I. Introduction

As engineering educators and mentors, it is important for us to be aware of the current trends and research on expatriate assignments. Many of our students will accept jobs in multinational organizations and will be expected to work on cross-national project teams, often in international settings. However, the existing literature on expatriate assignments tends to fall into very focused, topical groupings. While many theoretical and empirical papers have addressed individual elements of the expatriate experience (i.e., cross-cultural training), little has been done to consider the assignment in its entirety. This is an oversight because each "stage" of an expatriate assignment influences other stages and ultimately affects the expatriate engineer’s or engineering manager’s career success.

The model presented in this paper follows a logical approach to the expatriate assignment: The firm must decide whether it needs an expatriate, it must recruit a qualified candidate, and perhaps provide training and orientation. The expatriate must move abroad, adapt, perform the work, and return home to an organization that may have changed. Throughout the process, the engineer's career aspirations and the organization's goals will impact how the individual and the organization progress through each stage of the model. In addition, a crucial influence is the strategic orientation of the firm. Current research and sage advice on expatriate assignments rarely considers this important determinant of the expatriate experience, but our students must know this if they are to succeed in an increasingly-competitive global market.

In this paper, the primary argument is that educators should understand and explain the whole assignment for potential future expatriate engineers and engineering managers. Likewise, researchers should consider the overall assignment, and not individual elements, when developing research programs in this area.

For engineering educators, it is important to understand and explain these organizational and cultural variables to students who are very likely to face the challenge of an expatriate assignment sometime in their careers. This paper provides details of the model to assist faculty in that endeavor.
Figure 1: The Life Cycle of an Expatriate Assignment

Organization determines need for an expatriate

Organization recruits to fill the expatriate position

Internal recruiting:
- Promotion?
- Lateral move?

External recruiting:
- 3rd country national?

Orientation, training and assignment to overseas post

Organizational issues:
- Performance
- Allegiance
- Training effectiveness

Individual issues:
- Adaptation
- Satisfaction
- Acceptance

Repatriation

Organizational issues:
- Performance
- Allegiance
- Training effectiveness

Individual issues:
- Adaptation
- Satisfaction
- Acceptance

Intervening variables at each stage: the career considerations of both the individual and the organization
II. Linking existing literature to the model

The first stage of the model is simply a consideration of whether an expatriate assignment is appropriate for the organization given its recruiting options and strategy. A cross-border firm must choose between hiring a host-country national engineer, a third-country national engineer, or an expatriate engineer. Thus, there is an initial organizational decision process that is often overlooked. As engineering educators, it is important to teach our students that just because they are based at the parent operation, that is no guarantee that an engineer from some other part of the world will not get the choice project assignments. Global competition means global competency is key and continuing professional development will make new engineers more competitive for top assignments.

Although engineers may not consider it important to understand the strategic context of a firm’s operations, different cross-border strategies should be considered at the second stage of the model. Different strategic approaches may create different expectations for foreign-based engineers. Much has been written about recruiting for foreign assignments e.g., 1, 16, 17, 23 but an organization’s strategy and the impact of the strategy on the expatriate’s qualifications has rarely been addressed outside of Bartlett and Ghoshal’s original work 4. Engineering students on the job market need to consider whether the firm or group of firms under consideration exhibits the characteristics of an “international”, “multinational”, “global”, or “transnational” organization 4 before developing career goals because these different strategies necessitate different management skills and competencies to complement basic engineering skills 8.

For example, an “international” firm is basically a firm that exports a standardized domestic product abroad. An engineer in this type of strategic context might be disappointed to find product and process improvements are not major expectations of the job. On the other hand, a “transnational” firm expects high levels of 2-way, cross-cultural communication and an engineer with ethnocentric views or poor communication skills may fail in this strategic domain.

When recruiting for an expatriate engineering position, an organization may follow two tracks. As is true with strategy, the differences may affect the expectations of the expatriate engineer. In one track, engineers currently employed by the firm are considered for the expatriate assignment. When internal candidates are considered, the important selection variables typically are technical and/or managerial competence 16,23. Other important issues when recruiting from within are the level and prestige of the overseas position; in other words, is this a promotion or a lateral move? Another factor is the tendency for some companies to “dead-end” employees that take a foreign assignment 24,25. Engineering students need to be aware that in some firms international assignments that may sound challenging and exciting are in fact career killers.

The second track involves recruiting an engineer from outside the organization. Again, technical competence serves as an important qualification, but the new, externally-recruited engineer may be seen as more malleable than a veteran of the organization 15. Another possibility when recruiting externally is to hire a third-country national. This approach may allow the firm to recruit for the "best, most technically-qualified candidate in the world" 2. This is where new engineering graduates hold an edge and they must stress their flexibility in their interviews and cover letters.
Once the recruiting phase is complete, training and orientation programs are utilized by some organizations. However, research shows that this stage of the model is frequently skipped by many firms. Many reasons have been provided by human resources departments for not focusing on cross-cultural training; they include: (1) no support from top management, (2) lack of effectiveness, and (3) trainee dissatisfaction with past training programs.

As educators, we need to stress to new engineers that this type of training leads to a greater chance of success on the assignment. Students should expect this training, and, if the organization does not wish to provide it, the student should consider whether a job with that firm is really the best choice.

When training is provided by the organization, topics that are addressed include cross-cultural issues and technical and organizational issues. Cross-cultural issues include overseas productivity and acculturation, and the depth of coverage of cross-cultural issues is influenced by the length of the overseas assignment. Engineers accepting expatriate assignments of over 3 months should expect (or ask for) an explanation of these topics at a minimum. Foreign language training is strongly encouraged if the native language is different.

After training (or concurrently), the engineer is sent to the overseas location. There are now two sets of issues concerning (1) the organization, and (2) the individual. The key organizational issues are job performance and whether the focus of expatriate allegiance is to the home or host-organization. Another interesting concern is the positive or negative effect of the cross-cultural training or lack of it. Some issues important to the individual are; how well the expatriate engineer adapts, the engineer’s job satisfaction, and acceptance by the host-country national engineers. Engineering students need to understand that these issues of acceptance require communicative and team skills and the expectations will vary from one national culture to the next.

When the overseas assignment is complete, the model turns to a consideration of repatriation. The issues contemplated in repatriation are typically the same as found when the engineer or engineering manager goes overseas; that is, performance, adaptation, and job satisfaction. The issue of repatriation training is also salient. Repatriation issues are notably absent in the literature. Unfortunately, few engineers receive repatriation training. This training is important because many engineers and other returnees leave the company shortly after coming home. This is because the firm often fails to integrate the engineer back into the parent organization’s culture and the domestic managers fail to incorporate what the engineer learned abroad into the next assignment. Thus, the engineer becomes frustrated and quits. New engineers on foreign assignments should be taught to ask for and expect some type of repatriation training to prepare them for their next home-based assignment.

Finally, career issues must be considered as intervening variables that have an influence on each stage of the model. Research suggests that engineers and engineering managers act very differently on expatriate and domestic assignments depending on their intentions to remain with the organization. Likewise, some companies use expatriate assignments as career builders and stepping-stones for fast-track engineers and engineering managers while others use foreign
assignments as a way to dump poor performers. Engineering students should understand that the foreign assignment is but one piece of an overall career puzzle and that success on an expatriate assignment is a key to advancement – whether with that company or another.

Another career consideration involves changes in the domestic organization while the expatriate engineer completes his or her overseas assignment. Top-level management changes or corporate restructuring could drastically change an expatriate’s career path. If such changes occur, there might be a shift in the expatriate engineer’s allegiance, satisfaction and/or performance. Young engineers should understand that a lifelong career with company “X” might no longer be the norm in the globally competitive engineering market. Students must be flexible and ready to move if organizational changes place roadblocks in their career paths.

This model should help engineering educators understand the full impact of an expatriate assignment and to pass that knowledge on to their students. The model may also help engineering consultants develop practical advice for organizations that utilize expatriate engineers. Much of the prescriptive advice offered by the current literature takes a narrow view and does not consider influences that occur well before and/or after the stage of the model that is being considered.

For example, considerable attention has been given to the fact that many US-based firms do not provide orientation and training sessions for new expatriates. However, there are only sparse amounts of literature that consider the strategies of cross-border firms that provide or fail to provide such training. New engineers need to know what kind of training to expect and if the organization is likely to provide it for them. In a similar vein, the effects of pre-departure, cross-cultural training on job performance after repatriation has not been addressed. The impact of the training should not diminish just because an engineer moves back to the US, but that seems to be the current thinking in many human resource departments.

III. A paradigm shift in the view of expatriate assignments

A final benefit of this model is that it outlines the current paradigm for expatriate research; that is, an engineer is recruited, sent abroad, and then returns home. While many organizations stay within this paradigm and will continue to do so, this view of an expatriate assignment may not be broad enough in the face of our expanding global economy and this model can be modified to accommodate the shift.

Increasingly, organizations are recruiting third-country nationals and are bypassing host-country and home-country recruiting. There may be important differences in motivations, expectations, and needs for a third-country engineer that need to be investigated and communicated to students. The concept of an engineer returning home after a tour abroad is also changing. Instead of repatriation, many engineers are now moving on to another foreign assignment, and then another, and then another. These “transpatriate” engineers may never return to the home organization. Instead, they move from country to country locating where they are needed and moving up the career ladder. The salient factors for recruiting, training, satisfaction, and performance may be drastically different for this type of individual. Unfortunately, there is a paucity of research in this area. As engineers face this paradigm shift, new models will need to
be developed and the experiences of expatriate engineers must be communicated in the classroom so engineering students’ expectations and preparation are realistic.

IV. Some research implications for engineering management scholars

There are important distinctions in how researchers have approached the subject of expatriation and repatriation. Some have looked at expatriates in isolation e.g., 5, others have considered repatriation as a single variable e.g., 14, and some others have combined expatriates, repatriates, and even domestic employees into a single study e.g., 11. This suggests that some researchers may not see real differences between these management situations while others see very real distinctions.

Further development of this model is important to those interested in research on expatriate engineering careers for several reasons. First and foremost, an expatriate assignment is comprised of a continuous series of events. Each event influences an engineer's performance, satisfaction, and career plans in the future. How and why a firm sends someone on an expatriate assignment (the beginning of the model) has implications for what that engineer might expect when the time comes for repatriation (the end of the model). To look at one stage or another of the model in isolation overlooks many possible causal influences.

A consideration of “expectancy theory” is salient at this point. A basic statement derived from the theory is:

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\text{If a worker sees high productivity as a path leading to the attainment of one or more of his personal goals, he will tend to be a high producer. Conversely, if he sees low productivity as a path to the achievement of his goals he will tend to be a low producer.} \quad 12^{p346}.
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This concept could be considered within the context of an expatriate assignment. Actions that produce positive personal and organizational results will be pursued. Actions that result in negative outcomes will not be pursued. The implication is that researchers must consider all the actions and events leading to the success or failure of an expatriate or repatriated engineer or engineering manager. To do so, all stages of the model should be included in research.

The concept of an expatriate assignment as an "overall experience" may have research implications in the area of sample selection. It may be necessary to keep separate data on individual subjects from the four different types 4 of cross-border firms. It may also be necessary to pretest the organization to determine why an expatriate engineer was utilized in the first place. For example, the Korean firm, Samsung, sends many of its engineering managers on overseas assignments for the cultural learning experience. If survey data from Samsung’s engineering managers was mixed with data from an organization that essentially "dumps" poor performers in overseas subsidiaries, the overall results of the survey might be unclear.

It might be necessary to pretest expatriate or repatriated engineers to find other similarities and differences that may influence survey results. For instance, engineers that were recruited externally may have very different perceptions of training and orientation effectiveness compared to engineers who were recruited internally. These groups may need to be used for two
entirely different studies.

Reference to this model in future literature may help bridge the gap between research and its application by engineering management practitioners. For instance, study after study has demonstrated the benefits of cross-cultural training, yet many organizations fail to provide it. By outlining the implications for training during the expatriate assignment, after repatriation and beyond researchers and consultants may be better equipped to truly influence change.

V. Conclusion

An increasing number of engineering graduates will face expatriate assignments early in their careers. As engineering educators, we must help these individuals succeed in their early expatriate assignments by communicating to them what is included in the overall expatriate experience.

The simple model presented in this paper includes all of the elements of the expatriate assignment cycle. Students must understand that organizations have overall development expectations of new engineers and that an expatriate assignment may make or break an opportunity for advancement or additional responsibility.

Presenting this model to your students will not guarantee their success on an expatriate assignment. However, it will help manage their expectations and prepare them to make better choices in their engineering careers.

Bibliography


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