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Common Ground and Delegation

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Abstract

Much recent research suggests that firms need to increase their level of delegation to better cope with, for example, the challenges introduced by dynamic rapid environments and the need to engage more with external knowledge sources. However, there is less insight into the organizational preconditions of increasing delegation. We argue that key HR practices—namely, hiring, training and job-rotation—are associated with delegation of decision-making authority. These practices assist in the creation of shared knowledge conditions between managers and employees. In turn, such a “common ground” influences the confidence with which managers delegate decision authority to employees, as managers improve their knowledge of the educational background, firm-specific knowledge, and perhaps even the possible actions of those to whom they delegate such authority. To test these ideas, we match a large-scale questionnaire survey with unique population-wide employer-employee data. We find evidence of a direct and positive influence of hiring decisions (proxied by common educational background), and the training and job rotation of employees on delegation. Moreover, we find a positive interaction between common educational background and job rotation.

COMMON GROUND AND DELEGATION: THE ROLE OF HUMAN RESOURCE MANAGEMENT PRACTICES

Abstract

Much recent research suggests that firms need to increase their level of delegation to better cope with, for example, the challenges introduced by dynamic rapid environments and the need to engage more with external knowledge sources. However, there is less insight into the organizational preconditions of increasing delegation. We argue that key HR practices—namely, hiring, training and job-rotation—are associated with delegation of decision-making authority. These practices assist in the creation of shared knowledge conditions between managers and employees. In turn, such a “common ground” influences the confidence with which managers delegate decision authority to employees, as managers improve their knowledge of the educational background, firm-specific knowledge, and perhaps even the possible actions of those to whom they delegate such authority. To test these ideas, we match a large-scale questionnaire survey with unique population-wide employer-employee data. We find evidence of a direct and positive influence of hiring decisions (proxied by common educational background), and the training and job rotation of employees on delegation. Moreover, we find a positive interaction between common educational background and job rotation.

Keywords: Delegation of decision-making, training, hiring decisions, job-rotation, shared knowledge.

INTRODUCTION

A number of different literature streams emphasize the benefits of delegation of decision rights to employees as an instrument to source knowledge inputs from the environment (e.g., Foss, Laursen & Pedersen, 2011), improve the utilization of knowledge that is dispersed in the organization (e.g., Jensen & Meckling, 1992), facilitate the making of timely decisions in response to environmental changes (e.g., Mendelsson, 2000), and improve employee motivation (e.g., Gagnè & Deci, 2005). The implication is that firms should adopt an organizational design characterized by a high degree of delegation if they wish to seize such benefits. However, firms are not plastic (Rumelt, 1995), and adopting a new organizational design can be a lengthy and costly process. For example, firms in traditional industries that seek to create more interaction with users and customers by means of an increased delegation to employees may find this to be a challenge, because complementary organizational elements are not in place (Foss, Laursen & Pedersen, 2011). Firms that seek to adopt a design with a higher degree of delegation can facilitate this process by choosing organizational practices that support, perhaps even drive, more delegation so as to "prepare the ground" for delegation. However, extant literature offers little insight in how firms can proactively prepare the ground for delegation.

In this article, we argue that certain key human resource management practices—namely, hiring, training and job-rotation—are associated with delegation of decision-making authority, and may be deployed to influence the level of delegation. We specifically argue that such practices assist in the creation of shared knowledge conditions between managers and employees, what we call a “common ground.” In turn, such a common ground influences the confidence with which managers delegate decision authority to employees, because they know the educational background, firm-specific knowledge, and perhaps even possible actions of those to whom they delegate such authority.

By “delegation” we mean allocating the authority or right to make decisions within specific domains by managers to lower-level organizational members (Aghion & Tirole, 1997) that are located at lower hierarchical levels. Among the reasons given in the extant literature for why firms delegate are economizing on scarce managerial time and attention (Galbraith, 1974; Harris & Raviv, 2002; Wernerfelt, 2007), fostering motivation by signaling confidence in lower-level employees (Benabou & Tirole, 2005; Gagnè & Deci, 2005), empowering employees (Labianca, Gray & Brass; 2000) improving the outcomes of evaluation of new projects (Sah & Stiglitz, 1986; Knudsen & Levinthal, 2007), and increasing the quality of decisions by co-locating decision rights with local knowledge and expertise (Hayek, 1945; Jensen & Meckling, 1992). These literature streams identify antecedents of delegation at different levels of analysis, such as asymmetric information conditions (Aghion & Tirole, 1997), risk preferences (Holmström, 1979), agents’ motivational characteristics (e.g., whether they are motivated by having decisions delegated to them) (Gagnè & Deci, 2005), the costs of information transmission in the hierarchy (Radner, 1993), coordination requirements in the firm (Colombo & Delmastro, 2004; Siggelkow & Rivkin, 2006), and the conditions of the industry of the firm, notably in terms of dynamism (Mendelson, 2000; Foss & Laursen, 2005) or product-market competition (Bloom, Sadun & Van Reenen, 2010).

However, these streams leave the knowledge-based antecedents of delegation somewhat ambiguous. The literature links asymmetrical information conditions to delegation on the ground that those who hold expert knowledge should also hold decision rights in order to efficiently utilize such expert knowledge (Jensen & Meckling, 1992). On the other hand, managers need to have some measure of *confidence* in the ability of employees to make efficient use of such decision rights. As Knight (1921: 311) observed, “[t]he ability to judge men in relation to the problems they are to deal with, and the power to ‘inspire’ them to efficiency in judging other men and things, are the essential characteristics of the executive”. Highly asymmetrical information conditions do not allow for such a judgment to be made on rational grounds.

To solve this conundrum, we argue that various organizational practices may increase managers' confidence in their subordinates, in turn increasing the likelihood that he/she will delegate decision-making authority. By creating a common ground between managers and employees, organizational practices increase managers' knowledge of the employee's capabilities (with the employee's awareness). Common ground between individuals can be defined as their "mutual, common or joint knowledge, beliefs and suppositions" (Clark, 1996: 93). A common ground enables mutual predictability of actions (Schelling 1960; Malmgren, 1961; Srikanth & Puranam, 2011), as it enables individuals to anticipate how a person sharing that common ground will act, interpret problems and make decisions (Cremer, 1993). Common ground can be actively created by the firm. In this paper we focus on human resource management practices, such as hiring decisions, and the training and job rotation of employees. For example, hiring employees with similar educational backgrounds to the firm's management contributes to building common ground. In turn the established common ground supports the delegation of decisions by increasing the confidence with which decisions are be delegated.

To test these ideas, we match a large-scale questionnaire survey with unique population-wide employer-employee data. We analyze the direct relationships between HRM practices and firms' extent of delegation of decision-making authority. We find evidence of a direct and positive influence of hiring decisions (proxied by common educational background), and the training and job rotation of employees on delegation. Moreover, we find a positive interaction between common educational background and job rotation.

In sum, this research contributes to our understanding of delegation in firms. We go beyond the predictors identified in the extant literature, and make the novel argument that HRM practices are closely associated with the level of delegation. We posit a specific mechanism that links HRM practices and delegation, namely the creation of a common ground between managers and employees. Thus, our theory suggests that there are overlooked organizational design implications of

HRM practices: Firms that seek to exploit the benefits of delegation while reducing its costs may choose HRM practices that further this goal.

THEORETICAL BACKGROUND

Costs and Benefits of Delegation

Delegation of decision-making authority is ubiquitous in firms. Delegation has been studied from the perspectives of organizational design theory (Galbraith, 1974; Radner, 1993), agency theory (Holmström, 1979; Jensen & Meckling, 1992), and motivational psychology (Gagnè & Deci, 2005). Among the benefits of delegation are the following. Decentralized decision authority relieves top management from the risk of information processing overload, thereby improving timeliness of decisions and responsiveness to the business environment (e.g., Mintzberg, 1979; Mendelson, 2000; Lin & Germain 2003, Pataconi, 2008). Delegation improves decisions' quality by co-locating decision-making authority and decision-relevant knowledge that is typically distributed among individual employees (Hayek, 1945; Jensen & Meckling, 1992; Harris and Raviv, 2005). This decision-relevant knowledge is often specific, idiosyncratic and tacit, which makes it difficult and costly to transfer between the holder of knowledge and the holder of decision rights (Jensen & Meckling 1992; Grant, 1996). When decisions are based on specific knowledge, firms therefore increase the efficiency and quality of decision making while economizing on knowledge transmission costs by delegating decision authority to the individuals holding decision-relevant knowledge (Jensen & Meckling, 1992; Dessein, 2002).

However, it is well established that delegation generates costs, such as costs of coordination (Heath & Staudenmayer, 2000) and costs of agency (Jensen & Meckling, 1976, 1992; Holmström, 1979). Costs of coordination stem from the decreased ability to coordinate interdependent decisions that may results from (excessive) delegation (Galbraith, 1974). Specifically, the need for coordination—that is, a reciprocal modification of behaviour among members of an organization (Grandori, 2001)—arises because of interdependencies between actions. For instance,

interdependencies emerge when organizational members carry out work activities that are physically interconnected, and when there are complementarities among the effort levels exerted by organization members. Increased delegation of discretion may result in coordination problems, such as product cannibalization, suboptimal product range in multinational corporations (Thomas, 2011), actions that are out of sync with actions of other employees (Roberts, 2004), excessive use of common pool resources (Vining, 2003), and, more generally, reduced flexibility (Sengul et al., 2012).

Agency costs arise due to loss of control over delegated decisions. As the objectives of the principal and agent differ, the agent will not spontaneously act in the best interest of the principal (Holmström, 1979). Agency models of delegation assume self-interested behavior of the agent who will pursue individual goals at the expense of the firm's goals whenever this yields higher utility for him. In these models, the principal cannot verify whether the agent uses his private information in the way that best serves the goals of the firm. The problem of moral hazard arises when the principal cannot fully monitor and verify whether the agent exercises due effort in making decisions delegated to him, and whether his effort diverges from best interest of the firm (Arrow, 1985). The costs of moral hazard problems have to be balanced against the benefits of delegation (Jensen & Meckling, 1992). The lack of (full) observability of the agent's actions is thus part of the tradeoff that determines optimum delegation.

Knowledge-based Premises for Delegation

Firms seek to influence the cost and benefits of delegation in favorable directions. For example, organizational design theory (Galbraith, 1974) suggests that tasks and activities may be designed to reduce negative spillover effects that may arise from delegation. Agency theory suggests that the costs of delegation may be controlled by management information systems, clear job descriptions (that make it easier to monitor input performance) and rewards (that makes it easier to control output performance) (Jensen & Meckling, 1992).

Agency models generally imply that an increase in the importance of information held by the agent increases delegation (Harris & Raviv, 2005). In the basic, formal moral hazard model, the principal knows the action set of the agent, which action should be rationally made in response to contingencies, and that the agent may not choose this action if not incentivized to do so. Effectively, this means that the principal knows the knowledge set of the agent—except for the realization of a stochastic variable that impinges on the production result and the agent’s effort level (Holmström, 1979). In the adverse selection model, the principal does not know the agent’s type *ex ante*, but may be able to infer it through various revelation devices (Laffont & Martimort, 2002).

Later contributions to agency theory allows for the principal to be less knowledgeable of the agent’s knowledge (Jensen & Meckling, 1992; Aghion & Tirole, 1997; Harris & Raviv, 2005). Still, principals are generally assumed to have full confidence in the knowledge possessed by the agent, so that, if properly incentivized, the agent will in fact make efficient decisions. The problem is that this sidetracks the issue of how the principal can gain such confidence in the agent’s knowledge. In the context of the firm, the knowledge-based premises of delegation from managers to subordinate employees are thus unclear.

However, specific managerial practices may contribute to the creation of such confidence. Research on organizational beliefs and culture suggests that coordination and incentive problems may be reduced by organizational members sharing similar beliefs (Cremer, 1983; Heath & Staudenmayer, 2000) and values (Ouchi, 1980; Kreps, 1990). The implication is that higher levels of delegation can be sustained if organizational members share beliefs and/or values than if they do not (cf. also Grant, 1996). Building on this insight, we argue in the following that the fairly standard HRM practices of hiring, training, and job-rotation can be deployed to expand the set of shared beliefs and values within the firm that contribute to the creation of the common ground between managers and employees that can pave the way for an increased level of delegation.

HYPOTHESIS DEVELOPMENT

Delegation and Common Ground

Common ground between individuals can be defined as the “sum of [their] mutual, common or joint knowledge, beliefs and suppositions” (Clark, 1996: 93). As common ground refers to the shared understanding that individuals have about an activity, it enables reciprocal predictability of actions, and therefore allows individuals to anticipate how individuals will act, interpret problems and make decisions (Heath & Staudenmayer, 2000; Srikanth & Puranam, 2011). Game theory argues that such common ground function as “focal points” that enable the coordination of strategies and actions (Schelling, 1960).

We argue that common ground plays an important role in delegation of decision-making. Our key argument is that as common ground increases the likelihood that problems are interpreted in similar ways and approached on similar premises, it increases the manager’s confidence that an employee to whom decision is delegated will make the appropriate decision in a given context.

Common ground arises either through joint personal experiences (personal common ground), or because of commonalities in social backgrounds between individuals (communal common ground) (Clark, 1996). Communal common ground exists between people belonging to the same community, such as nationality, profession, language or people who share the same interests (Clark, 1996). For example, communal common ground exists between individuals who completed the same education. Common educational background results in similarity of mental patterns (Yazdipour, 2011) and shared social identity (Loyd, White, & Kern, 2008). It generates familiarity with professional languages (Plesner, 2011), which further facilitates communication and knowledge sharing among individuals (Gustavson, 2009).

Through education, especially professional or specialized academic education, individuals acquire heuristics for problem solving, and are socialized into approaching problems with particular interpretive schemes. In this way educational background contributes to creating “thought worlds” (Dougherty, 1992, Douglas 1987), that make individuals prone to interpreting issues based on their

departmental or educational background perspectives. For example, when confronted with a problem of declining firm performance, engineers may approach the problem from the product design perspective whereas individuals with a financial background may look for solutions in cost efficiency, and business managers may focus on product positioning (Dougherty, 1992). This phenomenon is also present in the communities of practice literature in cognitive anthropology and knowledge management (Wenger, 1998, Brown & Duguid, 1991), which highlights how individuals sharing a craft or profession coordinate their actions based on shared knowledge bases.

In the context of delegation, communal common ground existing between a manager and an employee is of particular relevance. The literature in social psychology recognizes that commonalities between a manager and a subordinate affect the quality of their dyadic relationship, which in turn affects the premises for delegation. Managers tend to assume that employees similar to them are like them, and therefore have a high potential (Bauer & Green, 1996), which strengthens the manager's confidence in the employee. Similarities in both personal characteristics and demographic characteristics, such as education, are conducive to trust building, understanding and confidence in a manager-employee dyad (Byrne, 1971; Turban & Jones, 1988). Similarity encourages aligned perception of performance expectations and improves subordinate performance (Deluga 1998). Moreover, similarity enhances behavioral predictability, which allows individuals to form similar interpretations of events (Schein 1985) and anticipation of each other's actions (Meglino, Ravlin & Adkins 1991; Turban & Jones, 1988; Bauer & Green 1996). Essentially, common ground arising from similarity of backgrounds enhances managers' confidence in an employee and thus the likelihood that decision-making is delegated (Bauer & Green, 1996).

Firms may use communal common ground arising from shared educational background to guide their hiring policy. If educational background of new hires overlaps with that of the firm's management, then managers are likely to have a better understanding of the knowledge brought into the firm by newly hired employees. Moreover, common ground makes it more likely that managers

know the premises on which employees will make decisions and thus be more able to anticipate employees' actions. That makes it easier for managers to anticipate the outcome of decisions delegation, and managers may therefore have greater confidence in delegating decision-making authority to individuals at lower hierarchical levels.

Sharing educational background increases the likelihood that managers can get to know the true capabilities of employees in a relatively low cost manner. Common ground provides managers with a better foundation for assessing whether an employee, given a concrete situation, made the appropriate decision (provided the decision is observable by the manager). In turn, employees sharing communal common ground with a manager are aware that the manager knows his/her capabilities, and can therefore assess the appropriateness of decisions made (and manager knows that employee knows that manager knows, etc., that is, common knowledge may obtain).

For these reasons, communal common ground between managers and employees increases managers' confidence that employees will make decisions in the context of their shared knowledge. We expect that as shared educational background generates communal common ground, the overlap of educational background between managers and employees facilitates greater delegation of decision-making authority. This reasoning motivates the following hypothesis:

Hypothesis 1: *The overlap of education backgrounds between managers and employees in the focal firm is positively associated with the level of delegation in this firm.*

Common Ground and Understanding Interdependencies among Decisions

Hiring individuals that share educational background with the firm's management takes advantage of already existing common ground. However, firms may also actively seek to develop personal common ground among managers and existent employees (vertical) and among employees in different business areas (horizontal) through HRM practices. Job rotation and temporary lateral transfer of employees across jobs and departments in a firm familiarize them with various areas of a business (Campion et al., 1994). Joint actions and joint work on projects with employees from

multiple departments expose them to shared personal experiences that contribute to the development of personal common ground within the firm (Clark, 1996). As common ground enhances consideration and predictability of actions and decisions of other individuals, it facilitates understanding of decisions taken in other departments in the firm, and therefore how these decisions are interdependent on each other. Such ability to understand externalities is a critical capability in organizational decision-making (Mintzberg, 1979; Grandori, 2001; Siggelkow & Rivkin, 2006).

Decisions taken in different departments of a firm typically are interdependent with each other, that is, they interact to determine outcomes jointly (Simon, 1962; Thompson 1967; Galbraith, 1974). The individual tasks of organizational subunits form systems of interlinked activities, which underpin firm strategy (Porter, 1996). For example, a marketing approach offering high product variety is most valuable when linked to a logistics system that minimizes the need for storing finished goods and a sales process that encourages product customization (Porter, 1996). However, bounded rational decision makers often do not fully understand the nature of such interdependencies. They tend to make locally optimal decisions that benefit their own department and face difficulties predicting the impact of a decision on actions of other departments as well as on performance of the firm as a whole (March & Simon, 1958; Rivkin & Siggelkow, 2003). Understanding how one activity affects others is thus a critical capability for organizational decision makers.

Extant research argues that in face of task interdependencies, decision making should be centralized at a higher hierarchy level where managers have an overview of the impact of a decision not only on a single department, but on the firm as a whole (Mintzberg, 1979; Siggelkow, & Rivkin, 2006). We argue that by the means of job rotation practices and temporary transfer of employees, firms may infuse a decentralized structure with this benefit of understanding interdepartmental interdependencies that is typical for a centralized organization. Such knowledge of interdepartmental interdependencies increases the employee's decision-making capability, as it increases his/her ability of making decisions that are aligned with the goals of the firm, as opposed to narrower goals of own

team or department. By implementing these practices firms may benefit from specialized, decision-relevant knowledge that is distributed throughout the hierarchy, while not forfeiting the benefits typically associated with centralization.

In addition to facilitating understanding of the interdependencies among decisions and building common ground in the firm, job rotation also benefits other aspect of individuals' decision-making capability. Job rotation enhances multiple facets of employee learning, which contributes to the development of the firm-specific component of the human capital of employees (Campion et al., 1994; Ortega 2001) and nurtures their decision-relevant knowledge. In addition, rotating an employee across job assignments allows managers to learn about the employee and better assess his/her productivity (Ortega; 2001; Jovanovic, 1979; Eriksson & Ortega, 2006). We argue that these multiple benefits of employee rotation instill managers with more confidence in decisions delegated to individuals who were exposed to this HRM practice. We hypothesize that employee rotation increases the likelihood of delegation of decision-making authority:

Hypothesis 2: *The extent of employee rotation in the focal firm is positively associated with the level of delegation in this firm.*

Human Capital and the Delegation of Decisions

Managerial confidence in delegated decisions should increase not only due to the existence of common ground, but also as managers can assert the quality of knowledge of employees at lower hierarchy levels (Bauer & Green 1996). Firms benefit from developing their knowledge resources, as the quality of decisions depends on the quality of knowledge they are based on. Much of the knowledge used in decision-making is distributed within the corporate hierarchy. Firms can nurture this distributed knowledge, and therefore decision-making capabilities of employees, by means of developing their human capital through work-related training. Human capital is a repository of knowledge residing in organizations, and one of the most important sources of value creation (Grant, 1996; Hitt, Bierman, Shimizu & Kochhar, 2001). Individuals entering the firm bring a stock of

general human capital developed through education acquired prior to employment, as well as possible prior experience in other firms and industries (Becker, 1964). However, firms may also create additional value by accumulating firm-specific human capital through training and development of employees (Lepak & Snell, 1999; Wang, He & Mahoney, 2009). Such investments foster the development of unique, firm-specific competencies, improves the rate of learning by doing as well as employee productivity, in turn increasing performance of employees (Hatch & Dyer, 2012). Thus, investing in human capital across hierarchy enhances the decision-making potential of employees and increases the advantage of decentralization.

There are two fundamental arguments why we expect the development of firm-specific human capital to be associated with increased decision-making delegation—namely, the expertise argument and the common ground argument. The expertise argument rests on the premise that the better informed and qualified an employee is, the more likely it is that he/she is entrusted with certain decisions (Jensen & Meckling, 1992; Dessein, 2002; Raith, 2008). Through training, employees acquire superior insight in some local aspect of the business, such as specific marketing knowledge or superior insight in a production technology. Training that is highly firm-specific immediately results in development of firm-specific human capital, while when training has a more general character, firm-specific human capital increases when employees apply acquired skills and knowledge to work-related tasks (Hitt et al., 2001). Typically, such specialized, task-related expertise of an employee is superior to that of management (Jensen & Meckling, 1992; Raith, 2008). Efficient use of this knowledge in decision-making in a firm then suggests that the right to make decisions based on the knowledge is allocated (i.e., delegated) to the holder of the knowledge (Jensen & Meckling, 1992).

Whereas the argument from expertise begins from knowledge differences between the managers and the employees, the common ground argument rather stresses knowledge overlaps (Geanakoplos, 1992; Grant 1996). Thus, as a result of work-related training, employees become

knowledgeable of firm-specific routines, beliefs, decision rules, etc. This increases the amount of common knowledge held by managers and employees, which in turn increases the confidence of the manager that the employee will make decisions based on premises shared by both actors.

Both the expertise and the common ground argument point to the same effect of work-related training, namely, that firm specific human capital underpins managerial ability to make informed decisions that are beneficial to the firm. Therefore, by developing firm-specific human capital at various hierarchy levels, firms develop managerial decision-making capabilities throughout the organization, and thus increase the confidence with which decision-making authority may be delegated from management to employees at lower hierarchy levels.

Hypothesis 3: *The level of work-related employee training in the focal firm is positively associated with the level of delegation in this firm.*

Communal and Personal Common Ground and the Degree of Delegation

While extant research emphasizes the relevance of educational diversity in organizational settings (Milliken & Martins, 1996), in terms of delegated decision-making authority, educational similarity, which generates communal common ground, is likely to strengthen the effect of other delegation mechanisms. Hiring employees whose educational backgrounds overlap with the backgrounds of managers infuses manager-employee dyads with an initial level of trust and confidence (Turban & Jones, 1988; Bauer & Green, 1996). As argued above, this similarity-based confidence increases behavioral predictability of employees, and provides basis for delegation of decision-making. However, the initial confidence arising from common background may be further developed through HRM practices of job rotation and work-related training.

By exposing employees to various functional areas of the firm, job rotation practices enhance learning and increase the awareness of the interdependencies of different areas (Campion et al., 1994; Ortega, 2001). Decisions in different functional areas of the firm are typically interdependent and outcomes depend on these interdependencies (Simon, 1962; Thompson, 1967). In this situation,

centralized decision-making is often argued to be warranted as it enables managers to account for interdependencies by synthesizing information from different areas of the firm and make decisions that take such information into account (Mintzberg, 1979; Siggelkow & Rivkin, 2006). Thus, delegating decision making authority to employees at lower hierarchical levels requires that employees understand these interdependencies, but also that they are able to synthesize information when making decisions locally. As previously mentioned, job rotation practices provide employees with the relevant local information as well as knowledge of interdependencies.

However, these practices do not ensure that employees are able to make appropriate local decisions based on the attained information. Instead, relying on shared values and beliefs, common educational background of managers and employees may form the basis for synthesizing and prioritizing information in a manner that is compatible with managerial expectations. As both managers and employees that are exposed to job rotation need to interpret interdependencies among decisions in a similar manner, shared educational background provides mutual insight into the mental framework likely to be used in decision-making by employees, and by managers evaluating delegated decisions. This provides a second reason for our argument that common educational background strengthens the effect of job rotation on delegation. It facilitates communication between employees and managers and strengthens mutual understanding and interpretation of expectations and performance criteria. Thus, shared educational backgrounds between managers and employees can be expected to strengthen the confidence that the knowledge which employees gain through internal job rotation will be appropriately applied by these employees. Thus, we proffer the following hypothesis:

Hypothesis 4: *The association between job rotation and delegation is positively moderated by common educational background.*

Analogously, we argue that initial confidence in delegated decisions that arises from shared educational background strengthens the effect of human capital developed through employee training

on delegation of decision-making. Both work-related training and common educational background among managers and employees increase the stock of common knowledge in the firm. However, training also provides the employee with knowledge not held by the manager. Yet, knowledge that the manager and the employee have in common may enable the manager to recognize the skills the employees acquired through training. In addition, similar educational backgrounds permit managers to evaluate the efficiency of use of knowledge acquired through employee training in the light of shared interpretive schemes. That is, although the manager may not hold the same specific knowledge as the knowledge which the employee acquired through training, shared educational background and information about the training activities facilitate manager's understanding of how the employee applies new knowledge. This in turn allows the manager to assess the appropriateness of decisions based on knowledge acquired by employee through work-related training.

Evaluation of application of specialized knowledge involves communication between employees and managers. Such communication often involves highly technical language (Monteverde, 1995). Background similarity (Allison, Armstrong & Hayes, 2001), or belonging to the same thought worlds (Dougherty, 1992) facilitates such communication, provides managers and employees with "language compatibility" (March & Simon, 1958: 167), reduces misunderstandings and enables faster diffusion of new knowledge between employees and managers. This in turn should increase employees' use of newly gained knowledge and managers' evaluation of its appropriateness, what further increases confidence in employees' decision-making capability.

Both shared educational background and information on work-related training activities contribute to the creation of shared knowledge about employees' decision premises and capabilities. Agency literature warns that when an employee possesses valuable knowledge not held by the manager, she may selectively use that knowledge to pursue private goals at the expense of the objectives of the manager and thereby engage in moral hazard behavior (Holmström, 1979). Shared

knowledge may mitigate that risk. Based on the notion of common knowledge,¹ if the employee knows that the manager knows the employee's knowledge basis, the employee should not withhold effort in making efficient use of his/her knowledge in decision-making. The fact that this knowledge about employee's skills acquired through training is shared and known to be shared between managers and employees may therefore weaken the risk of moral hazard behavior. In turn, even if the manager does not hold the same information as the employee, common ground increases predictability of employees' decisions. Thus, the existence of shared educational backgrounds is expected to increase managers' confidence that subordinates appropriately apply new knowledge gained through employee training programs. Thus, we hypothesize that:

Hypothesis 5: *Shared educational background positively moderates the association between employee training and the extent of delegation of decision-making authority.*

DATA AND METHOD

Research Instrument and Data Collection

Two data sources were used to test the purported hypotheses. The first data source relied on a double questionnaire survey of the entire population of Danish firms with more than 40 employees (3,409). The data collection started in October and was concluded in December 2009. Two independent questionnaires were sent to the CEO and the senior HR manager of each identified firm. The questionnaire addressed to the CEO essentially related to the firm's output (e.g., the number of new products/processes the firm had realized), whereas items concerning the firm's organizational design were included in the questionnaire sent to the HR manager. In addition to alleviating concerns about common method variance (Podsakoff, MacKenzie, Lee & Podsakoff, 2003), multiple respondents may also increase response accuracy. Denmark's official statistics agency, Statistics Denmark, was responsible for the practical administration of the survey. 628 pairs of questionnaires

¹ Common knowledge between individuals is knowledge that is shared, known to be shared, and known to be known to be shared, and so forth

were returned which resulted in a paired-response rate of 18.4%. In case of missing data point in the returned questionnaires, we relied on list-wise deletion. This procedure resulted in our final sample containing observations from 528 firms.

To mitigate concerns of non-response bias, we conducted comparison tests between respondents and non-respondents. In terms of firm age, size and industry association, these tests did not reveal significant differences between firms included in the sample and non-respondents. Tests comparing early and late were also conducted (Armstrong & Overton, 1977). No significant differences (at conventional levels) were detected in terms of early and late respondents. Thus, the final sample was considered to adequately represent the population from which it was drawn.

The second data source was compiled using archival data sources made available through the Danish Integrated Database for Labour Market Research (IDA). IDA is uniquely structured as an employer-employee linked database, and contains government registrar information on Danish firms and employees. The IDA database was used to collect general characteristics and financial performance for all firms. Moreover, enabled by the unique structure of the IDA database, we compile detailed information on all individuals employed by the firms in the final sample (approx. 180,000 observations).

Measures

Extent of delegation (dependent variable): Delegation refers to the, hierarchical, distribution of decision-making authority in an organization. To gauge the extent to which firms were characterized by having delegated decision-making authority, we used a composite construct made up of ten items. Each item measured at what hierarchical level the decision authority to a specific task was located. The items were recorded using a four-step scale. Thus, the highest level of decision-making delegation was coded 4, which represented decisions being made by the firm's 'lower level management (e.g., functional managers, plant managers, regional managers, division managers).' Conversely, the lower level of delegation (i.e. centralized decision-making) was coded 1

and denoted ‘top management (e.g., executive director, deputy director)’. The inclusion of ten different tasks ensured that respondents did not discriminatorily focus on specific avenues of decision-making. The ten tasks included: (1) developing new products or services, (2) making major changes in marketing activities, (3) prioritizing projects within the department, (4) cooperating with other units in the firm, (5) collaborating with external firms or organizations, (6) deciding which new projects to pursue in the department, (7) making quality-control decisions, (8) making significant changes in product and services, (9) making major changes in the department’s routines, and (10) discontinuing a major product or service. Yet, dictated by our focus, we created an average composite measure using responses to the ten individual items ($\alpha = 0.85$). Thus, the extent of delegation is the highest when decision-making authority was vested at the lowest level for all ten items.

Training practices (independent variable): To capture the level of training practices firms make use of, we directly asked them to report the percentage of employees that had received any kind of structured or formal training. Employees was specified to mean *full-time employees who perform tasks that require substantial independent decision-making and where this position is based on the employee’s special expertise and knowledge*. This specification ensured that the variety of training practices being reported was not limited, while at the same time excluding mundane training (e.g. language classes, first aid courses, etc.). Lastly, the questionnaire also specified that both on and off the job training activities were to be included in the reported percentage. Again this was done to safeguard that all, not mundane, training activities were captured by the variable. For example, smaller firms may not have internal training activities but, by virtue of external training activities, still have the same level of training practices as larger firms with in-house training facilities.

Rotation practices (independent variables): We measured this independent variable using two items addressing the firm’s use of *temporary transfers of managers to different functional areas / departments* and *internal rotation of highly skilled employees to other departments*. We implemented

these specifications to eliminate our measure being unduly influenced by transfers of organizational members not motivated by functional interdependencies. For example, an entire production team may be transferred to a different department due to a change in the firm's key product/market. However, as we are interested in the average effect of rotation, and do not discriminate between internal rotation of highly skilled employees and managers, the final measure was made of a composite average measure of both items ($\alpha = 0.76$).

Common educational background ((independent variable): By linking the firms in our sample with the IDA database, we were able to collect the individual educational background of each senior/top manager and senior/top salaried professional. A higher-level employee represents an employee at the highest pay grade, employed in a managerial or senior functionary occupation. Due to the vastness of individual observations in our sample and the substantial likelihood that decision-making authority is delegated between individuals at these positions, we focused our analysis on these two hierarchical levels within the firm (approximately 60,000 individual observations). To fully test the hypothesized relationship between shared educational background and common decision-making framework, we matched individuals' education at the most detailed level. Although the difference between, say, a chemical and technical engineer may seem inconsequential to non-engineers, each specialization is likely to involve distinct categorization and frameworks known to the alumnae. Thus, we matched individuals within the surveyed firms based on their line of study (i.e. a masters in marketing is different than an accounting masters). The firm's overall ratio of common educational background, between its managers and top/senior employees, was measured as a count of the number of unique educational background overlaps between the firm's top managers and higher-level employees.

Control variables. Our analysis included several controls that may influence the firm's extent of decision-making delegation. First, *industry dummy controls* were included in the analysis to alleviate effects from systematic industry variations in decision-making delegation

Due to the coding of our common educational background variable, *firm size* and *TMT size* may influence the number of overlaps in educational backgrounds between managers and employees. Firm size was measured as the firm's number of full-time employees. Equally, Management size was measured by the total number of top managers employed by the firm. *Firm age* was also included as a control in all models. The age of the firm may naturally affect its extent of decision-making delegation. For example, decision-making authority may start out being highly centralized and located with the founder of younger firm. Another crucial determinant of delegation relates to the characteristics of the firm's management (i.e. TMT).

The *tenure of top managers* is expected to be linked to their amount of managerial decision-making responsibilities. *The wage of the top management team* (TMT) was included in the analysis. Wage reflects individuals' level of human capital (Becker, 1964), and wage differentials between firms may reflect differences in the unobserved ability of its management (Krueger & Summers, 1988; Björklund et al., 2007). Thus, we include wage as a control for individual heterogeneity in terms firms' managerial productivity and human capital. As such, a higher wage is expected to be linked to managers' amount of responsibility. More responsibility is likely to translate into a higher extent of delegation. Our last control variables relate to individuals' level of education. The first education control variable measured the average education level of the firm's TMT. Managers with higher education may be more adept in delegating decision-making authority, and thus have a higher extent of delegation. In terms of the average education level of the firm's employees, higher educated individuals are more knowledgeable. Thus, the average education level of the firm's employees may positively affect the extent to which decision-making is delegated.

RESULTS

Descriptive statistics and pairwise correlations for all focal variables are shown in Table 1. The correlation matrix does not indicate that collinearity issues are a concern. To further examine issues of multicollinearity variance inflation factors (VIF) for our full model (model 3) were calculated. As

both the average VIF score (1.52) and the highest individual VIF score (common educational background: 3.89) were below the suggested cutoff levels, we concluded that our analysis was not confounded by collinearity issues. Inspecting Table 1, we note the relative high correlation between firm size and common educational background (0.62). As previously alluded to, this correlation illustrates that our measure of common educational background is sensitive to size variations. However, based on the low individual and average VIF scores and the anticipated nature of this correlation we did not consider it a matter of substantial concern. Instead we reiterate that given our measure of common education background, firm and management size is expected to increase the overlap between managers' and employee's educational backgrounds.

Insert Table 1 here

To test the hypothesized associations between organizational design, common ground and delegation of decision-making authority, we made use of hierarchical regression analysis. Thus, three models were constructed. Model 1 served as our baseline model and only included control variables. Model 2 tested the direct relationship between overlap in educational background, employee rotation and work-related employee training. Lastly, model 3 included two-way interactions between common educational background, employee training and employee rotation. To aid interpretation of regression coefficients all, non-binary, independent variables were mean-centered before being included in the analysis. To guard against heteroscedasticity, analyses were performed using robust standard errors. Table 2 presents the results of the regression analyses. Coefficient estimates (robust standard errors in parentheses) are reported.

Insert Table 2 here

The positive and significant coefficient of educational background overlap ($p < 0.01$), employee rotation ($p < 0.01$) and work-related training ($p < 0.01$) indicate support for our three main effect hypotheses (hypothesis 1, 2 and 3). In addition, the positive and significant interaction coefficient between common educational background and employee rotation ($p < 0.05$) supports that the association between job rotation and delegation is positively moderated by common educational background (hypothesis 5). However, the insignificant interaction between overlap in educational background and work-related training leads to the rejection of hypothesis 4. That is, common educational background does not appear to systematically affect the association between employee training and delegation of decision-making authority. A speculative explanation for the lack of support for hypothesis 4 may be that as employees acquire new knowledge through work-related training, their educational background becomes less significant as an indicator of their present knowledge. Thus, training essentially causes educational overlap to become outdated as an indicator of individuals' knowledge.

CONCLUDING DISCUSSION

In this research we proffer that human resource practices such as hiring, training and job rotation are associated with delegation of decision-making authority in firms. These practices obviously serve other purposes as well, but we argue that a specific purpose is that they improve the quality of the information held by employees at lower hierarchy levels; in turn, this makes employees not only better qualified, but also increases managerial confidence in delegation. Specifically, we argue that these practices foster managers' confidence in delegation in two-fold manner: 1) the practices help to develop specific knowledge (which in itself drives delegation) at lower hierarchical levels, and 2) they increase the overlap of knowledge among employees and managers. While nurturing specific knowledge increases firm-specific human capital and advances decision-making capabilities of employees, increasing knowledge overlap increases common ground, which enables reciprocal predictability of actions (Schelling 1960; Clark 1996, Srikanth & Puranam, 2011).

We contribute to the large literature on antecedents of delegation (e.g., Radner, 1993, Colombo & Delmastro, 2004; Labianca, Gray & Brass; 2000; Liao, Toya, Lepak & Hong, 2009; Caza, 2012). Our findings are consistent with the argument that an increase in the importance of knowledge held by employees at lower hierarchy levels increases delegation (Jensen & Meckling 1992, Aghion & Tirole, 1997; Dessein 2002; Harris & Raviv, 2005). However, we extend this argument by proposing that not only knowledge specialization, but also knowledge overlaps are associated with delegation.

Our findings have implications for the agency stream of delegation literature. The agency literature emphasizes the problem of moral hazard arising due to asymmetric information between the principal and the agent to whom decision is delegated. While the agency literature advises to remedy the problem of moral hazard with incentives and monitoring (Holmström, 1979), we propose that common ground, which creates shared knowledge about decision premises between managers and employees, may reduce the risk of moral hazard behavior and increase managers' confidence in delegation. We therefore suggest that common ground may complement other organizational mechanisms that govern the principal-agent relationship, such as monitoring and alignment of incentives (Jensen & Meckling 1976, Holmström, 1979). Yet, unlike monitoring and incentives mechanism, common ground directly increases managers' confidence in the employees' decision making quality. Thus, by enabling mutual predictability of actions (Schelling 1960; Malmgren, 1961; Srikanth & Puranam, 2011), delegation based on common ground may economize on managerial attention while at simultaneously ensuring stability in actual decisions making. That is, based on knowledge overlap and predictability of actions, decision taken at lower hierarchical levels will conform to decisions making in a more centralized structure. Thus, we contribute to the extant literature by purporting that firms may enact common grounds, by means of HRM practices, as an alternative to enacting costly monitoring or setting up incentive systems. Although common ground may drive delegation distinctly, further research is needed to investigate how common ground

interacts with more well-established delegation mechanisms in jointly affecting delegation of authority.

A central tenet of this paper is that as the stock of knowledge shared between managers and employees increases, the manager is better able to anticipate the outcome of employees' decisions and therefore have more confidence in delegation. However, prior literature cautions that excessive knowledge overlap reduces the benefits of delegation, as the benefits of drawing on employees' specific knowledge decrease with the loss of its uniqueness. Our findings contribute to this literature by suggesting that common educational background increases knowledge overlap, but not necessarily to an excessive level. Instead, shared educational background may increase managers' confidence in subordinates' appropriate application of specific knowledge without eroding its uniqueness. Thus, while extant literature points to a curvilinear relationship between knowledge overlap and delegation, common educational background may be seen as a way of mitigating negative effects by providing common grounds without reducing employees' specific knowledge. Essentially, common ground build on shared education provides a way of optimizing the ratio of shared to specialized knowledge that allows to biggest benefit from knowledge specialization while providing confidence in delegated decisions.

However, the potential curvilinear relationship may also be moderated by information processing overload of top management, which is known to be another driver of delegation (Mintzberg, 1979; Galbraith, 1976). Increased information processing overload may require greater delegation even at excessive levels of shared knowledge. Further research is needed to directly measure the construct of common ground in the context of delegation. In this paper, we proxy communal common ground by the number of matched educational backgrounds between top managers and higher-level employees, while personal common ground is measured by work-related training and job rotation. The two latter HR practices may have a direct effect on delegation regardless of common ground. However, alternative explanations based on more straightforward

arguments (e.g. these practices may increase human capital and nurture specific knowledge) does not dismiss common ground as an important driver of delegation. While these explanations focus on increased employees' qualifications in decision making, common ground arguments encompass managers' confidence in delegation. While both explanations point to the same direction, future research should tease apart the separate effects of common ground and firm-specific human capital.

Finally, we contribute to the HR literature (Campion et al., 1994; Ortega, 2001, Eriksson & Ortega, 2006) by investigating the link between HR practices and a key dimension of organization design. Indeed, we find that hiring based on common educational background, firms' use of job-related training and job rotation are associated with their extent of delegation. This contributes to extant literature by illustrating that HRM practices, by virtue of creating common ground, may be instrumental in the design of firms' organizational structure. However, we caution overemphasis of this point, as our research design does not enable empirical investigation of whether HR practices antecede delegation or both practices are selected simultaneously.

Limitations. The contributions of this study should be viewed in light of its limitations. First, all analyses were conducted using cross-sectional data. Thus, we are not able to econometrically establish causal relationships between our independent variables and delegation of decision making authority. While we, in agreement with extant literature, argue that causation flows from firms' enactment of HRM practices to their intensity of delegation, econometrically we purely establish correlations. Thus, future research using longitudinal or experimental designs is warranted to help validate (refute) claims about association versus causality and the directionality of the relationships found in this study. Another limitation related to the geographical restriction of our data. As unobserved cultural and/or institutional variations may exist between countries, the generalizability of our results may be limited by our sample only including Danish firms.

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TABLE 1

Descriptive statistics and Correlation Matrix

Variables	Mean	S.D.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) Decentralized Decision Making	2.32	0.50	-											
(2) Common Educational Background	4.12	7.45	0.18*	-										
(3) Rotation Practices	2.83	1.52	0.17*	0.09*	-									
(4) Training Practices	35.73	32.56	0.21*	0.17*	0.22*	-								
(5) TMT Size	0.06	0.07	-0.01	0.04	0.03	0.02	-							
(6) Firm Size	4.85	0.96	0.14*	0.62*	0.15*	0.14*	-0.23*	-						
(7) Firm Age	2.93	0.81	-0.02	0.10*	0.00	-0.05	0.02	0.15*	-					
(8) TMT Wage	13.42	0.37	0.08	0.02	0.06	0.08	-0.18*	0.13	0.04	-				
(9) TMT Firm XP	7.96	5.14	-0.00	-0.07	-0.07	-0.06	-0.07	-0.02	0.24*	0.04	-			
(10) TMT Age	47.04	6.16	-0.03	0.13*	0.10*	-0.13*	-0.018*	-0.08	0.13*	0.08	0.37*	-		
(11) TMT level of education	1.36	0.90	0.05	0.00	0.01	0.06	0.06	-0.07	0.02	0.12*	0.03	0.05	-	
(12) LLM level of education	3.70	1.18	0.10*	0.04	0.02	0.08	-0.03	0.05	-0.02	0.33*	-0.09*	-0.06	0.21*	-

n = 528; *p < 0.05

TABLE 2
Regression results

Explanatory Variables	Model 1	Model 2	Model 3
Rotation Practices		0.05** (0.02)	0.05** (0.02)
Training Practices		0.00*** (0.00)	0.00*** (0.00)
Common Educational Background		0.01** (0.00)	0.01 (0.01)
Rotation X Common Edu			0.00* (0.00)
Training X Common Edu			-0.00 (0.00)
Industry a	-0.04 (0.06)	-0.05 (0.06)	-0.05 (0.06)
Industry b	-0.01 (0.10)	0.03 (0.10)	0.03 (0.10)
Industry c	0.02 (0.15)	0.02 (0.16)	0.03 (.15)
Industry d	-0.08 (0.07)	-0.15* (0.07)	-0.15* (0.07)
Industry e	0.11 (0.07)	0.06 (0.07)	0.06 (0.07)
Industry f	0.04 (0.09)	-0.04 (0.08)	-0.03 (0.08)
Industry g	-0.35*** (0.11)	-0.32** (0.10)	-0.31** (0.10)
TMT Size	0.07 (0.33)	-0.18 (0.40)	-0.17 (0.41)
Firm size ^a	0.08** (0.03)	0.01 (0.03)	0.01 (0.03)
Firm age ^a	-0.03 (0.03)	-0.03 (0.03)	-0.03 (0.03)
Average Wage TMT	0.02 (0.07)	0.03 (0.07)	0.03 (0.07)
Average TMT Firm XP	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Average TMT Age	-0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
TMT education level	0.01 (0.03)	0.01 (0.02)	0.001 (0.02)
LLM education level	0.03 (0.02)	0.04 (0.02)	0.03 (0.02)
Intercept	2.34*** (0.03)	2.35*** (0.03)	2.35*** (0.03)
R-squared	0.06	0.11	0.12

n = 528; *p < 0.05, ** p < 0.01, *** p < 0.001