IDEA GROUP PUBLISHING
701 E. Chocolate Avenue, Suite 200, Hershey PA 17033-1240, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-http://www.idea-group.com
ITB12615

This paper appears in the book, *Emerging Trends and Challenges in Information Technology Management, Volume 1 and Volume 2* edited by Mehdi Khosrow-Pour

Building HR Decision Support: Insights from Theory

Jochen Malinowski, Institute for Information Systems, University of Frankfurt, Mertonstr. 17, PF 65, 60054 Frankfurt am Main, Germany, +49 69/798-23318, jmalinow@wiwi.uni-frankfurt.de

Tobias Keim, Institute for Information Systems, University of Frankfurt, Mertonstr. 17, PF 65, 60054 Frankfurt am Main, Germany, +49 69/798-23318, tkeim@wiwi.uni-frankfurt.de

ABSTRACT

IS support for Human Resource Management (HRM) to date is largely limited to administrative tasks such as payroll and attendance management. However, support for one of the core tasks of HRM is rather scarce: the selection of candidates for open jobs. Also, existing solutions often focus solely upon assessing person-job fit. Despite the fact that researchers stress the importance of other fit types such as person-team and person-organization fit, existing HR systems have not yet integrated such perspectives. Building up on findings from literature, we in this paper develop an approach incorporating the different existing fit types into a unified model of multilevel fit. Based on this, we derive concrete requirements for an IS-supported personnel selection approach.

INTRODUCTION

IS support for Human Resource Management (HRM) in recent years has gained increasing importance. Focusing on administrative parts such as payroll and attendance management in the beginning, solutions are now available that assist personnel decision makers in strategic questions and in activities related to the core components of the HR cycle being composed of the recruitment function on the one hand and of personnel development on the other. With regard to the support of recruitment activities, information systems (IS) already provided many benefits such as the low-cost attraction of high volumes of candidates over the Internet. In contrast, the candidate selection phase as the process stage following the attraction phase is only merely supported by IS that go beyond Boolean search. Based on own empirical research (e.g., see Keim and Malinowksi 2006) we argue that such system support in the near future will become a core functionality of many HR information systems (HRIS).

Also, when looking at the current state of HRIS, one perceives that existing solutions almost exclusively focus on evaluating the match between the demands of the job and the technical skills of an applicant. This kind of assessment, also called person-job fit, is highly related to the traditional model of personnel selection (Anderson et al. 2004). However, researchers discuss that due to changes in organizational design and environmental conditions this traditional focus is too narrow. Thus, team-based work structures and other factors necessitate new models of fit that go beyond person-job fit (Anderson et al. 2004; Bowen, Ledford and Nathan 1991; Mankin, Cohen and Bikson 1996; West 2004). It is therefore important to hire people that fit to broader aspects such as their team or the entire organization. Our research question therefore is: What are requirements for IS supported personnel selection and how do existing HRIS need to be extended in order to reflect the demands for multilevel fit?

A MULTILEVEL FIT APPROACH

The match between person and job is usually termed in literature as person-job fit (P-J). Due to the increased importance of team-based work structures and the augmenting job instability, other types of fit recently gained importance. Among the most discussed fit types are person-vocation fit (P-V), person-organisation fit (P-O) and person-team fit (P-T) (Edwards 1991; Kristof 1996; Schneider et al. 1997). They all belong to the overarching concept of person-environment fit (P-E) (Sekiguchi 2004).

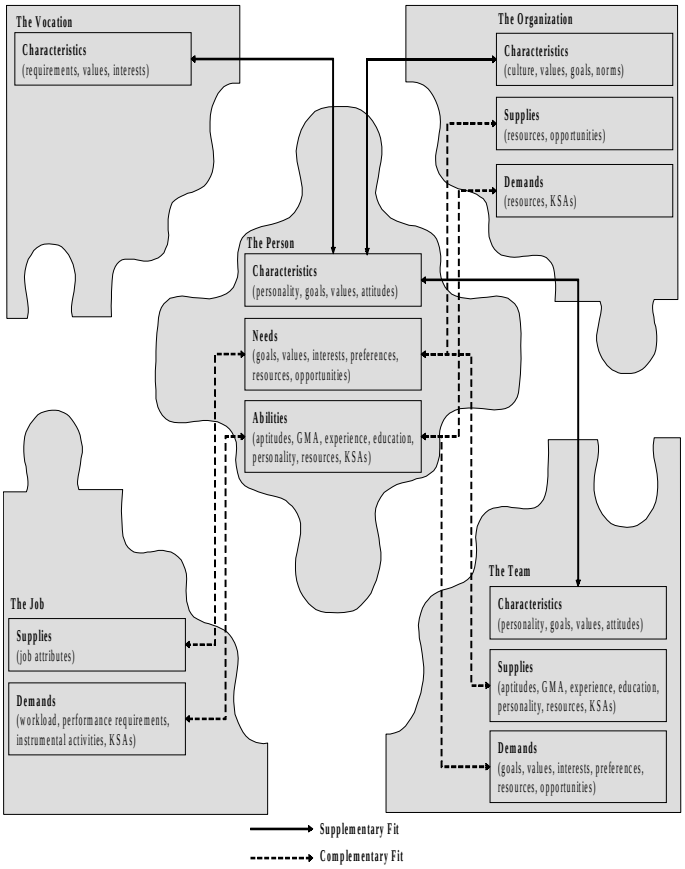
Person-Environment fit

P-E fit is the overarching concept for all the above-mentioned different sub-types of fit. The most important perspective on how this fit type can be conceptualized is the distinction between supplementary and complementary fit (Kristof 1996; Sekiguchi 2004). Muchinsky and Monahan stated that supplementary fit exists when an individual "supplements, embellishes, or possesses characteristics which are similar to other individuals" in an environment (1987, 269). According to this, a high level of supplementary fit is perceived when an individual has similar characteristics such as values, tastes and interests as existing members of the environment. On the other hand, complementary fit exists when a person's characteristics make whole the environment or add to it what is missing. The need of the environment is offset by the abilities of an individual and vice versa. The complementary perspective can further be subdivided into the needs-supplies and the demands-abilities fit (Kristof 1996). While needs-supplies fit comprises the fit between an individual's needs, desires or preferences and the environmental supplies, the demands-abilities fit is concerned with the fit between the environmental demands and the individual's abilities (Edwards 1991; Kristof 1996).

The supplementary and complementary fit perspectives are typically used to evaluate the different sub-types of fit that are described hereunder.

- *Person-vocation fit* is the broadest level of environmental fit. It is determined by the difference between the personality of the individual and the 'personality' of the vocational environment (Holland 1985; Kristof 1996).
- *Person-organization fit* relates to the compatibility between a person's characteristics and broader organizational attributes such as culture and norms (Chatman 1991). Based on a review of the literature, Kristof (1996) concludes that for a high level of P-O fit both perspectives of fit, supplementary and complementary needs to be considered.
- A highly recognized work related to all aspects of *person-job fit* has been done by Edwards (1991). Consistent with the already introduced P-E fit conceptualization, the author defines P-J fit to consist of two classes of corresponding person and job constructs, the fit between the employee's desires and job supplies and the fit between job demands and the employee's abilities.
- As teamworking requests from its members to work interdependently, a high level of *person-team fit* ensures that the members can effectively cooperate and communicate with each other. Werbel and Johnson (2001) conclude that both supplementary and complementary fit need to be considered when selecting

Figure 1. The multilevel fit model



individuals for teams. They stress that the presence of one fit perspective without the other may lead to dysfunctional teams.

A Multilevel Fit Model

Ideally all of the above presented fit types are assessed within an external applicant selection scenario. Anderson et al. (2004) term this as the multilevel fit in personnel selection. Figure 1 shows the multilevel fit model. It has been developed based on the fit models of Holland (1985), Kristof (1996), Edwards (1991), Werbel and Johnson (2001), Werbel and Gilliland (1999) and West and Allen (1997). To achieve multilevel fit, all pieces of the puzzle such as the vocation, the organization, the team, the job and the person need to fit together simultaneously.

REQUIREMENTS FOR IS-SUPPORTED MULTILEVEL FIT ASSESSMENT

Most current systems supporting the personnel selection stage are solely focused on assessing the fit between the individual's abilities and the demands of the job in consideration. Such systems are usually based on standard database queries calculating the difference between concrete skill requirements for a specific job profile and the abilities of the applicants (e.g. by comparing the level of required programming skills with the actual one). This procedure obviously requires employee and job profiles to be captured and stored based on a common skill-based ontology (Edwards 1991).

However, not all aspects of the person and the environment can be easily operationalized and put into a common ontology. Muchinsky and Monahan (1987) note that "the language of individual and environmental assessment is often different, which further retards our attempts to achieve congruence". Also, selection decisions often depend on underlying attributes such as personal characteristics or social skills (Jackson 1996) that cannot be operationalized easily.

Based on the theoretical requirements as derived from literature and the drawbacks of current personnel selection systems, we derive the following high level requirements for an IS-supported approach:

- An IS-supported approach to personnel selection must be able to capture the latent aspects that underlie personnel selection decisions.
- Due to changing demands in the work environment, all types of fit such as P-V, P-O, P-T and P-J fit need to be considered simultaneously as all of them can have an impact on individual and organizational effectiveness.
- As P-O, P-T, and P-J fit require the integration of the complementary fit perspective, the selection process for those types must be bilateral which means that the preferences of all involved parties need to be taken into account.
- Finally, as we also need to assess the fit between the candidate and other individuals (e.g. those that are in the organization or the team) it is not enough to focus solely on unary attributes that are tied directly to an individual (e.g. individual attributes and skills such as programming skills) but we also need to consider relational attributes that determine the level of fit between two or more persons (e.g. trust).

CONCLUSION AND POTENTIAL APPLICATION AREAS

In this paper we argued that recent organizational trends require changes in personnel selection processes being a core part of HRM. A review of existing literature showed that besides the assessment of traditional P-J fit other fit types such as P-V, P-O and P-T fit need to be considered as well. One main driver for this development lies in the fact that with new forms of collaboration emerging the importance of lifetime employment declines. Also, whereas applicants were recruited to fill a single well-defined role in the past, candidates are nowadays recruited to fulfill a variety of roles in a broad variety of interpersonal and organizational contexts. Despite these developments, HRIS have not yet integrated the above-mentioned multiple dimensions of fit. We therefore presented a model of multilevel fit aiming to integrate the various different fit types into a unified model applicable to the HR scene. Based on this, we derived concrete requirements for an IS supported personnel selection approach. Potential application areas for such an approach are the selection of external applicants, the staffing of company-internal teams, the support of job search activities as well as of partner searches in business networking platforms.

REFERENCES

Anderson, N., Lievens, F., van Dam, K. and Ryan, A. M. "Future Perspectives on Employee Selection: Key Directions for Future Research and Practice," *Applied Psychology: An International Review,* (53:4), 2004, pp. 487-501.

Bowen, D. E., Ledford, G. E. and Nathan, B. R. "Hiring for the organization not the job", *Academy of Management Executives*, 5, 1991, pp. 35-51.

Edwards, J. R. "Person-Job Fit: A conceptual integration, literature review, and methodological critique", Cooper, C. L. and Robertson, T. (Eds.), *International Review of Industrial and Organizational Psychology*, 6, New York: Wiley, 1991, pp. 283-357.

Holland, J. L. *Making Vocational Choices: A theory of careers* (2nd ed.), Englewood Cliffs, NJ: Prentice-Hall, 1985.

Jackson, S. E. "The consequences of diversity in multidisciplinary work teams," in: *Handbook of workgroup psychology*, West, M.A. (eds.), Sussex, 1996.

Keim, T. and Malinowksi, J. "Building HR decisions support: Insights from Empirical Research", in: *Proceedings of the 2006 IRMA international conference*, Washington, 2006.

Kristof, A. L. "Person-organization fit: An integrative review of its conceptualizations, measurement, and implications", *Personnel Psychology*, 49 (1), 1996, pp. 1-49.

Mankin, D., Cohen, S and Bikson, T. "Teams and Technology: Fulfilling the Promise of the New Organization", Boston, MA: Harvard Business School Press, 1996.

Muchinsky, P. M. and Monahan, C. J. "What is person-environment congruence? Supplementary versus complementary models of fit", *Journal of Vocational Behavior*, 31, 1987, pp. 268–277.

Sekiguchi, T. "Toward a dynamic model of person-environment fit", *Osaka Keidai Ronshu*, 55 (1), 2004, pp. 177-190.

Werbel, J. D. and Gilliland, S. W. "Person-environment fit in the selection process," in: *Research in Personnel and Human Resource Management*, Ferris, G. R. (eds.), 17, Stamford, JAI Press, 1999, pp. 209-243.

Werbel, J. D. and Johnson, D. J. "The use of person-group fit for employment selection: A missing link in person-environment fit," *Human Resource Management*, 40, 3, 2001, pp. 227-240.

West, M. A. and Allen, N. J. "Selecting for Teamwork", in: *International Handbook of Selection and Assessment*, ed. Anderson, N. and Herriot, P., 1997, pp. 491 – 505.

West, M. A. *Effective teamwork*, 2nd edition, Leicester, UK, The British Psychological Society (BPS), Blackwell Publishing Ltd., 2004.