Proactive Assessment for Collaboration Success: A Government–Academia–Industry Joint Training Project

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Abstract
This study describes a government–academia–industry joint training project that produces Vietnamese midlevel technical managers. To ensure collaboration success, a proactive assessment methodology was developed as a supplement to the conventional project management practices. In the postproject feedback, the funding agencies acknowledged that the project fulfilled its contractual obligations and achieved its objectives. The implementing university was pleased as it broke ground in this type of collaboration in Taiwan. The industrial partners, however, were not so sure about the effectiveness of this collaborative training endeavor because there were many skirmishes between company supervisors and Vietnamese interns caused by the interns’ self-interested perception and expectation. Consequently, a theoretical framework for predicting internship acceptance and preventing unfavorable perceptions was proposed to strengthen the proactive assessment methodology. Collaboration research, funding agencies, academia, and industry could all benefit from this study.

Keywords
collaboration, proactive assessment, collaborative training, internship acceptance

Introduction
There are many Taiwanese-invested companies in Vietnam, staffed primarily by Vietnamese (Ho, 2007). Due to a language barrier, announcements made by Taiwanese upper management often are not well communicated to the Vietnamese managers and workers. Also, due to cultural differences, clashes between Taiwanese and Vietnamese employees often occur. In the worst cases, this results in workers going on strike. Midlevel managers familiar with both Chinese and Vietnamese language and culture could be valuable intermediaries, but are rare to find (Vinh Tung & Hong Hiep, 2005).

The need for midlevel managers with this capability has been voiced to the Taiwan government by many Taiwanese-invested companies in foreign countries. Consequently, the Industrial Development Bureau (IDB) of the Ministry of Economic Affairs has launched an initiative to fund academia–industry joint training that would produce the desired skill set in midlevel managers. A request for proposal (RFP) was issued to the universities in Taiwan in December 2006, and subsequently a total funding of NT$15,558,400 (equivalent to US$486,200) was awarded to the winner (hereafter called the “University”) to train 20 Vietnamese college graduates to become multilanguage, multiculture, and midlevel technical managers.

The Case Project
The case project featured a 2-year master’s degree program and internship in information management. The training for Vietnamese college graduates were conducted in Taiwan. After completing the academic training, the trainees must take on a 3-year resident internship at a Taiwanese-invested company in Vietnam to receive their master’s degree diploma. This case project involved two government agencies, one university, and two companies.

On the government side, the IDB was responsible for making project funding and acceptance decisions and the Ministry of Education was responsible for the approval of the master’s program. On the academia side, the University was responsible for recruiting Vietnamese college graduates and designing a 2-year master’s curriculum that fits the industry partners’ needs, managing the project, and issuing the master’s diploma. The two industry partners provided internship training to the trainees while they were still in
university and resident internship after they completed their course work and master’s theses.

Government agencies contributed 51% of the funds, the University 16%, and the two companies 33%. They were bound by a contractual agreement for the joint training. All trainees received a scholarship that included a waiver of tuition and fees, room and board free of charge, and a living stipend. In exchange for this privilege, they were required to sign a contract (hereafter called the “company-trainee contract”) with one of the two companies. The contract stipulated mandatory internship training and a 3-year resident internship.

The University was an accredited private university of science and technology located in southern Taiwan and established in 1996. The 2-year master’s curriculum consisted of 36 credit-hr for in-class courses, 6 credit-hr for the master’s thesis, and a mandatory 2 days per week internship training. All classes were conducted in English, and a Chinese language proficiency course was mandatory so that the trainees, as future Vietnamese midlevel managers, could bridge the communication gap between Vietnamese workers and Taiwanese upper management. The project manager (PM) was a professor of the Department of Information Management and had more than 20 years of industrial and managerial experience in addition to academic credentials. A full-time assistant project manager (assistant PM) was hired to provide administrative support to the PM. Administrative staff of the University and faculty of the Department of Information Management offered support as needed.

One of the industry partners (whom we will call “Company S”) was founded in 1980 and specializes in metal stamping. Its headquarters and main factory were located in southern Taiwan. The other industry partner (whom we will call “Company N”) was established in 1972, encompasses diverse product segments such as outdoor wear, health care goods, and auto parts, and was also headquartered in southern Taiwan. Both companies had manufacturing plants in Vietnam.

The sites for internship training were within a 20- to 45-min drive from the University campus, respectively. During the first three semesters, trainees went to the companies for practical training 2 days per week, and rotated among different posts to gain familiarity with various job settings. The supervisor at each post served as their mentor. For the last semester, trainees started working full-time as resident interns at the companies. The case project officially started in February 2007 and ended in November 2009, with training coinciding with the academic calendar.

Reasons of Proactive Assessment

The case project had a distinctive profile. First, it had more than two collaborating partners whose organizational cultures, organizational goals, and modes of operation were different. Their self-interests for this case project were also different. Second, the collaborating partners were bound by a contractual agreement. There was also a separate contract between the companies and trainees. Third, most of the trainees did not speak Chinese and had to communicate in English, which was not the native language for them or the collaborating partners. Furthermore, even though, like the Taiwanese, the trainees were raised in a society deeply rooted in Confucianism, their value system, mental model, and traditions were not the same as those of the Taiwanese. Last, the Vietnamese trainees were not really a collaborating partner; they were considered rather like raw materials to be value-added. Yet, their performance throughout the project and later as resident interns would ultimately determine the effectiveness of the project.

The case project was the first of its kind in Taiwan; therefore, it was of great concern to the PM to pay special attention, in terms of proactive assessment, in addition to the conventional project management practices (Mantel, Meredith, Schafer, & Sutton, 2010). Moreover, this cross-cultural training initiative will continue for years to come and funding agencies can apply the assessment methodology developed in this study to project funding decisions as well as project acceptance criteria. The case project could also serve as a “lessons learned” for the academia interested in cross-cultural training. The conduct of the case project could well be a paradigm for effective support to the foreign direct investment. The focuses of the proactive assessment are as follows:

1. What are the success factors of the collaboration project?
2. How do we ensure that all facets of the collaboration satisfy the success factors?

Operational Definition of Collaboration

The scope of collaboration, although broad, has its roots in Bandura’s social cognitive theory, which acknowledges that learning occurs in a social context and results from modeling, imitation, and observation (Ormrod, 1999). A definition of collaboration can be compounded by the interchangeable use of similar terms in educational practice. According to Czajkowski (2006), to study interorganizational relationships in higher education, it was important to differentiate the related terms cooperation, coordination, and collaboration. Czajkowski elaborates on the differences in meaning and use based on structure and formality (Hord, 1986; Mattessich, Murray-Close, & Monsey, 2001).

Cooperation is described as the most informal of the three. In terms of structure and formality, each collaborating party retains its authority and independence with no risk taking involved. Cooperation often rests on a verbal agreement made between organizations to work together to make their programs more successful (Hord, 1986). Such agreements lack a common mission, structure, or joint planning...
(Mattessich et al., 2001). Coordination is more formal than cooperation in that some level of planning takes place between the coordinating parties. Each organization still maintains its authority and identity; however, roles have been defined and the risks involved arise based on the need for both groups to be successful. According to Mattessich et al. (2001), Collaboration is the most formal interorganizational relationship.

In this study, we focus on the collaboration among government, academia, and industry. This kind of collaboration is rather the same as the concept of Triple Helix (TH), which, developed by Etzkowitz and Leydesdorff (2000), favors the creation and distribution of knowledge through intersector collaboration among university, industry, and the government sector (Etzkowitz & Leydesdorff, 2000). Due to the importance of this type of collaboration, recently, many scholars, entrepreneurs, and administrators have attempted to extend the TH model (Chung & Park, 2013). The TH concept has been applied to various complex social contexts (Kim & Park, 2012). The analysis of university–industry–government (UIG) relations has become a key subject of the contemporary TH analysis (Chung & Park, 2013).

Although this study’s focus is the UIG collaboration, what we want to emphasize is the condition to make sure that all partners of UIG relations are able to collaborate together in the training program to “produce” good Vietnamese mid-level managers and how to evaluate the collaboration success. Therefore, the operational definition of collaboration is defined as a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to (a) a definition of mutual relationships and goals, (b) a jointly developed structure and shared responsibility, (c) mutual authority and accountability for success, and (d) sharing of resources and rewards (Mattessich & Monsey, 1992).

The Collaboration Reference Framework

Although each collaborative arrangement is distinctive, collaboration generally follows a common pattern. Gray (1989) posits that collaboration can be divided into three stages: (a) the precondition stage where collaborators come together to form the relationship, (b) the process stage where collaborators interact and make decisions, and (c) the outcomes stage where collaborators assess the effectiveness of their efforts and adapt to change. As noted by Wood and Gray (1991), interagency collaboration increases the quality of results, is necessary to maintain quality programs, maximizes resources, and limits the fragmentation of efforts in business organizations as well as education sectors.

However, Hamilton, Kruger, and Smiley (2005) argue that collaboration is not a panacea nor useful in all circumstances. It can detract from a school’s focus and waste valuable limited resources if the goals are not clear. In addition, Crandall (1977) and others caution that collaboration may be more useful during the planning stages of a project but less suitable for project implementation. Therefore, it is important to examine the conditions or success factors that affect the collaborative process and its outcomes.

From a broad perspective, the seminal meta-analysis study of Mattessich et al. (2001) examined hundreds of scientific studies and pinpointed 20 factors that have been shown time after time to make or break a group effort. Those factors fall into six dimensions: general environment, membership, structure and process, communication, purpose, and resources. Based on extensive review of literature on collaboration (Ivery, 2007; Mattessich et al., 2001; Perrault, McClelland, Austin, & Sieppert, 2011; Thomson, Perry, & Miller, 2009; Wood & Gray, 1991) and past experience in collaborative training, the PM constructed a collaboration reference framework as shown in Figure 1, which highlights the elements as important to the case project.

In the framework, characteristics are the internal attributes inherent in and the external attributes related to the collaborating partners and the Vietnamese trainees. The contextual factors identify certain conditions related to the case project. When a contextual factor is determined to be a success factor, then the condition identified by that contextual factor becomes one of the necessary conditions of collaboration success. The framework also provides five viewpoints for the case project.

From the collaborating partners’ viewpoint, we see characteristics such as organization culture, goal, structure, resources, leadership, mode of operation, and self-interest (Robbins & Judge, 2010). These characteristics can be identified with a carefully designed questionnaire, well-planned interviews, or experienced observation. From the Vietnamese trainees’ viewpoint, we see characteristics such as personality and habits, tradition and belief, value system, communication skills, patterns of conflict resolution, and basic professional skills. Again, these characteristics can be identified with an appropriate questionnaire, interviews, or observation. From the common contextual factors viewpoint, we see the 20 contextual factors and the four potential benefits as described in Appendix A (Mattessich et al., 2001). From the case-specific contextual factors viewpoint, we see four additional contextual factors specific to the case project as described in Appendix B. From the project assessment viewpoint, we see assessments in three different stages (Wood & Gray, 1991):

a. The preparation stage. This stage starts when an opportunity for collaboration becomes present until a collaboration agreement or contract is signed. During this stage, potential partners come together to form the relationship and get ready to work.

b. The implementation stage. This stage starts when the project is officially launched and ends when the project is officially completed. During this stage, activi-
ties for achieving the objectives are carried out by the project members in accordance with their roles and responsibilities.

c. The postproject stage. This stage starts after the project is officially completed and may last for an indefinite period of time.

This demarcation of stages enables proactive assessment of project progress in addition to reactive assessment of project outcomes.

The Proactive Assessment Process

A review of the literature yielded several models developed to assess collaboration. In the development, researchers have used the theory of collaboration and the research on collaboration to create tools to assist in determining the effectiveness of the collaborative process (Czajkowski, 2006; Gajda, 2004). In the Collaboration Success Measurement Model, Czajkowski (2006) organizes the success factors of collaboration gleaned from a synthesis of the research, the theory of collaboration, and her study into three collaborative stages. The stages consist of a precondition stage, followed by the process stage, and conclude with the outcomes stage. Communication as a success theme in collaboration is an integral part of each stage and Czajkowski recommends that any summative program evaluation conducted during the outcomes stage includes how and whether the collaboration should continue, be restructured or ended. Czajkowski used the 20 contextual factors as categories and collected data from 52 respondent educational institutions in collaboration, using three sources: (a) an adapted version of the Wilder Collaboration Factors Inventory, (b) semistructured telephone interviews of key respondents, and (c) review of extant data received from the key respondents. The key success factors found in her study are

- Trust and partner compatibility
- Common and unique purpose
- Shared governance and joint decision making
- Clear understanding of roles and responsibilities
- Open and frequent communication
- Adequate financial and human resources.

Rationale for Using Qualitative Research Methods

Qualitative research is most often used in the social sciences. It differs from quantitative research in many ways. First, sampling is typically not random but is purposive. That is, cases are chosen based on the way that they typify or do not typify certain characteristics or participate in a certain class. Second, the role of the researcher is key. Researchers must reflect on their role in the research process and make this clear in the analysis. Third, data analysis differs considerably. Researchers must carefully code data and discern themes in a consistent and reliable way.

One way of differentiating qualitative research from quantitative research is that largely qualitative research is exploratory (i.e., hypothesis-generating), whereas quantitative research is more focused and aims to test hypotheses. However, it may be argued that each reflects a particular discourse; neither being definitively more conclusive nor “true” than the other. In addition, qualitative research speaks to content validity—Do measures measure what a researcher thinks they measure? Quantitative data are of the kind that may lead to measurement or other kinds of analysis involving applied mathematics, while qualitative data cannot always be put
into a context that can be graphed or displayed as a mathematical term. However, qualitative data may be useful to explain puzzling quantitative results, or may be used to generate additional variables to include in an analysis.

Collaboration has recently become a common topic of research across many disciplines. The research that informed the design of this study, therefore, was drawn from a variety of professional fields including health care, nursing, special education, general education, science education, and arts education. All of the studies that were reviewed utilized qualitative research methods. The qualitative data collection methods that were used in these studies included (a) structured and semistructured interviews, (b) survey, (c) observation, and (d) focus groups. The researcher considered the applicability and relevance of these methodologies when designing the current study.

**Data Collection Instruments and Procedures**

We decided to apply triangulation method to collect data because this is a method used by qualitative researchers to check and establish validity in their studies by analyzing a research question from multiple perspectives (Golafshani, 2003). Data triangulation involves using different sources of information to increase the validity of a study. In this study, these sources are stakeholders in a program—participants, other researchers, program staff, other community members, and so on. The PM also mapped out a strategy for the proactive assessment as shown in Figure 2. Different data collection instruments and procedures are used for different tasks, as described below.

**Task 1—Determining the Success Factors of Each Stage**

The success factors of the case project are defined as necessary conditions that must be satisfied or else the project will be compromised or will fail (Cook-Davies, 2002; Mattessich et al., 2001; Perrault et al., 2011). A focus group was used for this assessment task (Sekaran, 2002). It is preferred to the Delphi method because it facilitates face-to-face exchange of ideas and fosters brainstorming. A focus group could also reach a consensus in one meeting compared with the Delphi method that would have required several iterations over different meetings. On March 29, 2007, a focus group meeting was convened. The focus group consisted of one moderator and eight participants (see Table 1).

The sequence of events that took place is as follows:

1. The moderator (played by the PM) introduced herself and the eight participants.
2. The moderator stated the objective of this focus group session: to identify the success factors of each project assessment stage based on the contextual factors.
3. The moderator, in the capacity of PM, gave a 10-min presentation about the case project.
4. The moderator cited the working definition of a success factor.
5. The moderator handed out to each participant an explanation of the contextual factors (see Appendices for data collection and procedures).
A and B) and an opinion sheet on success factors. An opinion sheet is the same as a blank tally sheet shown in Table 2. The moderator asked the participants to mark on the opinion sheet, for each contextual factor, whether it is a success factor of a particular project assessment stage, of more than one stage, or of none of the stages.

6. After the participants completed and turned in their opinion sheet, a tally sheet was generated, tabulating yes-votes for each contextual factor at each assessment stage (see Table 2).

7. For each project assessment stage, if a contextual factor received 6 or more yes-votes out of 8 votes, it was considered a success factor. If it received 3 or less yes-votes, it was disqualified to be a success factor. If it received 4 or 5 yes-votes, it was considered as undecided. Additional contextual factors suggested by the participants were also considered as undecided.

8. Each undecided factor went through brainstorming on its merit of being a success factor. Then a poll was taken. If it received 5 or more yes-votes, it became a success factor. The final success factors of each assessment stage for the case project are shown in Table 3.

**Task 2—Assessing Project Readiness at the Preparation Stage**

Assessing project readiness is a proactive measure. Even though the Wilder Collaboration Factors Inventory (Mattessich et al., 2001) is available for assessing collaboration readiness, a focus group would be more suitable because the predefined collaboration factors may not completely address the distinctive profile of the case project.

In the same afternoon of the focus group meeting, another session was convened to assess the readiness of the case project. This time the moderator played the role of the PM trying to justify the project readiness while the participants played the judges. The PM handed out a list of success factors of the Preparation Stage (see column “Preparation Stage” of Table 3) and a piece of blank paper to each of the judges. With respect to each success factor, the PM justified project readiness with supporting evidence, and the judges wrote down their comments if they had reservations about the justification. The PM collected the comments and the session was adjourned.

**Task 3—Uncovering Hidden Problems at the Implementation Stage**

The cultural and social background of the Vietnamese trainees will certainly influence their perception, attitude, and behavior toward their living and working conditions (Robbins & Judge, 2010). Therefore, the PM must strive to prevent any unpleasant incidents. Considering the manageable sample space, face-to-face interviews were used for this assessment task.

Two months after the project was launched—when members of the project still had fresh impressions of the project activities—the PM conducted a series of face-to-face interviews with selected members. Each interview session lasted from 15 to 30 min and focused on the success factors of the Implementation Stage. The interviewees consisted of all 18 Vietnamese trainees, four course instructors, four internship supervisors, and two members from the administrative staff. Interview minutes were taken for later analysis.

**Task 4—Tracking Realized Benefits at the Postproject Stage**

Stakeholders consist of individuals, groups, and organizations that have a perceived interest or impact on the case project. After project completion, the trainees returned to Vietnam to work as resident interns for their designated plants or offices. Their whereabouts were easily tracked through the companies and classmates. Also, the PM kept in touch with the funding agencies and the two industrial partners. Therefore, telephone interviews were used to solicit their postproject feedback about the collaborative effort.

Three months after project completion, the PM called the stakeholders for their feedbacks.

**Findings and Discussion**

**Task 1—Determining the Success Factors of Each Assessment Stage**

During the brainstorming session, the consensus was that the “General Environment” dimension is inconsequential because the RFP had already been issued. Three out of the four success factors in the “Membership” dimension were applicable to all three stages. “Flexibility,” “Adaptability,” and “Appropriate pace development” in the “Structure and Process” dimension were not applicable to the case project because the project was bound by contractual agreement. The “Communication” dimension was important to all three stages. The “Potential benefits” dimension was only applicable to the Postproject Stage because the benefits could not be realized until the project has completed. Success factors in the “Case-specific” dimension would affect all three stages and, therefore, deserve special attention. “Skilled leadership” was a critical success factor of the case project.

In addition, some participants argued that enthusiasm and attitude are two critical components of skilled leadership.

The PM considered herself a skilled leader with enthusiasm and diligence (Muller & Turner, 2010). She urged the course instructors, internship supervisors, and administrative staff to be sensitive to the trainees and took every
opportunity to instill the importance of mutual respect, understanding, and trust in the trainees. The PM also designated the assistant PM as the point of contact for project members and trainees because she is at the office most of the time. Every significant conversation between a project member and the assistant PM was logged for the PM to review.

**Table 2. Tally Sheet on Success Factors.**

The contextual factor is also a success factor of  

| The contextual factor is also a success factor of | Preparation stage | Implementation stage | Postproject stage |
|-------------------------------------------------|-------------------|---------------------|------------------|
| **For each contextual factor of the case project, please indicate whether it is also a success factor of one or more assessment stages. You may disqualify any of the contextual factors or add new ones.** | | | |
| **Common contextual factors** | | | |
| General environment | | | |
| History of collaboration in the community | 4 | 0 | 0 |
| Collaborative group seen as a legitimate leader in the community | 4 | 0 | 0 |
| Favorable political and social climate. | 5 | 1 | 2 |
| Membership | | | |
| Mutual respect, understanding, and trust | 8 | 8 | 8 |
| Appropriate cross-section of members | 2 | 6 | 0 |
| Members see collaboration as in their self-interest | 7 | 7 | 7 |
| Ability to compromise | 8 | 8 | 8 |
| Structure and process | | | |
| Members share a stake in both process and outcome | 8 | 8 | 7 |
| Multiple layers of participation | 3 | 6 | 4 |
| Flexibility | 3 | 3 | 2 |
| Development of clear roles, responsibility, and policy guidelines | 8 | 8 | 6 |
| Adaptability | 3 | 3 | 2 |
| Appropriate pace development | 3 | 3 | 2 |
| Communication | | | |
| Open and frequent communication | 8 | 8 | 8 |
| Established informal relationships and communication links | 8 | 8 | 8 |
| Purpose | | | |
| Concrete, attainable goals and objectives | 8 | 8 | 6 |
| Shared vision | 5 | 5 | 0 |
| Unique purpose | 7 | 7 | 5 |
| Resources | | | |
| Sufficient funds, staff, materials, and time | 5 | 8 | 5 |
| Skilled leadership | 8 | 8 | 8 |
| Potential benefits | | | |
| Financial benefits | 0 | 0 | 6 |
| Business growth | 0 | 0 | 8 |
| Fulfilling an organization’s education/training mission | 0 | 0 | 8 |
| Enhancing organizational reputation | 0 | 0 | 7 |
| Case-specific contextual factors | | | |
| Reconciliation of cultural differences | 6 | 8 | 8 |
| Adequate proficiency in English and Chinese language | 6 | 8 | 8 |
| Curriculum design | 8 | 8 | 8 |
| Internship arrangements | 8 | 8 | 8 |

**Task 2—Assessing Project Readiness at the Preparation Stage**

The comments from the focus group indicated that the project was well prepared. The only concern was that the internship lacked a formal mechanism for quality assurance. To address this, the PM designed an evaluation form for the
internship supervisors to grade the trainees’ performance. The grading was then counted as partial fulfillment toward
the master’s degree.

**Task 3—Uncovering Hidden Problems at the Implementation Stage**

Interviewees’ responses that hinted at problems were categorized as follows:

1. Those related to communication

   **Course Instructor:** Sometimes when I explain something to the trainees (in English, of course), I am not sure
   they really understand. There was very little interaction in class.

   **Internship Supervisor:** When assigning tasks to the trainees, it takes a lot of time to make them understand what we want. Sometimes, I thought we understood each other, but the outcomes show otherwise.

   **Trainee:** When I have a question to ask the course instructor or the supervisor, I am afraid I cannot phrase my question clearly. When we have discussions, I am not sure we are talking about the same thing.

   **Trainee:** Communication between students, the university, and the company need to be improved. I hope that there is official channel for us to voice our concern.
2. Those related to curriculum

Trainee: My undergraduate major is not IT-related and I have great difficulty in class. I wish a tutor is available to help me out.

Trainee: Some courses are more theoretical than practical. I don’t know I will ever need them for my job.

3. Those related to internship

Trainee: I feel the internship supervisors should have taken more time to know my background and skills. I’m not just some average guy in the company.

Trainee: Basically, I have been underused in my internship. I repeatedly asked for more respectable tasks, but to no avail.

Trainee: Company had little or no planning for its internship program, and as a result most interns did not have a structured assignment upon arrival.

Trainee: I do not have a mentor who would take the time to see that I learned the details of the job which I believe would have made me more valuable to them.

Trainee: There was no formal orientation to the company. I was quite literally thrown into the fray.

4. Those related to culture

Internship Supervisor: Taiwan and Vietnam are both Asian countries, and they have rather similar culture. If some students have different viewpoints with the ways of training, that is their prejudice. They think they are intellectuals and should get better treatment than merely as workers. In reality, they will be midlevel managers someday so they must mingle with workers to understand workers.

The PM attributed the communication problem to the language barrier. Actually, all of the trainees have above-average English language proficiency as demonstrated by their Test of English for International Communication (TOEIC) score. This was the first time they had to communicate with others extensively in English and it is understandable that they were frustrated when they found that neither their speaking fluency nor their listening comprehension was adequate. This problem takes time and effort to resolve. As to an official communication channel, what the trainees really wanted was access to a higher authority to voice their dissatisfaction, especially regarding the condition of their internship. The PM insisted that they talk to the assistant PM first, as she is the designated point of contact.

The curriculum was designed jointly by the faculty of the Department of Information Management and the two industrial partners. It had purpose that the trainees may not have been aware of. Also, it is common that some of the graduate students of the Department of Information Management came from other disciplines. If self-study could not make up their deficiency, teachers encouraged them to sit in an appropriate undergraduate class.

The internship problem is intertwined with the cultural problem, as evidenced by the internship supervisor’s comment. The PM sensed the seriousness of this problem and called a meeting with all trainees. She listened to their grievances and urged them to give up their prejudice. After all, they accepted the company-trainee contract and enjoyed the benefits of the scholarship. If they felt either the contractual obligation or the working condition was not acceptable, they should have backed out of the deal right away to avoid penalty. After this discussion, all the trainees decided to stay.

Task 4—Getting Feedback From Stakeholders at the Postproject Stage

The funding agencies acknowledged that the case project fulfilled its contractual obligations and achieved its objectives. They were satisfied and would fund collaboration projects of this kind in the future. The University was pleased as it broke ground in this type of collaboration and has gained a lot of publicity. The administrative staff has learned more about how to deal with international students.

The industrial partners were not so sure about the effectiveness of this collaborative training endeavor. They had many skirmishes with the Vietnamese trainees during the internship training and the resident internship. They felt that the trainees demanded too much but contributed too little. The companies claimed that they have followed the company-trainee contract to the letter but the resident interns did not keep their end of the bargain.

The resident interns, however, were bitter about the treatment they received from the companies. They felt that the companies belittled them and treated them like cheap labor. Disregarding the contractual stipulation, they insisted that they now hold a master’s degree and work for a Taiwanese-invested company; therefore, they should be paid at Taiwanese scale and at the master’s level of qualification.

The companies offered a small salary increase and about one third of the interns stayed with the companies. Another one third of the interns were willing to pay a nominal penalty and terminated the company-trainee contract. The rest simply quit unilaterally and the companies threatened to sue them for breach of contract.

The collaboration reference framework captured the essence of the case project. The proactive assessment process was deemed sound and practical by the focus group. The PM carefully exercised proactive assessment in addition to the conventional project management practices. But still, the resident internship received such poor acceptance. So, what went wrong?

Confucianism has strongly influenced Chinese and Vietnamese culture. “Thou shalt respect your teacher” is social norm for both peoples, and that was why the PM considered the Vietnamese trainees as raw materials to be value-added. That was also why the trainees behaved rather well at
school. However, when they became resident intern, they considered themselves an employee and had different expectations. In short, the acceptance of the internship arrangement deserves deeper analysis.

In the Management Information Systems (MIS) field, Technology Acceptance Model (TAM) explains how and why employees make a decision about the adoption and use of information technologies (ITs) in the workplace (Davis, 1989; Venkatesh & Davis, 2000; Venkatesh, Morris, Davis, & Davis, 2003). According to the model, the acceptance of a new technology by a user is based on two factors: Perceived Usefulness, which refers to how much the user believes that the technology will help to improve the performance/efficiency, and Perceived Ease of Use, which refers to what extent the user is comfortable in using the features of the technology. These two factors then determine the attitude of the user toward using the technology. The model also goes on to say that the Perceived Usefulness will also influence the behavioral intention to use. The attitude determines the behavior that in turn influences the actual acceptance. Venkatesh and Bala (2008) further noted that the even more important issue is how managers make informed decisions about interventions that can lead to greater acceptance and effective utilization of IT. Following their ideas, this study constructed a theoretical framework as an extension of TAM to explain the Vietnamese resident interns’ behavior regarding the internship arrangement (Figure 3).

The theoretical framework shows four different types of determinants of “perceived usefulness of the internship” and “perceived ease of fulfilling the internship”:

- **Individual differences** include personality and English/Chinese language proficiency that can influence individuals’ perceptions of usefulness and ease.
- **Internship characteristics** are those salient features of the internship arrangement that can help individuals develop favorable (or unfavorable) perceptions regarding the usefulness or ease.
- **Culture and social norm** capture various social processes and mechanisms that guide individuals to formulate perceptions of various aspects of the internship arrangement.
- **Workplace conditions** represent organizational support that facilitates the fulfillment of the internship.
- **Self-interest** is a moderating factor that influences the decision-making process from “Behavior intention” to “Acceptance behavior.”

Using the proposed theoretical framework in the context of this case project, the resident interns’ perception and acceptance of the internship can be clearly explained in terms of the four determinants and the moderating factor:

1. **Individual differences**: Each resident intern’s tolerance toward the difficulty of a task assignment may be different. Those with low tolerance could have negative perception regarding the ease of fulfilling the internship. Language barrier may also cause misunderstanding between supervisors and resident interns. For example, if a supervisor could not explain eloquently why a task is assigned and why it is relevant to the role of midlevel manager, the communication gap could negatively influence the interns’ perception of usefulness of the internship.

2. **Internship characteristics**: The resident interns thought the internship was supposed to prepare them for a midlevel manager, so they expected to sit in an air-conditioned office meditating issues of strategic importance. In reality, it was not so. The company...
also refused to pay them the prevailing salary commensurate with their qualifications because they were still in internship. This further exasperated the interns. They countered that if the company wanted to treat them as interns then a well-designed and structured internship program should be implemented, instead of having them do the same chores as other workers day in and day out. These disappointments and disputes could negatively influence the perceived usefulness of the internship (Ng & Dastmalchian, 2011).

3. Culture and social norm: Vietnamese society has great respect for the people with higher academic credential. In fact, one with a master’s degree is qualified for a college lecturer, and even for a college president. With the ongoing internship arrangement, the trainees really did not have much to report home. Therefore, the lack of prestige could negatively influence the perceived usefulness of the internship.

4. Workplace conditions: Toiling at the assembly line with other blue-collar workers and seeing no light at the end of the tunnel was what the resident interns felt. They also felt that the supervisors belittled them (maybe a misunderstanding due to language barrier). This kind of workplace condition could negatively influence the perceived ease of fulfilling the internship (Hsiung & Yang, 2011; Newman, Thanacoody, & Hui, 2011).

5. Self-interest: In their daily life, Vietnamese people have much freedom to do almost anything as long as they do not openly challenge the communist ideology or engage in activities against the communist regime. For example, one can get away with ignoring traffic regulations, spitting on street, talking loud in public, being tardy with appointment, infringing on copyright, and so on. The self-interest is often conditioned by these irregularities and that was why some disgruntled resident interns simply breached the company-trainee contract without remorse (Liu & Ding, 2011).

Now that we have identified the causes of negative perceptions regarding the internship arrangement, and the negative mediating factor that leads to regrettable “acceptance behavior,” similar joint training projects in the future should be able to avoid these pitfalls.

Conclusion

This study developed a proactive assessment methodology for collaboration success, which includes a collaboration reference framework and a proactive assessment process. It also proposed a theoretical framework for predicting the acceptance of internship training and for preventing unfavorable perceptions. It should be noted that all of these have only been validated with a single case project. More case study research may be needed to establish their generality.

Contributions of this study are summarized in four aspects. To collaboration research, the collaboration reference framework, the proactive assessment process, and the theoretical framework for predicting internship success provide a base for having them further integrated and refined to become a general model of collaboration success.

To funding agencies, after conducting data analysis, there are three sets of the success factors for different stages of collaboration project. Funding agencies will use them to assess following projects before they agree to support any project as well as to control the implementation or evaluate the final results of projects. The success factors may be used in making project funding decisions and setting project acceptance criteria.

To academia, the proactive assessment methodology may be employed in addition to typical project management practices for academia–industry collaborative training. The chronicle of the case project may also serve as teaching material for case studies.

To industry, companies may gain better understanding of collaboration by referring to the collaboration reference framework. By applying the theoretical framework to understand how and why trainees make a decision about accepting and fulfilling the internship training, upper management can make informed decisions about interventions that can lead to greater acceptance and effective implementation.

The findings provide some direction for organizations seeking to design more effective internship programs. Specifically, the findings suggest seven ways in which organizations can improve the implementation stage. First, careful attention must be given to matching the skills and abilities of the trainees with the needs of the industry partners. Achieving good fit between trainees and companies means that universities must have sufficient data concerning both trainees’ skill as well as the skills required of internship jobs themselves. Adequate attention, then, must be given to both assessing the skills of trainees prior to their assignments and assessing the internship responsibilities themselves. Based on the data in this study, it appears that there may be a tendency for universities and host organizations to consider only trainees’ areas of specialization (or majors) in determining what their skills are. However, even students within a given major are likely to have different levels of skills and experience, particularly in terms of language competency and cultural training.

Second, many trainees in this study felt as if there had been insufficient communication between trainees and the university as well as between them and companies. The findings here suggest that the lack of communication and coordination between these parties contributed to intern underutilization. It is essential to set up more opened-links among trainees, university, and companies.
Third, proper consideration must be given to the specific goals and project assignments of overseas trainees. In particular, assignments are more likely to foster learning when trainees have specific goals to accomplish, specific projects to complete, and specific new skills to develop on the internship. Without specific guidance, trainees may spend an excessive amount of time trying to discover the purpose for which they are there to learn and accomplish. Again, it would be preferable if goals and objectives were developed in advance of the assignment through joint discussions among trainees, university, and companies.

Fourth, trainees appear to benefit more from formal, structured internship programs than from informal, ad hoc training. Where possible, companies should try to provide a clearer training structure for trainees. However, because many organizations only employ one or two trainees at a time, the use of on-site mentors might be a feasible alternative. If trainees do not receive either structured training or careful mentoring, it is unlikely that their internships will be successful.

Fifth, trainees in organizations that are relatively inexperienced in dealing with overseas trainees are more likely to encounter skill underutilization. Thus companies should look to more experienced organizations for guidance in developing their internship programs. Universities, too, could share information concerning the different approaches taken by the more successful internship programs with which they deal, thereby allowing other organizations to use these programs as a benchmark.

Sixth, after the internships have ended, an evaluation of the success of the internship should be conducted by the companies. Student feedback is essential for continuous quality improvement in internship programs, both from the university’s perspective and the employer’s perspective. Moreover, in designing the evaluation process, greater attention needs to be paid to specific learning and performance objectives.

Last, as discussed earlier, graduate students who have relocated overseas are likely to have higher expectations regarding job challenge and skill utilization than domestic, undergraduate trainees. Graduate student trainees whose assignments fail to live up to their expectations are likely to feel especially disappointed. More attention is needed to ensure that trainees have realistic expectations with regard to their internship assignments. For this reason, companies should give trainees realistic previews of their internship assignments. By giving trainees more realistic portrayals of their likely job duties and responsibilities, the probability of unrealistically high expectations should be reduced.

Due to limited time and accession, this study has the following limitations. This study just focuses on the case project. However, this is also the first project in university as well as in industry partners’ companies; hence, most of the stakeholders of this project have no deep understandings about it. So it is very difficult for researchers to collect related information. The same kinds of collaboration projects but in different field with different partners there are also have some specific features; to apply the findings of this study for other projects, the users need to have some adjustments as well as modifications which are suitable with their own projects. With regard to uncovering hidden problems, this study cannot interview all participants. This study just selects some representatives for each group, and most of them are people who attend to teaching and training Vietnamese trainees. However, in the implementation stage, there are also some hidden problems among collaborating partners.

Based on issues raised as a result of the literature and the research findings, the following recommendations are suggested for further study. Additional studies aimed at understanding various aspects of collaboration are needed. For example, what are the long-term effects of collaborative efforts and how stable are the outcomes negotiated in the collaborative area? What are the boundaries of the collaborative efforts? How can the uncertainty associated with the collaborative process be minimized? By doing a qualitative measure, this study’s findings are not generalized well.

This study is restricted to one case project; it just provides deep rich description that allows in-depth insights and contributes to the understanding of the issue. Additional quantitative research is also needed to determine whether mentioned success factors are useful. Since project collaboration has the same idea with TH concept which describes the interactions among universities, industries, and government agencies, the mutual relations between university and industry, university and government, or industry and government have their own special characteristics. To measure the success of collaboration, it is also essential to view mutual relations separately. In a study, Leydesdorff, Park, and Lengyel (2012) discuss the indicators to measure this kind of two-dimensional interactions. Further studies also can focus on this perspective to make the “proactive assessment for collaboration success” more comprehensive.
## Appendix A

### Explanation of the Common Contextual Factors

| Contextual factor | Explanation |
|-------------------|-------------|
| **General environment** |  |
| 1. History of collaboration in the community | Collaborating partners have a history of working together in the community. Collaboration has been common in this community. |
| 2. Collaborative group seen as a legitimate leader in the community | The collaborative group (and by implication, the agencies in the group) is perceived within the community as reliable and competent—At least related to the goals and activities it intends to accomplish. |
| 3. Favorable political and social climate | Political leaders, opinion makers, persons who control resources, and the general public support (or at least do not oppose) the mission of the collaborative group. |
| **Membership** |  |
| 4. Mutual respect, understanding, and trust | Members of the collaborative group share an understanding and respect for each other and their respective organizations: How they operate, their cultural norms and values, limitations, and expectations. |
| 5. Appropriate cross-section of members | To the extent that they are needed, the collaborative group includes representatives from each segment of the community who will be affected by its activities. |
| 6. Members see collaboration as in their self-interest | Collaborating partners believe that they will benefit from their involvement in the collaborative effort and that the advantages of membership will offset costs such as loss of autonomy and turf. |
| 7. Ability to compromise | Collaborating partners are able to compromise because the many decisions within a collaborative effort cannot possibly fit the preferences of every member perfectly. |
| **Structure and process** |  |
| 8. Members share a stake in both process and outcome | Collaborating partners have invested the right amount of money and time in the collaborative effort. The level of commitment among the collaborating partners is high. |
| 9. Multiple layers of participation | Every level (upper management, middle management, operations) within each partner organization has at least some representation and ongoing involvement in the collaborative effort. |
| 10. Flexibility | When decisions are made, members are open to discussing different options. Members are willing to consider different ways of working. |
| 11. Development of clear roles and policy guidelines | The collaborating partners clearly understand their roles, rights, and responsibilities, and they understand how to carry out those responsibilities. |
| 12. Adaptability | The collaborative group has the ability to sustain itself in the midst of major changes even if it needs to change some major goals, members, and so on. |
| 13. Appropriate pace development | The collaborative group has tried to take on the right amount of work at the right pace. The project is currently able to keep up with the work necessary to coordinate all the people, organizations, and project activities. |
| **Communication** |  |
| 14. Open and frequent communication | Collaborative group members interact often, update one another, discuss issues openly, and convey all necessary information to one another and to people outside the group. The people who lead this collaborative group communicate well with the members. |
| 15. Established informal relationships and communication links | In addition to formal channels of communication, members establish personal connections—Producing a better, more informed, and cohesive group working on a common project. |
| **Purpose** |  |
| 16. Concrete, attainable goals and objectives | Goals and objectives of the collaborative group are clear to all partners and can realistically be attained. |
| 17. Shared vision | Collaborating partners have the same vision, with clearly agreed upon mission, objectives, and strategy. The shared vision may exist at the outset of collaboration, or the partners may develop a vision as they work together. |
| 18. Unique purpose | What the collaborative effort is trying to accomplish would be difficult for any single organization to accomplish by itself. |

(continued)
### Appendix A (continued)

| Contextual factor                                  | Explanation                                                                                                                                                                                                 |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Resources**                                      | No other organization in the community is trying to do exactly what the collaborative effort is trying to do.                                                                                               |
| **19. Sufficient funds, staff, materials, and time**| The collaborative group has an adequate, consistent financial base, along with the staff and materials needed to support its operations. It allows sufficient time to achieve its goals and includes time to nurture the collaboration. |
| **20. Skilled leadership**                         | The individual who provides leadership for the collaborative group has organizing and interpersonal skills, and carries out the role with fairness. Because of these characteristics (and others), the leader is granted respect or “legitimacy” by the collaborating partners. |

| **Potential benefits**                             |                                                                                                                                                                                                            |
| **21. Financial benefits**                         | Increased university and partner revenue.                                                                                                      |
|                                                   | Reduced training costs per employee.                                                                                                              |
|                                                   | Some revenue for project development.                                                                                                            |
|                                                   | Increasing support for research projects.                                                                                                        |
| **22. Business growth**                           | Opportunity for follow on business.                                                                                                              |
|                                                   | Attracted students for degree programs.                                                                                                          |
|                                                   | Enhanced partner’s marketing.                                                                                                                   |
|                                                   | Extended the reach of the university.                                                                                                            |
| **23. Fulfiling an organization’s education/training mission** | Best use of company’s training resources.                                                                                                      |
|                                                   | Fulfills company training requirements for specific courses.                                                                                      |
|                                                   | Occasional use of academic knowledge and courses to supplement industry training.                                                               |
|                                                   | Providing a staffing source.                                                                                                                     |
| **24. Enhancing organizational reputation**       | Better name recognition for both parties.                                                                                                       |
|                                                   | Public relations benefit and local credibility from the partnership.                                                                             |

*Source: Mattessich, Murray-Close, and Monsey (2001).*

### Appendix B

**Explanation of the Case-Specific Contextual Factors**

| Contextual factor                              | Explanation                                                                                                                                                                                                 |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **1. Reconciliation of cultural differences**  | Conduct orientation seminar on cultural differences                                                                                                                                                       |
| **2. Adequate proficiency in            ** | Establish mediating mechanism for resolving conflicts due to cultural differences                                                                                                                                |
| **English and Chinese language**          | Proper selection of trainees, course teachers, and internship supervisors to ensure their adequate proficiency in English language                                                                                     |
| **3. Curriculum design**                  | Provide remedy course for the trainees who are not familiar with Chinese language                                                                                                                                 |
| **4. Internship arrangements**            | Social organization of the course                                                                                                                                                                          |
| **5. Curriculum design**                  | Selection of course content, progression, and learning activities                                                                                                                                            |
| **6. Curriculum design**                  | Selection of course materials                                                                                                                                                                              |
| **7. Curriculum design**                  | Selection of a mode of interaction in the course                                                                                                                                                            |
| **8. Curriculum design**                  | Selection of the technological platform supporting the course                                                                                                                                                |
| **9. Curriculum design**                  | Language used in the course                                                                                                                                                                                |
| **10. Curriculum design**                 | Conditions under which the course is given (entirely distance or a hybrid approach)                                                                                                                     |
| **11. Internship arrangements**           | Does the internship reinforce the trainees’ skills learned at school and prepare them for their expected work environment?                                                                               |
| **12. Internship arrangements**           | Does the company provide transportation or dormitory for the trainees to go to work?                                                                                                                     |
| **13. Internship arrangements**           | Do the supervisors have adequate English proficiency to communicate with the Vietnamese trainees?                                                                                                          |
| **14. Internship arrangements**           | Do the supervisors have a say in the trainees’ performance?                                                                                                                                                |
| **15. Internship arrangements**           | Do the company and the school communicate often about the trainees’ problems and needs?                                                                                                                    |
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