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Management competencies anno 2025: consequences for higher education

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Abstract

Purpose – The purpose of this paper is to present the results of a business-university collaborative research project that looked to define lower management competencies in the year 2025, specifically for complex, knowledge-intensive organizations.

Design/methodology/approach – The research was done together with a large local airport. Data were gathered by a team of five researchers using focus groups and interviews with 47 employees from 15 different business units. Data were analyzed using thematic and summative content analysis.

Findings – The author found that in order for employees to be effective in a learning organization, they will need to be able to switch between roles. Roles are a combination of fundamental and functional competencies. The former are relational in nature and needed to function throughout the broader organization. The latter are knowledge-related and needed to perform-specific functions.

Research limitations/implications – Limitations are linked to the generalizability of the results and the fact that the research was organization centric, meaning broad societal changes that might affect individuals' attitudes and in turn their attitude toward work were not considered. This research does, however, raise some important issues about working effectively in complex organizations and the role higher education has in preparing students.

Practical implications – Curricula designers in higher education can use the findings to help adapt their current approach to teaching and learning.

Originality/value – Most work on defining competencies for curricula development fails to delineate between fundamental and functional competencies. There is also little empirical work on how roles can be developed.

Keywords Complexity, Management competencies, Higher education, Teaching and learning

Paper type Research paper

Introduction

This paper presents the results of a collaborative research project aimed in part at helping promote the development of effective curricula for undergraduate business programs. The research was done in the head office of a large local airport (which we will call Holland Airport) and focussed on lower management positions. It was decided to look at this group because this is where starting graduates usually enter the organization as well as the large size of this group – nearly 700 employees out of a total of 2,000. The goal of the research was actually twofold and complementary. One goal was to help Holland Airport define and understand what competencies lower management will need in order to function effectively in the renewed organization portrayed in an internal strategic plan called “Chief Plan 2025.” At the same time the results were meant to help curricula developers at the business school of a local technical university in the first steps toward designing new curricula that matches with expectations from what business will need in the future.



Background

Most modern organizations are constantly changing and developing in order to maintain or increase competitive advantage (Cruz and Marques, 2011). Transformations in organizational structures mean that it is essential for both employees and management to adapt to the new environment. On the one hand employees must learn and develop in order to “fit” with new organizational environments (Lopez *et al.*, 2006), while on the other hand management must be aware of what competencies employees will need in the future in order to assure organizational competitiveness (Schuler and Jackson, 1987).

Furthermore, while management expects current employees to learn and develop new competencies in the workplace, it also expects new employees to come equipped with them (Abraham and Karns, 2009). Consequently, educational programs should develop curricula in collaboration with industry in order to assure graduates are armed with competencies that help them to function effectively in changing work environments. However, mismatches between the competencies business expects graduates to possess and what they actually have are underpinned clearly in the literature (Abraham and Karns, 2009; Jackson, 2010).

We used the concept of competencies rather than skills because the latter are “[...] distinguished as specific behaviors and cognitive activities that accomplish routine tasks, while competencies are non-routine cognitive and intellectual activities, demonstrating managerial resourcefulness in handling non-routine situations” (Maes *et al.*, 1997, p. 76) and as such fit better in a changing organizational environment. According to interviews held with upper management, Holland Airport (HA from now on) is no different from other organizations or airports and is in fact undergoing rapid and continual change.

An airport is a highly technical environment and the strategic plan that would help guide the changes was highly technical in nature, with little development of the organizational aspects of associated changes, including human resources (HR). In our initial interviews with HR managers at HA, we learned that although they had a general idea about important future competencies, they were uncertain if they were on the right track and wanted empirical research done. They also needed to understand the consequences for their organization in regards to HR management, in order to augment the strategic plan.

Research questions

The main research question of the project was:

RQ1. What will the competency profile of lower management employees from different business units look like in the year 2025?

In order to guide the research two sub-questions were developed. The first was:

RQ1a. Along what lines will HA develop in regards to the internal organization in 2025?

This is related to the idea that a clear idea was needed about what HA would look like in the year 2025. Garavan and McGuire (2001) call this an “Inventor’s” approach to competency mapping as the organization of the future is “invented” and serves as the context. Once we had “invented” the future airport, we were ready to answer our second sub-research question:

RQ1b. What will be fundamental competencies of employees in the HA of 2025?

Method

The method used for competency mapping was based on the work of Garavan and McGuire (2001). First a team of experts – in this case a team of five researchers – conducts interviews to identify attributes of outstanding performers, followed by interviews. The data from the interviews are then used to develop a model that in turn is validated by experts. In this research the model was validated by both theory and a member check (Cho, 2006; Creswell and Miller, 2010). The first member check was done with five representatives from the HR department including the director. The second was done with each of the participants in the research. The method also has a time (future) element in it, which is related to Garavan and McGuire's (2001) "Inventor's" approach. We checked the rigor of our methodology using a conceptual framework designed by Shippmann *et al.* (2000). The framework, called the "10-dimension Level of Rigor Scale" gives a set of indicators in ten different dimensions for the level of rigor in competency modeling methods. We tested our method using this framework and arrived at a score of 3 out of 5, which translates to a "medium" level of rigor.

A qualitative approach to data collection was used because we were trying to understand a complex everyday phenomenon in a specific context (Becker, 1996). Furthermore, the research was exploratory in nature; we were looking for connections in a broad range of processes rather than testing isolated variables (Strauss, 1987). Another point is that highly contextual research such as we conducted is more appropriate to qualitative, case-study research designs (Maxwell, 2005; Yin, 2003) from which only local generalizations are made. Finally, we were trying to understand the situation from a stakeholder perspective, which is pluralistic and involves joint diagnosis. In this sense our work might be considered a type of action research linked to organizational development. This type of research lends itself better to more qualitative approaches (Kemmis and McTaggart, 2007).

Trustworthiness of the research

Lincoln and Guba (1985) provide a framework composed of four concepts for evaluating the trustworthiness of qualitative research. The most pertinent to this research are: credibility, which means trusting the integrity of the findings; dependability, meaning results are replicable; and confirmability, which is related to lack of researcher bias and other aspects of neutrality.

In order to assure trustworthiness along the three lines given above we used several techniques following Lincoln and Guba (1985). The first was prolonged engagement, which helps the researcher to be open to the various factors in shaping the phenomenon being studied. The researchers were gathering data for five months inside HA, which helped us to understand how the knowledge-intensive context organization affected what we found. We also used persistent observation, which according to Lincoln and Guba (1985) is "[...] to identify those characteristics and elements in the situation that are most relevant to the problem or issue being pursued and focussing on them in detail" (p. 305). We did this by reflecting continually on the context of HA including its physical and social environment. Another typical way for increasing the trustworthiness of qualitative research is through triangulation. In our case we gathered different types of data at different times and in different ways. For example, using desk research, interviews, focus groups and observation. Peer debriefing was also done regularly. Peer debriefing is defined as "[...] a process of exposing oneself to a disinterested peer in a manner paralleling an analytical sessions and for the purpose of exploring aspects of the inquiry that might otherwise remain only implicit within the

inquirer's mind" (Lincoln and Guba, 1985, p. 308). Through peer debriefing, we were able to test our ideas we gained from the data as well as discover and discuss our biases, ultimately allowing for these in the final analysis and reporting. Lastly we reported both preliminary and final results of our work to the research participants, asking for feedback on the accuracy of our findings. This is referred to as member checking (Creswell and Miller, 2010).

HA in 2025

The first sub-research question was "Along what lines will HA develop in regards to the internal organization in 2025?" In order to answer this question we interviewed five strategic-level HR managers, asking them to reflect on organizational factors that, according to our desk research and previous interviews with upper management, would have a large influence on the HA of 2025. These factors were: organizational renewal, organizational identity, organizational strategy, organizational structure, management styles, personnel's profile and ownership. We had the HR managers reflect on the factors above by considering the questions: "What are the most important organizational factors in 2025? Which important aspects can you discern within these factors? How will these factors manifest themselves in 2025?"

Interviews lasted between 30 and 60 minutes. Each interview was recorded and subsequently transcribed. We analyzed the data by categorizing it using a combination of emergent themes and preset ones that came from the desk research (Patton, 2002). We found that each of the interviewees could easily understand what we were looking for. This was evident in the smooth manner in which the interviews proceeded. Several participants indicated they wanted to be interviewed a second time because they were not able share all their thoughts in the time allotted. Others e-mailed us further thoughts and explanations that came to them after the interview was completed.

Results

We could discern six themes in the data, each one giving different contours of the internal organization as it will look after changing with the environment given the factors presented above. One clear and overarching concept that emerged was that HA in 2025 will be a learning organization (Denton, 1998; Senge, 1990), or at least have many of the elements of one.

The first theme we found concerns mobility. According to interviewees, a learning organization has high levels of mobility within and without the organization. Employees will be moving between different business sectors and work on projects that may span several business units. The importance of flexible roles for employees also emerged from the data associated with mobility. It seems that in an organization where mobility is a leading characteristic, employees will be fulfilling roles instead of functions. This means that specific functions as such will be obsolete and personal competence will be leading, not one's title.

Another theme in the data were about diversity. In 2025 HA will experience diversity as an added value for the organization and capitalizes on it to deal with the changing environment.

In 2025 HA will have few management layers and thus a much flatter organizational structure. Communication lines between employees and management will be short. Furthermore, each employee will be part of decision-making processes, and thus be responsible for the decisions that are made. We also found as part of this theme that employees will be responsible for their own learning and development.

Another theme we saw in the data we refer to as “collaboration and partnerships.” Internal collaboration plays an important role in 2025 as does external partnerships with various diverse organizations. Concerned parties influence both work processes and results achieved and share responsibility for achieving results. This level of collaboration with internal and external partners can only be achieved in a culture of equality, reciprocity, openness and trust.

Another theme was focussed on the concept of outsourcing. According to the Chief Plan 2025, the number of personnel at the airport will not increase. However, there will be a major increase in the number of flights and passengers. In order to keep functioning effectively, many more business processes will be outsourced.

The last theme we found considered that HA in 2025 has an external focus. An external focus is crucial for the airport as it serves as a stimulus for continual innovation. By continually innovating, HA adapts and changes with the external environment. At the employee level, all personnel is expected to develop new processes and (where applicable) products on an ongoing basis.

Once we had “invented” the HA of 2025, we could begin looking at the second research question. This is presented below.

Fundamental competencies anno 2025

Our second research question was formulated as, “What will be fundamental competencies of employees in the HA of 2025?” HA defines competency as “personal qualities needed in order to perform successfully.” Our definition of competency is close to this this one, but is slightly more detailed. We propose that competencies are a mixture of attitudes, motives, abilities, knowledge and behaviors that can be shown to contribute to effective work performance (Garavan and McGuire, 2001; Raelin and Coolege, 1995). Furthermore, we consider fundamental competencies to be basic, essential competencies that are critical for successful performance regardless of individual expertise or role (Alldredge and Nilan, 2000). In comparison, functional competencies are those related to specific field knowledge and are critical for successfully completing a specific task.

This second question was answered using a combination of interviews and focus groups. We based our protocols on the scenarios that emerged from the HR management interviews presented above. The same protocol (see below) for each focus group and interview was used, with just slight adaptations for group size and how each group was approached. Focus groups and interviews lasted between 45 minutes and one hour. Participation was voluntary. Each session was recorded and transcribed for analysis.

Gathering data

The protocol for the interview and focus groups were set up as follows:

- Potential participants chosen by middle management were e-mailed an invitation with a short introduction to the research project.
- For focus groups, sheets with the scenarios and guiding question were affixed to the walls (see Box I for example). In each of the scenarios the guiding question was the same. After a short introduction that included the reason for the research (stated as: “In order to remain Europe’s preferred airport HA must continue to change and adapt to its complex environment. In order to guide this process ‘Chief Plan 2025’ was written. This strategic plan shows how HA will be in 12

Box I. Mobility

Thesis: in 2025 the Holland Airport employee is highly mobile within the organization.

Description: in an organization where mobility is a leading characteristic, employees will be fulfilling roles instead of functions. This means that the job matrix describing different functions will be obsolete and personal competence will be leading, not one's job title. Employees will be flexible and able to move within and between different business units, working solely on a project basis.

Question: How will the Holland Airport employee in job scales 7-11 need to deal with this? In order to function effectively in 2025, where mobility is a major theme, employees will need to exhibit the following behaviors ... (finish statement).

years. However, while the role of the employee is considered crucial, the specific competencies s/he needs are left undefined. This is what we will do with your input from today”) instructions were given and participants looked at the scenarios and wrote their responses on post-it notes.

- For interviews we discussed each scenario with participants, writing down their responses in short statements (the same structure as on the post-it notes) as we went.
- After input was given on the scenarios, participants were asked to reflect on the scenarios; were they realistic, should they be modified?

Example of flip-over used in focus groups.

In order to come to a list of fundamental competencies we asked participants for their input on the six scenarios using the protocol discussed above. In total, 37 people representing 15 different departments took part in either a focus group or an interview. All participants agreed that the scenarios were realistic and plausible. Most participants could easily relate to the scenarios; only a few needed further clarifications or an example of what we were looking for exactly. Table I shows the number of focus group and interview participants and their position in HA. Responses from the different levels of participants did not differ greatly.

Data processing and analysis

The statements from each post-it/interview were sorted according to the scenario and then transcribed onto a master table. This was divided into the three levels of participants; HR, middle management and lower management. After developing codes, categories in the data were fleshed out through discussion among the five researchers. These were then classified into broader themes. Following this we counted the times a theme emerged in order to see their relative importance. We ranked importance by considering that three or more occurrences of the theme across the different levels made it important enough to constitute a category. Finally, after a thorough discussion among the researchers, categories were divided into three types of fundamental

| | HR-/mid-management (job scales 12+) | Lower management (job scales 7-11) |
|--------------|-------------------------------------|------------------------------------|
| Focus groups | 9 people in 2 groups | 12 people in 3 groups |
| Interviews | 8 | 8 |
| Total | 17 | 20 |

Table I.
Focus groups and
interview performed

competencies. We used a framework from the American Society for Trainers and Developers (ASTD) for this (see www.sewi-astd.org/pdfs/qualifying_Areas_Expertise.pdf).

Results

Results show that within the scenarios there are specific types of competencies needed to function effectively as well as competencies that overlap one or more of the scenarios. We call these “fundamental competencies” based on the model from ASTD. According to the ASTD, fundamental competencies are those that are desirable regardless of an individual’s area of expertise or role in the organization. There are three types: professional competencies refer to behaviors on the work-floor and in the organization. We found eight of these. They were found the most in the scenarios “Mobility” and “Collaboration and Partnerships.” Interpersonal competencies are relational in nature and refer to working with others effectively. We were able to distinguish four of these, mostly in the scenario “Diversity.” Finally, personal competencies are not directly related to ones function in the organization. Nine could be differentiated. The greatest number was found in the scenario “Flat organizational structure.” For an overview of the competencies please see Figure 1.

Due to the limited scope of the research we were not able to define functional competencies, i.e. those linked to a specific knowledge set. What we did find, however was that alongside of function related know-how, more generic types of knowledge are also crucial. Examples are a thorough knowledge of the organization, of the market HA

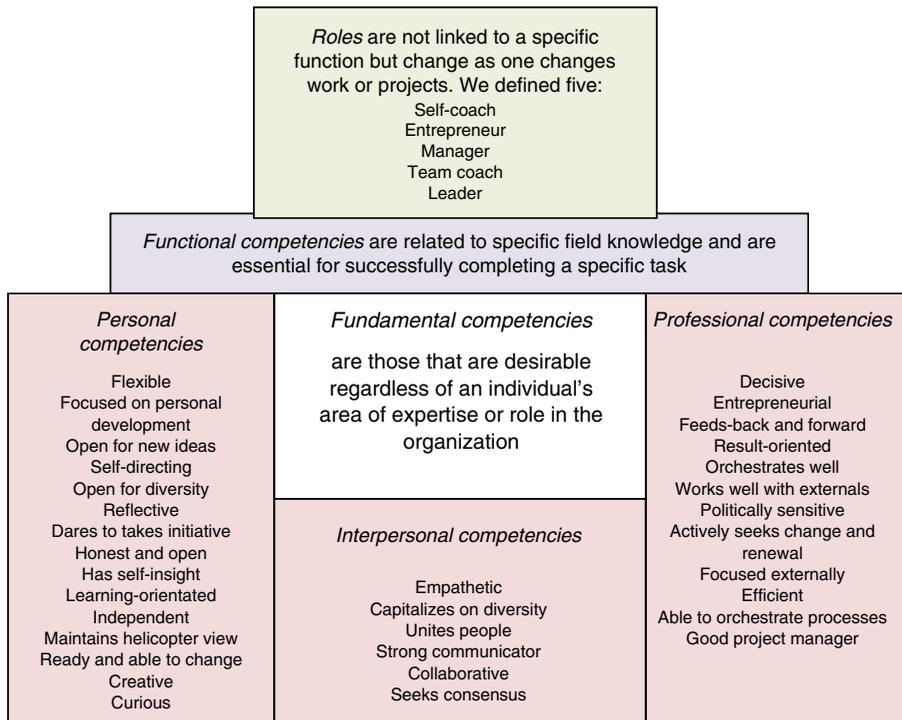


Figure 1.
Competency profile
2025

operates in and the processes involved in working in a service organization such as HA. Some quotes from participants serve to illustrate this point: “you really need broad knowledge of the firm, both internal and external”; “knowledge of processes and of the whole chain are crucial”; “one must have knowledge of the market in order to develop new contracts.” All comments like this, as well as other references to task-specific knowledge, came from lower management participants. We did not find any scenarios that seemed to need more or less field knowledge.

Conclusions

The HA 2025 we presented to the focus group and interviewees was in essence a learning organization (Denton, 1998). The competencies we defined are nearly identical to those found in the literature on effective management practices in learning organizations (see McGill *et al.*, 1992). The main difference lays in the terminology. We use the qualifiers “personal,” “professional” and “interpersonal,” while literature uses, for example, “human skills,” “management skills” and “communication skills” (see Raelin and Cooledge, 1995). Below are specific conclusions we can make regarding the various competencies we found.

The first conclusion is that the competencies can be classified as “universal” in the sense they are not context-related. Fundamental competencies – sometimes called “universal competencies” – are those needed for effective functioning throughout the breadth of the organization and are important for mobility, both within and outside the organization. And in a learning organization with a project-based structure like HA in 2025, fundamental competencies are crucial to organizational effectiveness. It is important, however, to realize that contexts determine which competencies will be applied at any given time (see e.g. Raelin and Cooledge, 1995).

A second conclusion is that the competencies are person-oriented rather than task-oriented. Person-oriented competencies are relational in nature and sometimes called meta-competencies “[...] because they encompass a broad range of personal skills and aptitudes, such as creativity, ability to communicate and to cooperate with others, the capacity to tolerate uncertainty and adjust to change” (Garavan and McGuire, 2001, p. 7). Person-oriented competencies are especially important in service-oriented organizations where customer satisfaction and quality are key strategic goals (Van der Wagen, 1994).

We also found that team competencies, which are directly related to person-oriented competencies, will play an even more significant role in the HA of 2025. The ability to collaborate, be open minded, communicate well in diverse teams will be crucial for organizational success (McGill *et al.*, 1992).

Lastly, the long-term, humanistic orientation of the competencies we defined fit better with an organization that adapts and change continually. This is because they are directly linked to individual development and workplace learning (Haland and Tjora, 2006). A humanistic orientation is in contrast to what one typically finds in the management literature, where there is an emphasis on utilitarian instrumental competencies, i.e. those focussed solely on short-term strategic goal achievement (Garavan and McGuire, 2001).

The model below (see Figure 1) portrays the answer to our main research question. As mentioned before, roles are the most complex behaviors and require a combination of fundamental and functional competencies, and are thus at the top of the model. Fundamental competencies are the basis for effective functioning throughout the organization, hence their placement at the bottom the model.

This model can be used by the HRM department as a guide for understanding and planning future human capital needs in regards to training and development as well as hiring new recruits. Business curricula designers can also use the model to guide their work as it clearly shows the relationship between the foundational competencies, knowledge and the roles students will be expected to fulfill in both the HA of 2025, and probably in other service-oriented learning organizations.

Management implications

This research has implications for management educators as well as the airport HR department. For the HR department, implications are related to how HA will need to change its structure and adapt in order to capitalize on its employees to the fullest. For example, HA will need to become flatter and allow for less top-down control. Another example is work design. The idea that formalized functions will be replaced by different roles people will need to play at different times is a major conclusion of the research. Roles are a combination of foundational competencies combined with specific knowledge in one's field and will be needed for employees to work effectively in a flexible organization such as HA in 2025 (Welbourne *et al.*, 1998). Basing HRM on roles rather than on official functions allow for higher mobility within the organization and contribute to its overall effectiveness (Schuler and Jackson, 1987). Finally, current recruitment practices are typically focussed on finding individuals who fit the job description the closest. In the HA of 2025, where there are no more job descriptions but rather competence descriptions and roles, recruitment will need to focus on finding personnel that fits closest with the learning environment (see e.g. Senge, 1990), rather than fit a particular job description.

Implications for higher education

Perhaps the broadest implication of this research relates to the idea of complexity. Our research points out that employees in 2025 will need to deal with an organizational environment that is highly complex and in continual change. We found this in the different themes sketching the contours of HA in 2025. We observed that in order for employees to be effective, they will need to fulfill different roles at different times. This is opposed to the more traditional idea of a position or a function in the organization that an employ has assigned to them. Roles are in themselves complex because of the various types of competencies needed to attain them. Roles are also essential in that they are the way for employees to successfully cross-different functional borders within the organization (Hamilton *et al.*, 2000). However, the ability to switch between and among roles demands new competencies, especially in regards to dealing with multiple understandings, increased levels of uncertainty, ambiguity and other aspects of complexity found in organizations (Weick, 1979).

Our research supports the common claim that organizations are becoming more and more complex. In order to deal with this increasing complexity, management educators should help students to achieve complicated and multiple understandings that allow them to look at organizational phenomenon from varying perspectives using theoretical diversity and alternative frameworks (e Cunha *et al.*, 2004). However, "[...] simplification thrives in academic models that strive for parsimony and generalizability. Complicated thinking, therefore, is often sacrificed, with organizational researchers and educators acting as homogenizers of the pluralistic world we live in" (e Cunha *et al.*, 2004, p. 92). The challenge for business schools is thus to develop programs that prepare

students to deal with ambiguity and interpretation, which is “the essence of organization” (e Cunha *et al.*, 2004, p. 90). There are several aspects to this challenge that are important to point out, but the essence lies in how teaching and learning are approached. Field knowledge is important for students to learn as it is directly related to functional competence, and crucial for effective task fulfillment. However, in an organization that is complex and ever changing, field knowledge will need to be supplemented by fundamental competencies, as these are humanistic in nature. Helping students to gain fundamental competencies will require an adjustment to the current teaching paradigm employed in most business schools.

In the current paradigm, teaching and learning is approached as a process of knowledge transfer, employing what Sfard (1998) calls an “acquisition metaphor.” In this metaphor, students acquire such entities as concepts, notions, meanings, sense and of course knowledge. These entities are internalized and made one’s own by actions such as acquisition, construction, attainment, development and accumulation. This is the process of learning as conceptualized using the acquisition metaphor. Teaching is thus based on helping the student to “[...] attain his or her goal by delivering, conveying, facilitating, mediating et cetera. Once acquired, the knowledge, like any other commodity, may now be applied, transferred (to a different context), and shared with others” (Sfard, 1998, p. 5). However, helping students to develop fundamental competencies will mean employing a teaching and learning model based on a “participation” metaphor alongside of the acquisition one. This is because participation focusses on the relational aspects of learning such as belonging, participating, communicating, becoming a participant and community building (Lave and Wenger, 1991; Sfard, 1998) as well as new knowledge. Thus, both two metaphors are important and education should assure a complementary mix in order to be effective (Sfard, 1998).

We further argue that to be truly effective, management education needs to have aspects of workplace learning integrated into it. Learning at work is how employees improve their expertise in a complex environment (Billet, 2002) and can offer insights how learning at the university might be rethought. Supplementing formal academic teaching and learning models with non-formal workplace ones can open new doors for management educators when designing curricula and accompanying pedagogies. And while learning in the workplace is different than learning in an academic setting, there are ways that can narrow the gap between work and school, allowing for smoother transfer of knowledge and learning between the two different contexts (see e.g. Tynjala, 2008). For example, alongside of more traditional lectures, project management can be integrated into the curricula (Thomas and Mengel, 2008). Teamwork is another strategy for facilitating participation that is relatively easy to integrate into existing curricula. Teams are inherently a mix of different roles, and working in them can be a powerful method for students to gain many of the fundamental competencies. And teamwork is a typical way managers learn both functional and fundamental competencies (Williamson *et al.*, 2001), so a change to the organizational context should be smoother for graduates used to working in teams.

Perhaps the most potent method for helping students to be prepared for the workforce is to actually integrate it into the curricula through cooperative learning programs and close cooperation between business and the university. For example, many business faculties in The Netherlands have advisory boards consisting of people from industry who meet regularly with curricula developers. This type of cooperation

may even affect the nature of learning in both the workplace and the university (Tynjala, 2008), bringing them closer together. This in turn can make the transfer of learning and knowledge from the context of the university to the workplace easier.

Limitations and future research directions

Like all research, this study also has limitations. One is that we were unable to look at functional competencies and their future role. It is also important to understand how technical changes in the environment will affect the individual's knowledge base, as this is directly related to organizational performance rather than the ability to change.

Another limitation is the methodology. While a qualitative approach was for us the most appropriate methodology, it does limit the generalizability of the results. The competencies we found should be further validated through survey research or a broad Delphi study. This way they could be generalized across the whole airport and other knowledge-intensive service organizations.

The link between roles and competencies needs to be strengthened. More research should be done to see if there are a distinct set of roles that can be directly linked to the various types of competencies we found, and relate these in turn to the different scenarios.

Finally, our research was organization centric, meaning we did not consider how broad societal changes might affect the individual and in turn their attitude toward work. For example, how newer generations will be motivated to work and learn, or changes in the approach toward work-life balance of employees (see e.g. Gratton, 2011).

Concluding remarks

Businesses want to employ graduates that can function effectively in a complex and changing environment. Both the literature and our research clearly back this up. Working closely with business while adapting or designing new curricula is a powerful way to assure both initial and continuous competence development. Our research with HA is an illustration of how to start the process. Effective management education will have bridged the gap between theory and practice and have found a way to ensure students are equipped with the essential competencies needed for their careers. However, bridging this gap may be a greater challenge than it might seem. One reason is that learning and knowledge do not transfer easily between contexts (Eraut, 2004; Konkola *et al.*, 2007). Another is that many academics are wary of higher education becoming too instrumental (McGuire and Gubbins, 2010) and avoid adapting either their curricula, their pedagogies, or both.

Lastly, we think the results of our work are transferable to disciplines other than management education. In modern economies (or those where HRs are the most important source of capital) graduates of higher education in many different fields will be working in complex, knowledge-driven organizations, much like the HA of 2025.

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