

## **IOBC 2018 Symposium - The Infrastructure of Innovative High tech Organizations**

### **Introduction:**

According to a well-accepted definition, High tech organizations are those that "engaged in design, development and the introduction of new products/and or innovative manufacturing processes through the systematic application of scientific and technical knowledge" (Hadlock, Hecker & Gannon, 1991, p. 26). While much consideration has been attributed to the business/economic aspects of High tech organizations innovation capabilities, we suggest looking at several unconventional aspects contributing directly or indirectly to it.

The first research project, uncovers how unconferences influence the innovation competencies of their participants. Via an ethnographic methodology, the research explores the particular characteristics of unconferences as Field Configuring Events, that is, as events that influence the innovation ecosystem. The second project focuses on listening at team meetings. The research intends to suggest a novel methodology to capture the "slippery" concept of listening. Furthermore, the study explores, if, and how team member's listening at meetings effects knowledge acquisition, which is a key asset to innovative production. The third paper pertains to address a significant condition of work at high tech global organizations, namely, virtual work. Via a focus on psychological contracts, the study findings show how virtuality affects employee-employer relationships which are at the core of organizational interactions. The last paper focuses on the inclusion of Ultra-Orthodox employees to high tech organizations. Diversity has been long recognized as contributing to innovation. In this case, the paper analyzes participant's perspectives of the meaning of work, and the ways they cope with the challenges that derived from their encounters with an entirely work environment.

Hadlock, P., D. Hecker., & Gannon, J. (1991). High technology employment: An overview. *Monthly Labor Review*, 114 (7), 26-30.

### **Unconferences as Platforms for Innovation Competencies Enhancement**

In recent years we have witnessed an increased popularity of informal innovation events (such as meetups, hackathons and unconferences). Every week there are dozens of these types of events throughout Israel and hundreds of thousands worldwide. These events engage individuals in an interactive learning process; they are based on random interactions in temporarily designed arenas, where people from diverse backgrounds and shared interests get together in a format that apparently affects their innovation competencies. These events are extremely valuable for building

and strengthening ties in the innovation ecosystem and play an important role in structuring and shaping it (Motoyama & Watkins, 2014; Owen, 2008; Möller, et al., 2014). In that sense, an affinity can be found with literature on Field Configuring Events (FCEs). FCEs are temporally and spatially bounded social organizations such as tradeshows, professional gatherings and technology contests that shape the emergence and development trajectories of professions, technologies, markets and industries (Meyer, Gaba, & Colwell, 2005; Lampel & Meyer, 2008). In recent years the body of research on FCEs has grown significantly in different disciplinary contexts; however the common principle of these studies relies on their explicit focus on the role of events as a configuration mechanism of fields (Schüßler, Grabher, & Müller-Seitz, 2015).

Studying the impact of FCEs is of great importance as they play a pivotal role in shaping and driving change of the social, economic and technological landscapes (Lampel & Meyer, 2008). While the term 'field' generally refers to a particular industry context, some scholars use a more open conceptualization and refer to institutional fields (Thornton, Ocasio, & Lounsbury, 2012). In this study, I develop the interpretation of a field even further by relating to it in the broader sense of an ecosystem. The term ecosystem represents a form of collaboration characterized by being a collection of players from diverse sectors that engage in joint production, whose choices and actions are independent (Boudreau & Lakhani, 2009; Almirall, Lee, & Majchrzak, 2014; Iansiti & Levien, 2004). Put differently, this research refers to the innovation ecosystem as a field, and to informal innovation events as sites, that indirectly shape the innovation ecosystem through their possible impact on the innovation competencies of their participants. In this research, I define innovation competencies broadly, as the ability (either acquired or congenital) to generate ideas and realize them in a way that creates value. In order to explore how unconferences influence the innovation competencies of their participants, I have chosen *MuseNet* as a representation of an unconference. *MuseNet* is an annual, free of charge, one-day music and technology unconference, which brings together musicians, technologists and dozens of other participants from throughout the innovation ecosystem.

The multidisciplinary nature of *MuseNet* and its annual occurrence over ten consecutive years makes it a suitable case to explore the unconference phenomenon and address this study's research questions.

As this study is still in process, preliminary results of a pilot study will be presented.

This pilot study included three phases:

1. Descriptive observation of an unconference called 'MuseNet2016' throughout the entire event (i.e. from door opening to wrap-up and door closing).
2. Semi structured in depth interviews with *MuseNet*2016 participants and its organizers.

3. Content analysis of all the posts (57) that were published in the event page of MuseNet2016 on Facebook.

Using open coding to define concepts and categories in the data reveals ten categories that can be separated into two distinctive groups. One group of categories relates to the added value for the participants of MuseNet2016, and the other to the characteristics of the event. Below are the two groups of categories:

Participants' added value	MuseNet characteristics
1. Learning and knowledge	1. Atmosphere
2. Connections expansion	2. Venue
3. Creativity	3. Participants
4. Personal empowerment	4. Structure
5. Fun	
6. Community	

#### References:

- Almirall, E., Lee, M., & Majchrzak, A. (2014). Open innovation requires integrated competition-community ecosystems: Lessons learned from civic open innovation. *Business Horizons*, 391—400.
- Boudreau, K. J., & Lakhani, K. R. (2009). How to manage outside innovation. *MIT Sloan Management Review*, 69-76.
- Iansiti, M., & Levien, R. (2004). Strategy as Ecology. *Harvard Business Review*, 1-11.
- Lampel, J., & Meyer, A. D. (2008). Field-Configuring Events as Structuring Mechanisms: How Conferences, Ceremonies, and Trade Shows Constitute New Technologies, Industries, and Markets. *Journal of Management Studies*, 1025-1035.
- Meyer, A. D., Gaba, V., & Colwell, K. A. (2005). Organizing Far from Equilibrium: Nonlinear Change in Organizational Fields. *Organization Science*, 456—473.
- Möller, S., Afgan, E., Banck, M., JP Bonnal, R., Booth, T., Chilton, J., . . . Sallou, O. (2014). Community-driven development for computational biology at Sprints, Hackathons and Codefests. *BMC Bioinformatics*, 15.
- Motoyama, Y., & Watkins, K. K. (2014). *Examining the Connections within the Startup Ecosystem: A Case Study of St. Louis*. Kansas: Kauffman Foundation.
- Owen, H. (2008). *Open Space Technology: A User's Guide (3rd Edition)*. San Francisco: Berrett-Koehler Publishers.
- Schüßler, E., Grabher, G., & Müller-Seitz, G. (2015). Field-Configuring Events: Arenas for Innovation and Learning? *Industry and Innovation*, 165-172.

Thornton, P. H., Ocasio, W., & Lounsbury, M. (2012). *The Institutional Logics Perspective: A New Approach to Culture, Structure, and Process*. New York: Oxford University Press.

### **Listening in team meetings in the hi-tech industry and its effect on knowledge transfer**

It is well known that in the hi-tech industry, outputs and achievements are largely the result of teamwork. Therefore, the team is a critical component of the organization's success. As there are inherent processes of listening and knowledge transfer within all teams, awareness of these processes is important for improving the effectiveness of teams and organizations as a whole.

This research is a qualitative study that deals with listening in team meetings and its impact on the transfer of knowledge in hi-tech companies in Israel. The research is based on a case study (Eisenhardt, 1989) that examines a contemporary phenomenon within the context of real-life events. This method of research enables the preservation of the holistic and significant characteristics of organizational life (Yin, 1994).

The basic assumption of this research, which appears to be almost nonexistent in academic business and management literature (Johnston et al., 2011), is that the listening process within a team is different from listening in dyadic communication due to the many interactions between multiple 'listeners' and 'speakers' in the team meeting setting. While listening in dyadic interaction establishes the foundation for ongoing communication, paying attention to interactions at the team level is also critical (Brownell, 2008), as the listening during interpersonal communication between a speaker and a listener is reinforced by the added involvement of supervisors, teams, and organizations (Brownell, 1994; Wolvin, 2010).

The study relates to eight organic work teams (73 employees and managers) in two hi-tech companies in Israel (R&D and Operations departments), and is conducted using a qualitative method. It combines an interpretive approach (21 interviews and 10 focus groups) with a positivist approach (observations of 30 team meetings). In this study, to analyze a construct as vague as 'listening in team meetings', we found it necessary to implement a new methodology for the observation.

First, we will present the findings of the research, focusing on the differences and similarities between participants' own perception of their listening in team meetings (based on interviews and focus groups) and their actual listening behavior during those meetings (based on the observation). We found a correlation between the perceived and the actual observed listening behaviors of team members. For example, team members' perception of the listening as

‘constructive’ or ‘destructive’, according to the interviews and focus groups, was determined by the average length of time given to team members to “speak without interruption”. The ‘constructive’ team spoke for 75% of the time without interruption, while the ‘destructive’ team spoke for only 7% of the time without interruption.

Second, we will present the discrepancy between the team members’ positive attitude towards listening as a concept and their negative perception of the actual listening that occurs during their team meetings. Most of the participants perceive ‘listening’ as a positive term (130 used positive adjectives to describe listening; 45 used negative adjectives to describe listening), yet only two teams perceived the listening in their team meetings to be ‘constructive’.

Third, we will present a listening continuum, comprising six levels: (1) hearing (2) pretending to listen (3) partial listening (4) interrupting (5) listening and understanding (6) listening to empower the speakers and to help them better understand themselves. This is an elaboration of the existing literature that relates to listening as a dichotomy of constructive/destructive, positive/negative, or passive/active.

Fourth, we will present analysis of the different types of interruptions. Most of the participants regard interruption as positive (if it is relevant to the topic of conversation) because it promotes discussion, or negative (if it is not relevant to the topic of conversation) because it is perceived as usurping the role of the speaker.

Finally, we will present findings about the implications of listening in team meetings; the linkage between listening and knowledge transfer in team meetings, and the different types of listening that are relevant to different types of knowledge.

This study contributes to the current research by providing a new definition of listening in team meetings, and by describing how it effects knowledge transfer in teams in hi-tech companies.

## **References:**

Brownell, J. (1994). Creating strong listening environments: A key hospitality management task. *International Journal of contemporary hospitality management*, 6(3), 03-10.

Brownell, J. (2008). Exploring the strategic ground for listening and organizational effectiveness. *Scandinavian Journal of Hospitality and Tourism*, 8(3), 211-229.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14 (4), 532-550.

Johnston M. K., Reed K. and Lawrence K. (2011) Team Listening Environment (TLE) Scale. *Journal of Business Communication*, Volume 48, Number 1.

Wolvin, A. (Eds.). (2010). *Listening and human communication in the 21st century*. Oxford: Wiley-Blackwell.

Yin, R. K. (1994). *Case study research: Design and methods*. Beverly Hills, CA: Sage.

## **Psychological Contracts of Virtual and On-Location Employees in a High-tech Corporation: An Exploratory Study**

Virtual work, i.e., working across national, temporal and cultural boundaries using information communication technology, has become a prevalent characteristic of employment across organizations (Brewer, 2010). A virtual employee can be defined as “a person who works remotely, or in a different location, than his/her manager or peers” (Sheridan, 2012, p. 12). The relationship between virtual employees and their organizations have been recognized as critical for work success (Merriman, Schmidt, & Dunlap-Hinkler, 2007). Likewise, it has been found that virtual work affects employee-manager relationships, manifesting itself in the quality of the work commitment, job satisfaction and performance of virtual employees (Golden & Veiga 2008). However, while virtual work has been the subject matter of numerous academic and popular investigations, there is little empirical research that considers the ways in which virtual work alters employee-organization and superior-subordinate relationships (Wiesenfeld, Raghuram, & Gaurd, 2001; Golden & Veiga, 2008; Shore, Coyle-Shapiro, & Tetrick, 2012). Previous research on employee-organization relationships (EOR) in virtual work environments have examined whether distance and separation weaken employee-organization relationships. Most of these studies reported uncertainty and concern for the evolving employee-organization relationship in the context of virtual work, showing that the virtual work context weakens employee-organization relationships (Shore, Coyle-Shapiro, & Tetrick, 2012; Wiesenfeld, Raghuram, & Gaurd, 2001). Similarly, with regards to the effect of virtual work on employee-manager relationships, existing research, through hypotheses based on media richness, social presence and leadership presence theories, have predicted weaker relationships between virtual employees and their supervisors. Overall, research on this topic lacks empirical support and contextual grounding. It fails to address several key issues, including how virtual employees experience employee-organization and employee-manager relationships, and the particular consequences of virtual work on these two types of relationships.

The focus of this research is on the assessment of these relationships, as perceived by virtual and non-virtual employees in a high-tech organization. Such organizations, which tend to be early adopters of rapid technological advancement, have well-developed virtual teams. Existing

research, however, has overlooked the employee-manager/organization relationship within this fundamental and prevailing condition of the modern work environment.

This study examines these relationships, on the basis of interviews and focus groups conducted with 30 virtual and 27 non-virtual workers employed in the same high-tech organization, with the objective of exploring and comparing participants' psychological contract (PC) elements. By PC elements, we mean the core elements that make up the unwritten, subjective contract between the organization and the employee.

This study contributes to existing research by identifying how virtuality affects employee-employer relationships: specifically, the limitations that prevent managers from establishing equitable staff management and providing professional support, and employees' limited ability to develop personal relationships with management. An additional theoretical contribution of this study derives from the study's contextual analysis, by showing how the PC of both virtual and non-virtual employees reflect certain aspects of the work culture that high-tech organizations try to "engineer."

## **Reference List**

Brewer, P. E. (2010). Miscommunication in International Virtual Workplaces: A Report on a Multicase Study. *IEEE Transactions on Professional Communication*, 53, 4, 329-344.

Conway, N., & Briner, R.B. (2009). Fifty years of psychological contract research: What do we know and what are the main challenges? In G. P. Hodgkinson & J. K. Ford (Eds.), *International review of industrial and organizational psychology* (Vol. 24, pp. 71–131). Chichester, UK: Wiley-Blackwell.

Golden, T.D., & Veiga, J.F. (2008). The impact of superior-subordinate relationships on the commitment, job satisfaction, and performance of virtual workers. *The Leadership Quarterly*, 19, 77-88.

Merriman, K.K., Schmidt, S.M., & Dunlap-Himkler, D. (2007). Profiling virtual employees: the impact of managing virtually. *Journal of Leadership & Organizational Studies*, 14(6), 6-15.

Rousseau, D.M., & Schalk, R. (2000). *Psychological contracts in employment: Cross-national Perspectives*. Thousand Oaks, CA: Sage.

Sheridan, K. (2012). *The virtual Manager*. Prompton Plains, NJ: The Career Press.

Shore, L. M., Coyle-Shapiro, J. A., & Tetrick, L. E. (Eds.). (2012). *The employee-organization relationship: Applications for the 21st century*. Routledge.

Wiesenfeld, B.M., Raghuram, S., & Gaurd, R. (2001). Organizational identification among virtual workers: the role of need for affiliation and perceived work-based social support. *Journal of Management*, 27, 213–229.

## **The meaning of work in Multicultural Organization from the minority perspective**

Research has shown that the meanings and meaningfulness attached to work affect many aspects of employee performance and well-being. Rosso, Dekas, & Wrzesniewski, (2010: 92-93) provide multiple references to studies that have shown effects on the following outcome variables: work motivation, absenteeism, work behavior, work engagement, job satisfaction, empowerment, stress, and organizational identification. It was also found that greater meaningfulness of work is associated with greater general well-being, and that people who view their work as a calling, display more faith in management and are involved in better work team functioning (Steger, Dik, & Duffy, 2012).

Due to the globalization, technology and liberalization in trade, multicultural organizations are becoming common (Singh, 2012). Managing the diversity in the organization become critical to organization success. When organization diversity is adequately managed, it increases creativity, productivity, and the creation of new solutions (Wambui, Wangombe, Muthura, Kamau & Jackson; 2013).

This paper focuses on one aspect of diversity, namely, 'the meaning of work' as constructed by a particular category of works, and the ways that workers' perspectives of the meaning of work impact their coping and behavior.

The case presented deals with Ultra-orthodox men employed in high-tech organizations. The culture of high-tech organizations is described as one that built upon employees' dedication. Workers are expected to work long hours and provide qualitative innovative products as part of organizations survival efforts in a highly competitive environment (Kunda, 1992). Contrary to that, in the Israeli ultra-Orthodox society men are expected to dedicate their time and energy to the study of the Tora. They are expected not to participate in the labor market (Kaplan, 2003). Economic constraints and other changes of the Israeli ultra-Orthodox community lead to a new phenomenon where many of these men enter the work force. The research deals with two questions: (a) What is the meaning of "work" as perceived by ultra-Orthodox employees working in high-tech organizations? And, (b) do workers experience conflict between the perception of "work" as constructed in the ultra-Orthodox community and those embedded in the high-tech culture, and if there is a conflict, how is it resolved.

The paper is based on twenty-three in depth interviews. Twenty interviews conducted with Ultra Orthodox men employed in several high-tech organizations and three interviews with experts. Data also includes an analysis of 105 questions and answers published in various internet forums dealing with work from a Jewish religious perspective.

The paper suggests a typology of participants' perspectives, perceptions of challenges and coping behavior. It demonstrates the link between participants perspective regarding the meanings of work, the perceptions of conflict that arise when facing the high tech culture, and the particular ways that individuals apply to cope. Three main approaches were identified: "work as a constraint", "work as a resort", and "work as an ideal".

The study contributes to existing research by (a) showing the link between different perceptions of work and their impact on worker's behavior, and (b) by showing that within one category of minority participants in organizations (such as Ultra-Orthodox employees), there are significant differences that still lead to diversity *within* these called a distant community.

## Reference List

- Kaplan, K. (2003). A study of the ultra-Orthodox society in Israel: Characteristics, achievements and challenges. *The ultra-orthodox in Israel: Integration without assimilation*, 224-277
- Kunda G. (1992). *Engineering culture: Control and commitment in a high-tech corporation*. Philadelphia: Temple University Press.
- Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in organizational behavior*, 30, 91-127.
- Singh, D. (2012). *Managing Cross-cultural Diversity: Issues and Challenges in Global Organizations*. *Journal of Mechanical and Civil Engineering*, str, 43-50.
- Steger, M. F., Dik, B. J., & Duffy, R. D. (2012). Measuring meaningful work: The work and meaning inventory (WAMI). *Journal of Career Assessment*, 20(3), 322-337.
- Wambui, T. W., Wangombe, J. G., Muthura, M. W., Kamau, A. W., & Jackson, S. M. (2013). *Managing Workplace Diversity: A Kenyan Pespective*. *International Journal of Business and Social Science*, 4(16).
- Wrzesniewski, A., McCauley, C., Rozin, P., & Schwartz, B. (1997). Jobs, careers, and callings: People's relations to their work. *Journal of research in personality*, 31(1), 21-33.