Contributions Of Talented People To Knowledge Management

Laurent Scaringella, ESC Rennes School of Business, France
Rola Chami Malaeb, Lebanese University Fourth Branch, Lebanon

ABSTRACT

This study focuses on major issues of talent management (TM) with respect to knowledge management (KM). Under the effect of the economic paradigm shift toward a knowledge-based economy, multiple human changes occurred and new challenges related to human capital and talent management requires new research in the field.

The purpose of the article is to identify what are the contributions of "People hold a Job that require a High Level of Talent" (PJHLT) to knowledge management in terms of contribution to the value chain, to the creation, to the collective effort, to long distance dynamics, to absorption, transfer and learning, to innovation, and to the relationship with customers.

This article develops a hypothetic-deductive study on individuals' self-perception regarding talent requirements at their jobs. We used quantitative data collection in the cluster of Grenoble in France specialized in micro-nano technologies and software. 111 organizations and 566 people contributed to the study.

We identified three main findings. First, PJHLT are also more likely to be involved in exploration rather than examination. Second, PJHLT are more likely to be able to absorb, transfer, and learn within long-distance and knowledge-rich dynamics. Third, PJHLT are more likely to be involved in the creation of knowledge rather than in the use of knowledge, which may lead to frustration due to a perception of an unfair distribution of wealth.

We identified limitations in our study related to the measurement of subjective variables, the lack of generalization, and the focus on the contribution as one aspect of talent. Addressing an original topic related to both talent management and knowledge management; we finally identify paths for further studies.

Keywords: Talent Management; Knowledge Management; Job Requirement

INTRODUCTION

The paradigm shift toward a knowledge-based economy (KBE) requires a collaborative effort to compete globally (Schapiro & Varian, 1999). Social dimensions are creating "human capital," which is now at the center of knowledge creation and competitive advantage (Carayannis et al., 2007). This human capital is not the restrictive sum of individual knowledge but a greater entity (Helmstäder, 2006 inspired by Hayek, 1937). Human resources management has become a strategic function in which the development of people through their careers truly matters (Cappellin, 2006). In human resources, talent is considered a key concept as the world grows more knowledge-oriented due to job requirements that have become more demanding and goals that increasingly challenge stakeholders at all levels (Michaels, Handfield-Jones, & Axelrod, 2001).

TM manages talented individuals to enhance the firm's capabilities and to match the employees' human capital to firm-specific skills (Groysberg & Lee, 2009; Cappelli, 2008). Early contributions emerged from McKinsey's consultant group, which coined the phrase "the war for talent" in terms of the importance of building

and developing a talent pool within organizations (Becker, Huselid, & Beatty, 2009; Boudreau & Ramstad, 2005; Cappelli, 2008; Collings & Mellahi, 2009; Schweyer, 2010). Moreover, as the environment becomes more global, there has been a growing interest in TM (Tarique & Schuler, 2010; Scullion, Collings, & Caligiuri, 2010).

"Talent" is defined as an intellectual ability composed of three multiplicative variables that affect the way employees and organizations exchange knowledge: competence, commitment, and contribution (Ulrich, 2008). In our study, we are focusing on a single aspect, the contribution of talent. The self-perception of talent requirements on the job is the central concept in the article. We will often refer to "People hold a Job that require a High Level of Talent" (PJHLT).

The purpose of the article is to identify what are the contributions of PJHLT to knowledge management. This article explores to the following salient research question: "What are the contributions of PJHLT to knowledge management?"

We are particularly interested in knowing if PJHLT contributes to the entire knowledge value chain or only a part of it, if PJHLT contributes to the creation, rather than the use of knowledge, if PJHLT contributes individually, rather than collectively, if PJHLT contributes to long-distance, rather than short distance knowledge dynamics, if PJHLT contributes to absorption, transfer and learning, if PJHLT contributes to innovation, if PJHLT contributes to the relationship with customers, and finally, if PJHLT worries about the return on their contribution.

This article presents the literature review, methodology, analysis, discussion, and conclusion with guidance toward new challenges.

LITERATURE REVIEW

Talent is defined as an innate ability, aptitude or faculty, especially when unspecified, or as an above-average ability. The broad meaning of talent is the sum of intrinsic gifts, abilities, knowledge, skills, intelligence, attitude, character, and drive. Such abilities are developed, for example, by the most effective leaders at all levels to drive a firm's performance (Michaels, Handfield-Jones, & Axelrod, 2001). Providing a different outlook, Buckingham and Coffiman (1999) define talent as "recurring patterns of thought, feeling, or behavior," which everyone possesses.

Ulrich (2008) argues that talent can help to turn talent objectives into actions by considering three elements: competence, commitment, and contribution. Employees may be competent and committed, but unless they are making a real contribution and finding a meaning and purpose in their work, their interest diminishes and their talent wanes (Ulrich, 2008). The question of contribution is central. The Chartered Institution for Personnel and Development (CIPD) defines talent as consisting "of those individuals who can make a difference to organizational performance either through their immediate contribution or, in the longer-term, by demonstrating the highest levels of potential."

In new product development and knowledge processes in general, the literature discusses the mobilization of talented people. To describe knowledge processes, Cooke (2005) developed the Knowledge Value Chain (KVC), which is composed of three steps: exploration (searching, including research), examination (e.g., trialing, testing, standard-setting, benchmarking), and exploitation (e.g., commercialization of innovation). The exploration phase often leads to the pure creation of knowledge and requires much talent. Cooke and De Laurentis (2005) associate talent with the involvement of people within the exploration step. *PJHLT are strongly involved in the exploration step* (H_1).

The examination phase reveals the tradability of knowledge features by trailing, testing, and assessing standards. This stage is driven by research and technique rather than talent (Cooke & De Laurentis, 2005). Contrary to the exploration step, *PJHLT are less involved in the examination step* (H_2).

The exploitation step includes production and marketing in which economies of scale are sought (Brossard & Vicente, 2007). Exploitation clearly focuses on the use of knowledge rather than the creation of knowledge and is

driven by technique to improve the efficiency, delivery, and profitability of existing business models. Referring to Cooke and De Laurentis (2005) and similarly to the examination step, *PJHLT are less involved in the exploitation step* (H_3).

The socialization of knowledge workers and their contribution to knowledge (either creation and/or use of knowledge) require a fertile job environment where talent is required to hold certain jobs, especially in the creation of knowledge. Referring to Cooke and De Laurentis (2005), exploration is strongly embedded within the concept of creation, where *PJHLT are creating, rather than using, knowledge* (H_4).

Tuomi (2000), who studied the transformation from data to information and then from information to knowledge, stated that individual knowledge depends on an individual's thinking process. The knowledge process and added value may also be related because the creation-based exploration step is individual, whereas the use of the knowledge-based examination-exploitation step is collective. This statement can be mitigated because talented employees may work solely or in groups depending on their managerial skills and commitment (Groysberg, Sant, & Abrahams, 2008). *PJHLT are working alone, rather than in group* (H_5).

Functional domains of knowledge – defined as the sum of absorption, transfer, and learning capabilities provides a clear contribution to organizations. Optimum comprehension, understanding, and absorption of knowledge inputs (Chen, 2004) require skills that can be provided through training, educational degrees, and coaching to increase social capital. In that sense, *PJHLT are more likely to possess absorption, transfer, and learning capabilities* (H_6).

Geographical proximity and distance are impacting knowledge absorption, transfer, and learning. The geographical proximity factor is considered an outdated advantage in the global economy due to the expansion of new communication channels. Indeed, short-distance relationships are not sufficient to guarantee efficiency (Vicente & Suire, 2007). Recently, "open innovation" has been occurring in companies grasping knowledge in distant relationships (Cooke, 2006; Chesbrough, 2003). Partially replacing geographical proximity, cognitive proximity consists of sharing capabilities and knowledge (technological, marketing, and business) in a broad context (Noteboom, 2000). *PJHLT are working at long-distance, rather than short distance* (H_7).

If talented people are creative and committed to their work, they are naturally innovative, including the generation of new processes, new products, and new markets. Indeed, creative scientific and engineering talent is becoming the cornerstone of innovation-based companies (Ruse & Jansen, 2008). *PJHLT are more likely to carry out innovation* (H_8).

Because an innovation is worthy only if the product is socially used, consumers are placed in a central position with "different attitude toward work, leisure, health, security, culture, preference for an urban living, etc." (Cappellin, 2006). Talented employees are expected to deliver results related to financial, customer, and organizational outcomes (Ulrich, Allen, Smallwood, Brockbank, & Younger, 2009). If PJHLT are working in the exploration step and if PJHLT have strong knowledge dynamics with customers and, there would be effective knowledge dynamics through the entire Knowledge Value Chain, from exploration to the customer. *PJHLT are more likely to develop knowledge dynamics with customers* (H_9).

In addition, Sundbo (1997) noted that an increase in market-oriented innovation leads to an increase in cognitive proximity and eventually to an increase in innovation. However, the drawback may be an increase in unintended knowledge spillovers and an unfair recognition perception (Brossard & Vicente, 2007). The accessibility and openness of knowledge during exploration appears to be greater than during exploitation because knowledge is not similarly protected (Brossard & Vicente, 2007). *PJHLT are more likely to worry about the risks of spillovers and imitation* (H_{10}).

Although the European Union's "Lisbon Strategy" encourages the KBE to be profitable for all stakeholders and not merely for a minority of them, knowledge dynamics are driven by financial, intellectual, and other types of interests. Unintended knowledge spillovers have a negative impact because the number of stakeholders benefiting from the use of knowledge is much greater than the number of stakeholders involved in the exploration step.

Consequently, unintended knowledge dynamics decreases the returns on R&D expenditures for early contributors. PJHLT working in exploration and creation (Cooke & De Laurentis, 2005) would be more likely to miss, in part, benefits from their discovery and would likely believe that the distribution of wealth is unfair. *PJHLT are more likely to consider the sharing of wealth as unfair* (H_{11}).

Table 1 summarizes the hypotheses and its literature support.

Table 1: Hypotheses and Literature Summary

Hypotheses	Literature Support
H_1: PJHLT are strongly involved in the exploration step	Cooke & De Laurentis, 2005
H_2: PJHLT are less involved in the examination step	Cooke & De Laurentis, 2005
H_3: PJHLT are less involved in the exploitation step	Cooke & De Laurentis, 2005
H_4: PJHLT are creating, rather than using, knowledge	Cooke & De Laurentis, 2005
H_5: PJHLT are working alone, rather than in group	Tuomi, 2000
H_6: PJHLT are more likely to absorb, transfer and learn	Chen, 2004
H_7: PJHLT are working at long-distance, rather than short distance	Noteboom, 2000
H_8: PJHLT are more likely to carry out innovation	Ruse & Jansen, 2008
H_9: PJHLT are more likely to develop knowledge dynamics with customers	Ulrich et al., 2009
H_{10}: PJHLT are more likely to worry about the risks	Brossard & Vicente, 2007
H_{11}: PJHLT are more likely to consider the sharing of wealth as being unfair	Cooke & De Laurentis, 2005

METHODOLOGY

Sample

This survey is based on 932 respondents from the Grenoble cluster named "Minalogic" (Micro-nano and software).

The global competitive cluster of Grenoble fosters research-led innovation in intelligent miniaturized products and solutions for industry. The cluster has staked out a position as a global leader in intelligent miniaturized solutions, a unique hybrid of micro/nano-technologies and embedded software from fundamental research to technology transfer. We have selected this cluster because of its concentration in terms of knowledge (large number Intellectual Property Rights) and talented people (holding high qualification).

225 members are part of this high tech cluster out of which 111 positively contributed. This data collection was conducted in the context of the EU-funded project with the objective of answering a number of additional research questions that are beyond the scope of this article. The survey was administrated to firms (51%), research centers (25%), universities (18%), and public bodies (6%). Out of such descriptive statistics, it is possible to quote the greatest local contributors: The Commissariat à l'Energie Atomique, HP, Orange-France Telecom, various labs, Grenoble Ecole de Management, Grenoble National Engineering school, Thales, National Centre for scientific research, Schneider Electric, Joseph Fourier University, etc. (Figure 1).

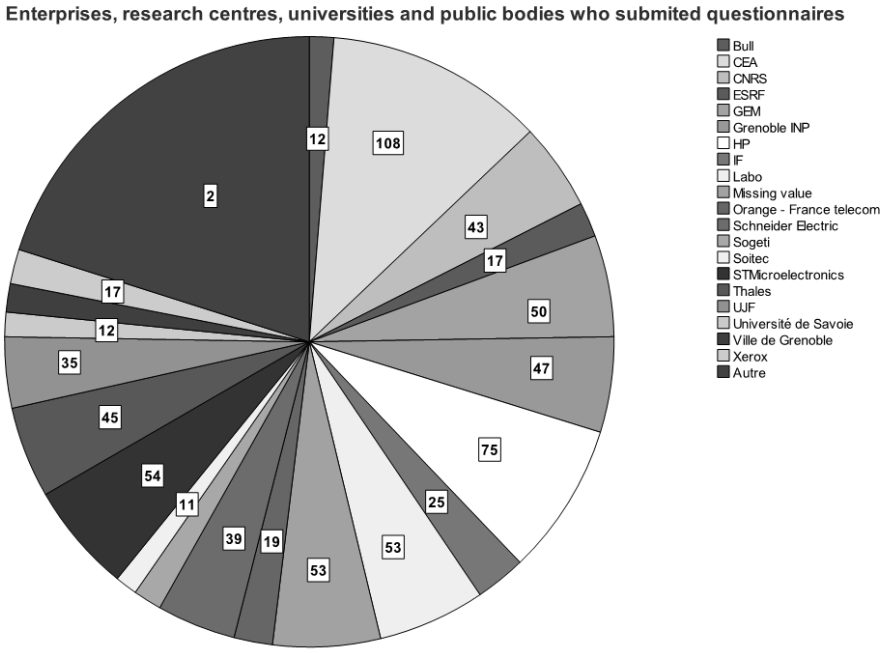

Figure 1: Sample

The employees have been contacted based on their position in the company. We got 932 responses, 566 people provided complete responses. The representativeness of the sample was evaluated and assessed by considering the department origin of the respondents. Research and Development dominates (44%), as knowledge workers are more likely to develop new products and to conduct research. Of the sample, 91.5% is represented by managerial and highly intellectual jobs, with half of all respondents holding a master's degree and 37% having a doctorate.

Measurement

To test our hypotheses, we used the following measurement for independent and dependant variables. We used 7-point Likert and 7-point semantic differential.

Talent: Evaluate the degree of talent required in your job as the intellectual ability to succeed in something. (7-point Likert)

Buyer: How do you evaluate the level of interaction between your organization and following partners? Interactions with clients and end-users. (7-point Likert)

Contribution: Your personal added value is rather related to knowledge creation or existing knowledge use? (7-point Semantic differential)

Functional domain: Evaluate the capability of absorption of your organization; evaluate the capability of transfer of your organization; evaluate the capability of learning of your organization. (7-point Likert; 3 items)

Geographical space: From a geographical perspective, most of interactions between your organization and its partners are rather developed at proximity or rather at distance. (7-point Semantic differential)

Innovation: Please indicate the degree of innovation in the following domains within your organization: new production processes, new products, new materials, resources and technologies, new markets, and new forms of organizations. (7-point Likert; 5 items)

Joint beneficiary: Is the distribution of profits equally shared between your organization and its partners? (7-point Semantic differential)

Mobilization: According to you, knowledge within your organization is generated by invidious or by groups? (7-point Semantic differential).

Exploration: Indicate your degree of involvement in exploration, examination, and exploitation steps. Exploration step (7-point Likert)

Examination: Indicate your degree of involvement in exploration, examination, and exploitation steps. Examination step (7-point Likert)

Exploitation: Indicate your degree of involvement in exploration, examination, and exploitation steps. Exploitation step (7-point Likert)

X knowledge: In the scope of your interaction with your partners, how to do evaluate following risks? Unintended knowledge spillovers, Imitation (7-point Likert; 2 items)

Statistical Analysis

This article utilizes a multiple regression analysis with 12 concepts and 19 variables using the stepwise procedure. We used this method to test the impact of independent variables on the dependant variable to develop a complete regression model by maximizing the prediction. This semi-automated process is adding and removing variables based on the t-statistics. This technique identifies the best predictor, the second best predictor, while avoiding irrelevant variables to enter the model. This multiple regression technique is appropriate for this study because it provides a good fit (maximizing the R^2), while limiting the number of variables entering the model. Consequently, a parsimonious set of statistically significant independent variables predict the dependent variable effectively. The stepwise procedure is suitable to the number of potential explanatory variables and to our large data set (more than 10 observations per variable).

ANALYSIS

Test of Significance

It is necessary to detect non-significant and significant variables linked to the perceived level of talent required for a job. In the following table, we validate six hypothesizes based on the significance.

Table 2: Hypotheses and Significance

H	Hypotheses	Supported (sig.)
H_1	PJHLT are strongly involved in the exploration step (S_1 → T)	Yes (.004)
H_2	PJHLT are less involved in the examination step (S_2 → T)	Yes (.031)
H_3	PJHLT are less involved in the exploitation step (S_3 → T)	No (Not sig)
H_4	PJHLT are creating, rather than using, knowledge (C → T)	Yes (.000)
H_5	PJHLT are working alone, rather than in group (M → T)	No (Not sig)
H_6	PJHLT are more likely to possess absorption, transfer and learning capabilities (F → T)	Yes (.020)
H_7	PJHLT are working at long-distance, rather than short distance (G → T)	Yes (.013)
H_8	PJHLT are more likely to carry out innovation (I → T)	No (Not sig)
H_9	PJHLT are more likely to develop knowledge dynamics with customers (C → T)	No (Not sig)
H_{10}	PJHLT are more likely to worry about the risks of spillovers and imitation (X → T)	No (Not sig)
H_{11}	PJHLT are more likely to consider the sharing of wealth as being unfair (J → T)	Yes (.011)

Estimation of the Regression Model

It is possible to build a model and to provide an estimation of the fit of the overall model. The following six variables were introduced: contribution to knowledge (C), joint beneficiary of knowledge dynamics (J), functional domain of knowledge (F), geographical proximity/distance (G), exploration (S_1), and examination (S_2).

The R^2 value is .095 for the sixth model with six variables. The R^2 change of the last model is .008. The standard error of the estimate measures the accuracy of our predictions. There is a .956 standard deviation around the regression line.

The Variance Inflation Factor (VIF) is under 1.504 for all six variables, indicating that the multicollinearity between independent variables is limited to approximately 1.5% and that the real standard error of each independent variable is potentially 1.5 times greater than the actual amount. This lack of multicollinearity indicates that these six variables are indeed relatively independent from each other, with the excluded variables deliberately deleted.

By adding one, two, three, four, five, and six variables into the model, the error is reduced by 4.02%, 5.934%, 7.14%, 8.04%, 8.76%, and 9.52%, respectively, underlining the utility of adding these six variables into the prediction. The F ratio was successively equal to 23.599, 17.758, 14.412, 12.256, 10.757, and 9.801, with a significance level of .000. Thus, the last entered variable has 0% of chance of not being significant. Here, the study stopped adding other variables because their contribution would be marginal.

Linearity, Multicollinearity, and Replicability

Linearity is assessed by analyzing scatter plots which did not highlight visible track of a nonlinear pattern to the residuals. The analysis of the scatter plots indicates homoscedasticity in the multivariate, confirming the independence of the residuals. We also confirm that the regression variate meets the assumed normality through the P-P plot and a histogram following a normal distribution.

It is essential to check the impact of multicollinearity, as highly collinear variables can affect the regression. The VIF range is between 1.013 and 1.504. This measurement indicates that the level of multicollinearity is not strong enough to distort the regression variate. The t-value of the last variable entered (Examination) is equal to -2.161 (significant at .031), which improves the overall regression model's predictive power.

The validation of results and confirmatory regression models has been processed. Validity analysis allows the study to provide a high level of assurance regarding the quality and accuracy of regression models, thus ensuring the replicability of the model. A confirmatory regression model was processed to ensure that all the variables included in the model are significant. If the contribution focuses on creation rather than on the use of knowledge, if the sharing of benefits from knowledge dynamics is observed as unfair and unequally distributed, if functional domain of knowledge increases, if the geographical distance increases, if the implication within the exploration step increases, or if the implication within the examination step decreases, the perception of required talent for a given job increases ceteris paribus.

DISCUSSION

The backbone of the regression is to obtain a better understanding of why people evaluated their job as requiring a low or high degree of talent. The variance explained is approximately 10%, and the expected error rate for any prediction is a 95% confidence level.

Early Involvement in the Knowledge Value Chain

Today, the steps of the Knowledge Value Chain are increasingly shared. An increase of one point in the involvement within the exploration step is positively correlated with the perception of required talent for a given job of 6.6%. The empirical study confirmed that jobs situated in the early stages of KVC are more likely to require a high level of talent. However, people holding such jobs still need to cooperate with people involved in the examination and exploitation steps (Woodruffe 1999).

In contrast, an increase of one point in the involvement within the examination step of the KVC is negatively correlated with the perception of required talent for a given job of 5%. Thus, a lower number of people evaluating the required level of talent required in their job is confirmed, which emphasizes that TM should consider the KVC in the allocation of human resources according to the competencies and skills of the employees.

Knowledge Absorption, Transfer, and Learning at Great Geographical Distance

An increase of one point in the perceived level of absorption, transfer, and learning ability is positively linked with the perception of required talent for a given job of 8.6%. This result underlines the positive relationship between learning capability and the perceived talent required for a given job.

Moreover, an increase of one point in the geographical distance between stakeholders is positively linked with the perception of required talent for a given job of 5.6%. To hold a job requiring talent, the person should have certain competencies, including multicultural exposure and interpersonal skills. Simultaneously, TM consists of matching competencies and job requirements. International exposure, global networking, and long-distance knowledge dynamics are necessary to grasp the scarce knowledge bits that are disseminated (Berger & Berger, 2004).

Creation but Frustration

An increase of one point in the creation of knowledge (as opposed to the use of knowledge) has a positive correlation with an increase in the perception of required talent for a given job of 11.2%. People working in the creation of new knowledge bits perceive their job as requiring a greater level of talent.

An increase of one point in the unfairness distribution of wealth (as opposed to the fair sharing) has a positive correlation with an increase in the perception of required talent for a given job of 7.7%. Because knowledge dynamics are developed to pursue financial interest, people working in the creation of knowledge are often very far from the market where returns occur. Someone who has created something new may feel that people using his knowledge could take advantage of his talent without rewarding him at a fair value. This is a major challenge, as emphasized by Antonelli (2006a; 2006b), noting that knowledge is fragmented among numerous stakeholders, whereby the origin is difficult to determine and even more difficult to reward.

From the discussion, we developed the following framework (Table 3).

Table 3: Typology of the Findings

Variables	Low Talent Requirement	High Talent Requirement
Knowledge Value Chain	Examination step	Exploration step
Added value	Use of knowledge	Creation of knowledge
Functional domain	Low absorption, transfer, and learning	High absorption, transfer, and learning
Distance	Proximity	Distance
Distribution of wealth	Fair perception	Unfair perception

CONCLUSION

First, PJHLT are more likely to be involved in the early stages of the Knowledge Value Chain; i.e., in exploration rather than in examination. Indeed, "exploration" tends to employ a workforce evaluating their talent's added value as being higher than that of "examination."

Second, PJHLT are more likely to be able to absorb, transfer, and learn within long geographical distances and rich knowledge dynamics. Such functional domains of knowledge lead to the capture of knowledge in particular locations, as determined by individuals holding a job where talent, international networking, and other competencies are required in the KBE driven by "open innovation."

Third, PJHLT are more likely to be involved in the creation rather than in the use of knowledge, which often leads to frustration and a perception of an unfair distribution of wealth. The creation of new knowledge is not necessarily rewarded in the KBE, most likely due to long geographical distances, poor relational proximity, or the length and heterogeneity of talent supply in the Knowledge Value Chain.

We identified three limitations in our study. The first limitation is related to the measurement of subjective variables. Second, our findings cannot be generalized because the cluster of innovation of Grenoble is a unique setting. Third, we only focused on the contribution as one aspect of talent.

Future research in this field would be worthwhile to build better relationships between the fields of KM and TM. This would ultimately lead to a critical analysis on the way organizations will handle major challenges, such as the reduction of gaps within the Knowledge Value Chain and gaps between people's knowledge levels, the attraction, development, and retention of talents (Frank, 2004; Ready, Hill, & Conger, 2008) in the process of knowledge management, the management of talent from hire to retire (Schweyer, 2004) related to the capture of both explicit and tacit knowledge, and the rewarding of talented people for contributing to knowledge management. Collings and Mellahi (2009) emphasize the identification of key positions that can differentially contribute to the sustainable competitive advantage of the organization (Huselid, Beatty, & Becker, 2005; Becker, Huselid, & Beatty, 2009; Whirlpool, 2007) that can be build on knowledge management.

AUTHOR INFORMATION

Laurent Scaringella is an assistant professor at the ESC Rennes School of Business and a visiting scholar at the Haas School of Business at the University of California, Berkeley. E-mail: laurent.scaringella@esc-rennes.fr (Corresponding author)

Rola Chami-Malaeb is an assistant professor at the Lebanese University Faculty of Business administration. E-mail: Rola.chami@grenoble-em.com

REFERENCES

1. Antonelli, C. (2006a). *The embedded generation of knowledge: Contextual spillovers and localized appropriability*. Eurodite.
2. Antonelli, C. (2006b). *Models of knowledge and systems of governance*. Eurodite.
3. Becker, B. E., Huselid, M. A., & Beatty, R. W. (2009). *The differentiated workforce: Transforming talent into strategic impact*. Harvard Business School Press.
4. Brossard, O., & Vicente, J. (2007). *Knowledge trends in the European ICT sector, Knowledge value chain, proximities and networks*. Eurodite.
5. Buckingham, M., & Vosburgh, R. M. (2001). The 21st century human resources function: It's the talent, stupid! *Human Resource Planning, 24*(4), 17-23.
6. Cappelli, P. (2008-a). Talent management for the twenty-first century. *Harvard Business Review, 86*(3), 74-81.
7. Cappellin, R. (2006). *Regional governance in the knowledge economy*. Eurodite.
8. Carayannis, E. G., Ziemnowicz, C., & Spillan, J. E. (2007). *Rediscovering Schumpeter: Conclusions and lessons learned for public and private policy as well as practice*. (and C. Z. Elias G. Carayannis, Ed.). New York: Pelgrave Macmillan.
9. Chen, C.-J. (2004). The effects of knowledge attribute, alliance characteristics, and absorptive capacity on knowledge transfer performance. *R&D Management, 34*(3), 311-21.
10. Chesbrough, H. W. (2003). Open innovation: The new imperative for creating and profiting from technology.
11. Collings, D. G., & Mellahi, K. (2009). Strategic talent management: a review and research agenda. *Human Resource Management Review*.
12. Cooke, P. (2005). *Markets and networks in the knowledge value chain*. EU-FP6 Eurodite.
13. Cooke, P. (2006). *Market & networks in the knowledge value chain*. Eurodite.
14. Cooke, P., & De Laurentis, P. (2005). *Regional trajectories to the knowledge economy: A dynamic model*. Center for Advanced Studies, Cardiff University.
15. Frank, F. D., & Taylor, C. R. (2004). Talent management: Trends that will shape the future. *Human Resource Planning, 27*(1), 33-41.
16. Groysberg, B., & Lee, L.-E. (2009). Hiring stars and their colleagues: Exploration and exploitation in professional service firms. *Organization Science, 20*(4), 740-758.

17. Hayek, F. A. (1937). Economics and knowledge, 4, 33-54.
18. Helmstäder, E. (2006). *About the economics of knowledge the macro-economic and institutional perspective*. Eurodite.
19. Huselid, M., Beatty, R., & Becker, B. (2005). "A Players" or "A position"? *Harvard Business Review*, 1-8.
20. Michaels, E., Handfield-Jones, H., & Axelrod, B. (2001). *The war for talent*. Boston, Massachusetts: Harvard Business School Press.
21. Morton, L. (2005). Talent management value imperatives: Strategies for successful execution. Research Report R-1360-05-RR (pp. 1–7). New York: The Conference Board.
22. Nooteboon, B. (2000). Learning by interaction: Absorptive capacity, cognitive distance and governance. *Journal of Management & Governance, 4*, 69-92.
23. Ready, D., Hill, L., & Conger, J. (2008). Winning the race of talent in emerging markets. *Harvard Business Review, 86*(11), 63-73.
24. Ruse, D. H., & Jansen, K. E. (2008). Stay in front of the talent curve. *Technology Management*, 38-43.
25. Schapiro, H., & Varian, C. (1999). *Innovation rules: A strategic guide to the network economy*. Boston: Harvard Business School Press.
26. Tansley, C., Stewart, J., Turner, P., & Lynette, H. (2006). *Change agenda: Talent management understanding the dimensions*. UK: CIPD.
27. Tuomi, I. (2000). Data is more than knowledge: Implications of the reversed knowledge hierarchy for knowledge management and organizational memory. *Journal of Management Information Systems, 16*, 103-18.
28. Ulrich, D. (2008). Call for talent: What is the best solutions? *Leadership Excellence, 25*(5), 17-17.
29. Ulrich, D., Meisingerm, S. R., & Losey, M. (2005). Conclusion: Reality, impact, and professionalism. *Human Resource Management, 44*, 201-206.
30. Vicente, J., & Suire, R. (2007). Informational cascades versus network externalities in locational choice: Evidence of "ICT clusters" formation and stability. *Regional Studies, 41*(2), 173-184.
31. Whirlpool, M. B. (2007). Analysing critical positions for talent needs. *Organization Development Journal*, 115-118.