Review Team USAID + ASU review (2 weeks), comments by June 24, revisions (2 weeks) by July 8
Revise & Submit Final Report	Thursday July 22	Learns Review Team USAID final approval
Sustainability results/reflection event with USAID, ASU, and government partners—verify recommendations and establish actions	Week of July 26	Learns—Facilitation event with input from Research USAID + stakeholders (including MOET)—attend
Submit 2 pager summary/action reports with recommendations from reflection event	Thursday Aug. 5	Learns Review Team

DELIVERABLES

Inception report, following USAID report formatting

Final report, following USAID formatting

(2) Two-page summary/action reports tailored for USAID and GVN (MOET)

United States Agency for International Development
Hanoi, Vietnam