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IT-Enabled Networks and the Construction of Occupational Identities for highly-skilled IT contractors

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ABSTRACT

The impact of technology on the professional workforce of organizations has long occupied the IS academic community. Yet what has been paid less attention is the impact of technology on professional workers who operate outside the conventional employment setting. Taking into account this gap in the literature, the paper aspires to bring forward issues referring to the implication of internet technology in the construction of identity of highly-skilled Information Technology (IT) contractors. Drawing upon data from interviews with thirty highly-skilled IT contractors, the paper suggests that the possibilities of action and interaction among social agents provided by the internet appear to partly account for the construction of the IT contractors’ identity. Technology-supported or enabled communities become for the contractors the locus of social interaction, the hub of knowledge generation and the primary object of professional identification.

Keywords: IT contractors, identity, internet technology, IT-enabled communities of practice
INTRODUCTION

There has been a burgeoning literature describing and analyzing how the introduction of new technologies has profoundly redefined and challenged the work routines, practices and authority relationships traditionally met in current workplace (Barley 1986; Barley 1996; Brocklehurst 2001; Graham and Wilkinson 1992; Gray et al. 1993; Lamb and Davidson 2005; Walsham 1998; Zuboff 1988). Common to the majority of the previous studies is the fact that they explore the impact of new technologies on employees who are full-time employed. Interestingly enough, fewer studies impinge upon the way ICTs are implicated in the redefinition and conceptualization of work for contingent workers (Barley and Kunda 2004; Malone and Laubacher 1998). Taking into account the aforementioned gap in the literature, the paper aspires to bring forward issues referring to the implication of ICTs and in particular of internet in the construction of identity of highly-skilled Information Technology (IT) contractors. IT contractors are considered to epitomize the construction of occupational identities in current globalized workplace –both for contingent workers and full-time IT employees who display a great rate of turnover-, where time and space become disembodied from the notion of social activity and work and identity become fragmented or modular (Giddens 1994; Kallinikos 2003), project-based or network-centered (Castells 1997; Castells 2000).

Highly-skilled IT contractors are always on the move, develop ephemeral types of relationships with heterogeneous groups of people, and are continuously called to perform their job in dissimilar organizational settings. A large part of the communication and interaction with their client-firms may take place in a virtual mode, while the actual performance of the task can be done remotely or in-house according to the special needs of the project. By disassociating the notion of the self from the immediate context of practice and the traditional view of employment, IT contractors are faced with the challenge to develop «a coherent identity that could account for their experience and guide their actions» (Barley and Kunda 2004, p.216). In the absence of a powerful professional association, entitled to enforce a code of ethics and certify the body of legitimized practices, the issue of identity construction for contingent IT workers becomes more crucial than ever before. Placed in this context, the paper proposes that the construction of the IT contractors’ occupational identity cannot be fully understood without taking into account the possibilities of action and social interaction enabled by the spread of internet.

The empirical data indicates that the use of ICTs and in particular the spread of the internet not only facilitates the production process of software and the interaction of contractors across the globe, but also redefines the conceptualization of the IT identity. In particular, technology-enabled and –supported communities are proved to impact upon the way individuals perceive themselves as knowledge workers and influence the reach and the scope of the social relationships framing the production of software. The structure of the paper is organized as such: The following section outlines the theoretical underpinnings of the professional identity. The third section presents the empirical study. The forth section presents and discusses the finding results and last section concludes the paper.

THEORETICAL UNDERPINNINGS OF PROFESSIONAL IDENTITY

Professional identity refers to the way individuals perceive and describe themselves and the roles they are expected to fulfill under particular organizational settings; it is the very way individuals perceive and construe themselves in relation to their work and the work of others who jointly participate in the same circuit of production process (Walsham 1998). It is well known that employees who practice the same profession tend to band together into occupational communities and draw their identities out of the values and norms shared in these communities (Ramachandran and Rao 2006, p. 198); the members of these communities «claim a distinctive and valued social identity, share a common perspective toward the mission and practices of the occupation and take part in a sort of interactive fellowship that transcends the workplace» (Van Maanen and Barley 1984). Research on professional identity testifies that the latter is related to both moral and work values, such as dignity, altruism, intellectual and personal stimulation (Fagermoen, 1997). Professional identity enables individuals to locate themselves and effectively navigate within the sphere of a globalized and volatile workspace. In other words, the professional identity (Kramer 2006, p.29): a) provides guidance, indicating the legitimate and appropriate courses of action, b) ensures consistency and continuity in the worker’s behavior over time, and c) defines the degree and nature of distinctiveness of the person in relation to other groups (Karreman and Alvesson 2001), by reinforcing the reasons that justify particular types of behavior for the members of a specific occupational community.

As far as the Information Systems (IS) community is concerned, there are divergent opinions about whether it should be considered a professional community or not. Generally speaking, the problems associated with the establishment of a professional identity are not new in the literature (Beker, 2001). “The first American programmers were recruited largely on the basis of their enthusiasm, not their credentials” (Kraft and Dubnoff 1986). Sixty-five years after the emergence of
software jobs as distinct occupations, there have been made numerous efforts to delineate the “border lines” of a computer science curriculum and the job content related to it (Leitheiser 1992; Noll and Wlikins 2002; Todd and McKeen 1995).

Scarbrough (1999) claims that IT specialists could be regarded as water-down version of “professionals”, as “semi-professionals”, members of an occupation that has some but not all the characteristics of a formal profession. He argues that although these IT groups lack the formal power of classic professions, in the sense that their organizational bodies are weak or non-existent and they exercise much less control over their work supply conditions and entry accessibility-, they do display certain attributes of the professional model. Denning (2001) commenting on the extent to which IT craft meets certain criteria for being considered a profession, concludes: a) IT has a significant contribution in today’s world, b) IT has established a body of principles which is represented through the conceptual knowledge codified in the curricula of IS degrees, b) there are some global professional associations (mainly ACM and IEEE) which have articulated some codes of ethics, but they are not really in position to enforce them, and c) there is no a licensing organization that certifies the body of practices and technical competence displayed by IT people.

For the purpose of this paper, the notion of professional identity will be treated as being synonymous to the general notion of occupational identity. The choice to refer to the standard characteristics of a typical profession has been deliberately made in order to show how the latter have been appropriated or translated in the world of IT freelancing. In particular, the paper shows how the body of knowledge, code of ethics and body of practices embraced by IT contractors, are redefined by the possibilities of social interaction provided by the internet.

METHODOLOGY

The empirical data of the research stemmed from qualitative interviews (Evans et al. 2004; Kunda et al. 2002; Patton 1980) which were conducted with thirty IT professionals working as independent contractors in Greece. This group of informants has been deliberately selected as their working practices epitomize the controversial and elusive character of current professional identities. The interviews aspired to delineate the respondents’ perceptions about their occupational identity and check the involvement –if any- of ICTs in it. Therefore, the respondents were asked how they conduct their work, which are the tools and methods they employ, which are the roles they perceive as mandatory for them to fulfill, how the lived experience of their craft has been altered or challenged in the contracting realm, etc.

Given that there is no an established classification of IT individuals who work as freelancers, the selection of informants was not a straightforward process (Evans et al. 2004). Informants were selected both from a list of the members of the Federation of Greek IS personnel as well as from the lists of alumni of the two most highly regarded universities in Greece. The selection of the informants followed the logic of a snowball sampling, i.e., respondents were asked to provide details of others whose working profile matched the unit of analysis for the current study (Evans et al. 2004; Faugier and Sargeant 1997). The choice of three unrelated sources aimed at enhancing objectivity in the selection process of the informants. Nevertheless, the respondents cannot be considered as representative of the relevant population in Greece and the research results of the study did not aim at adhering to the principle of statistical generalization.

The research approach is classified under the realm of the interpretive epistemological paradigm (Kaplan and Maxwell 1994; Orlikowski and Baroudi 1991; Walsham 1993). It displays an exploratory and explanatory orientation and relies upon the analysis of multiple case-studies (Yin 2003). Each respondent constitutes a case-study. In-depth qualitative interviews (Patton 1980) were conducted, falling under the logic of replication and being destined to support an analytic generalization of the results (Yin 2003). By juxtaposing multiple perspectives and viewpoints stemming from the investigated cases, the study intended to reduce the possibility of significant divergence in the stories recounted and build a well-sustained interpretation of the phenomenon under study.

Eight out of the thirty interviewees were general IT consultants and managers. Five of the interviewees had highly specialized skills in a very particular technology or commercial off-the-shelf software packages such as those manufactured by SAP (www.sap.com). The remaining 17 interviewees specialized in a wider range of technologies. All of the interviewees had university degrees in computer science or related subjects, and they all had at least five years work experience. Interviews were conducted at the participants’ work places in Athens, Greece, between September 2005 and April 2007. Each interview lasted between 90 and 120 minutes and was recorded for subsequent transcription. In some cases the initial interview was supplemented by a shorter follow-up interview aimed at clarifying ambivalent issues raised during transcription. In total 38 interviews were conducted totaling 58 hours of recorded interviews with the thirty respondents.
IT-ENABLED PROFESSIONAL NETWORKS AS SOURCE OF PROFESSIONAL IDENTIFICATION

Electronically Sustained Professional Networks as Repositories and Hubs of Knowledge Generation

The notion of professional identity was traditionally marked by the formal education, the professional training and the organizational membership the professional agents claimed to experience and display. Yet in the case of IT contractors, there was no more a single, «stable» employing organization which would be held responsible for the professional training and development of its employees (Barley and Kunda 2004; Kunda and Van Maanen 1999). Professional knowledge the hallmark of professional identity seemed to lie in the hands of individual agents; and these agents should be able to prove credentials about it.

To fulfill the need of professional development, IT experts formed networks of relationships with ex-peers with whom they share the same professional interests, as well as with other contractors whom they had met through their joint participation in projects (Barley and Kunda 2004). Through these informal networks, IT contractors exchange technical information about problems they encounter on the job, they get informed about new technologies, they get aware of existing opportunities of training seminars, etc. Both the formation and the sustainability of these networks has almost solely relied upon the use of e-mail and instant messaging technologies which enable the easy and cost-effective communication among agents across the globe (Castells 2000).

For instance, a respondent specialized on the customization of SAP applications noted that he had been introduced by another contractor to an informal network of forty SAP contractors who mostly operated across Europe. The members of this informal network, spread across the Europe, had created a database within which they were saving «study-cases» which referred to exceptional cases of their craft, useful hints, interesting stories, testimonies and experiences, etc.; this database consisted a unique knowledge capital belonging to the network and access to it was strictly allowed only to members of the particular network. It is worth noticing that the «nodes» of the network were constantly connected to each other through the internet; whenever somebody was encountering a problem which was not addressed or described in the database, s/he could instantly contact the members of the network and ask for help. All the communication held among SAP contractors were virtual. Only once or twice a year they used to schedule a meeting-training seminar in a particular European city in order to tighten the cohesion of the network and reflect jointly on common concerns surrounding their craft.

Although this kind of interactive fellowships could not claim to have the formal power of traditional occupational communities, they were still powerful social formations. These informal fellowships, -largely enabled, mediated and supported by the use of new technologies and the internet-, implicitly or explicitly invoke particular patterns of behavior and rules of conduct. Firstly, the IT engineers who decided to become contractors and have been increasingly interested in formulating and participating in these networks were people driven by «a fascination with ‘neat things’ or ‘bells and whistles’-challenging features to design, interesting problems and sophisticated, state-of-the-art-technologies» (Kunda 1992, p.39). Secondarily, the members’ behavior was implicitly evoked or explicitly imposed by the possibilities of transparency and monitoring of individual trajectories in the network.

“We all know what it means to be a good professional and after all it is our ambition for ‘state-of-the-art’ knowledge and high work achievements that has pushed us to contracting and brought us together. Before you are introduced to a particular network, you must have somehow -though the types of projects you have undertook so far- proved your devotion to our craft. The members of the group are there for you to protect you against the social isolation and cognitive ‘austerity’ usually met in the world of freelancing, but you are also expected to respond to them back accordingly. Furthermore, all your behavior towards the members of the group is automatically recorded and thoroughly stored in the e-mail inbox or in the ‘history’ of instant messages. Therefore, our behavior is implicitly elicited but potentially controllable.” (developer no 14, table 1, appendix)

Additionally to their membership into informal professional networks, the IT contractors frequently participated in internet based bulletin boards, users’ groups, etc. In these web spaces, the contractors acquire accurate and detailed information not only about the launch and the general use of state-of-the art technologies, but also about how to tackle specific problems and particularities related to that technology. Just like in the case of their professional networks, these virtual spaces offered the independent contractors accessibility to the accumulated experience and consolidated knowledge of a whole expert community.

“Quite often the most popular users’ groups and bulletin boards require you to get registered before having access to their databases. As a result, members of these virtual communities are recognizable through their nicknames. They know how
many times you asked for help and how many times you provided help. Every single move you do is recorded. Also the quality of your answers is indirectly estimated and appreciated; prompt and significant contribution to the group allows you to achieve recognition and fame among the members of the group. And this is something that matters to us a lot - and even more now that we are contractors - otherwise we would engage ourselves in this kind of craft. Apart from that in some cases, you can even been proposed job opportunities and contracts." (developer no 26, table 1, appendix)

Furthermore, it is worth remarking that the information which could be found in these virtual spaces - information concerning the use of a particular hardware or software, or information about how to tackle problems often encountered on the job -, has been meaningfully ranked, tidily classified and ready to be obtained just be the click of a button. The above observation is of crucial importance since professional knowledge although it is partly formally acquired and certified, it is also dependent upon the on-going interaction of individuals of the same profession; the necessary condition of the identity construction. Barley and Kunda (2001) draw the attention to the fact that “technical knowledge is encoded in and transferred through the narratives that technicians recount for themselves and each other”. “Intermingling” with peers and sharing a repertoire of commonly accepted norms and resources, such as “language, routines, sensibilities, artifacts, tools, stories, styles, etc.” (Wenger 2000, p.229) is the process through which competence is tested and built in practice. Learning, understanding and interpreting, being able to distinguish which is the most appropriate decision to make according to the emergent work contingencies – constructing one’s own professional identity –, is something which is not easily articulated in words nor embedded in abstract theoretical axioms of knowledge (Brown and Duguid 1991); it is rather something developed within a communal context and framed through active participation (Brown and Duguid 1991; Lave 1988; Wenger 1998). Interestingly enough, this kind of communal technical knowledge which was previously residing in the narratives, verbal language (discourse) and tacit knowledge of a boundaryless “community of practice” is now translated into a durable and tangible text. This ‘electronic text’ (Zuboff 1988) is constituted by taxonomies, hierarchical categories and diverse kinds of classification schemata which aim at codifying knowledge so as to liberate it from the constraints of time and space and render it approachable, searchable and meaningful for the prospective and new IT candidates.

In conclusion, it could be argued that the informal professional networks among ex-peers and friends who shared the same professional interests, as well as the virtual IT communities replaced the traditional fellowship among co-workers operating under the very same roof. Through their participation in this kind of social assemblages, the IT contractors updated their technical knowledge, built new knowledge and avoid professional isolation. Discipline to the suspended web of values, norms and practices related to the craft was partially based on peer pressure and partially on internalized standards for performance (Kunda 1992). In a virtually transparent world, where reciprocity and contribution can be monitored and estimated, individual conduct cannot but conform to the rules and the norms embraced by the dominant community.

IT-Enabled Networks and Professional Responsibility

As already noted in the previous section, the identification of contractors with informal networks and virtual IT communities (Barley and Kunda 2004; Osnowitz 2006), along the transparency and traceability of behaviors brought about the use of ICT’s, impacted heavily on the enactment of a particular body of practices. Through this kind of knowledge-oriented communities different levels of professional competence and skills were party tested and implicitly specified.

Interestingly enough, apart from implicitly certifying the body of scientific principles and practices, these professional assemblages provided the credentials about their members professional ethos and prospective reliable behavior. In the absence of an institutionally established professional body or occupational community, the membership in a particular network was indicative of the quality and dexterities of the people involved in it. The information provided by a trustworthy person is always rich, extensively detailed and particularly accurate (Granovetter 1985). A business person would avoid recommending a contractor whose efficacy and reliability remains doubtful, since such an initiative would jeopardize the former’s credibility in the business world. In other words, these informal professional networks formed among ex-peers, other contractors and people with the same or supplementary professional interests appeared to protect IT contractors against the threat of professional insecurity and unemployment. The activation of these networks supported the contractors in their struggle to find new contracts and eliminated the possibility of them staying unemployed for lengthy periods of time. Through these networks, the contractors spread their reputation and become more visible to a large pool of prospective client-firms.

“The new digitalized world of work has made us all visible in new ways. Our membership to professional associations, virtual communities and virtual professional networks, our personal web sites, the easy communication and connectedness among the business organizations worldwide – let alone the Greek territory we are located in – have rendered our trajectories in the business field easily traceable. And we want to be visible and traceable, because this is how we are going to find out
our next contract: by being noticeable by prospective employing organizations. We deliberately pursue the exposure of our work, since this is how we get better chances to find interesting projects and build meaningful careers. Doing good work and building a good reputation is your passport to a lengthy and continuously employability, but also a means to nurture your self-esteem and gain recognition in this ambivalent current workplace.” (developer no 7, table 1, appendix)

The possibilities of connectivity among geographically dispersed agents and the cost- and time-efficient pace of circulation of the information, enabled by the extended use of ICTs, created ‘panopticon-like’ structures of surveillance and control (Zuboff 1988). The overall professional conduct and occupational trajectory of individuals became more visible and traceable than ever before. And recognition of the effect unreliable conduct may have on reputation (Fombrum and Shanley 1990; Sharma 1997) and the potential of future employability make contractors think twice before displaying an unreliable kind of behavior. «Reputation effects are believed to extend beyond a single agent-principal exchange and the value of human capital is presumed to degrade if word spreads that a particular agent has not previously served principals in good faith (Sharma 1997, p. 778).

It’s worth noticing that this kind of transparency related to the contractor’s behavior and reputation, apart from being a mechanism of control, it is also a catalyst in the contractor’s struggle to compete effectively in the open-market like employment territory. Contractors maintained their personal web-sites via which they exhibit information about several projects they have been associated with over time, as well as the names of their past-clients. Contractors who were specialized in web-developing and designing had upload in their web-sites samples of their previous jobs. Commenting on the utility of having a virtual presence in the web, some respondents mentioned that some of their clients had found them through the internet.

Bearing in mind the above, it could be argued that the notion of «commitment» towards a reliable course of behavior does not stem out of the internalization of norms and codes of ethics enforced by the organizational culture of an employing organization (Kunda 1992) or a professional association, but originates in the awareness that reliability and trustworthiness is the only way for an individual agent to stay employed. The possibilities of connectivity and visibility of all the players in the market appear to support the development of behaviors of self-control and self-discipline.

CONCLUSION

In the absence of an institutionally established professional association or a dominant employing organization as the main sources of professional identification and moral attachment (Barley and Kunda 2004), IT contractors are faced with the challenge to redefine their occupational identity. Their attempt to identify, define and stabilize the traits of their occupational identity is mediated, delineated and supported by the use of internet technologies.

Emergent social assemblages of agents - informal professional networks and virtual communities (Barley and Kunda 2004)- which are enabled and reinforced by the extended use of internet technology, appear to provide the resources for knowledge updating and the credentials for expertise possessed and practices enacted. Drawing upon the ample and cost-effective possibilities of connectivity, monitoring (visibility and transparency) and information sharing that internet enables, the aforementioned communities become for the contractors the locus of social interaction, the source of occupational control and the primary object of professional identification (Laubacher and Malone 1997).

REFERENCES

**APPENDIX**

“Table 1: Interviewees’ technical specialities, projects involved into and experience”

<table>
<thead>
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<th>Years of experience</th>
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