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**“IT experts in flexible forms of employment”:**

Activity Theory as a description tool of IT freelancers’ everyday practice and experience

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## Introduction

The present paper is concerned with the conditions associated with the emergence of contingent employment forms of high-skilled IT workers in Greece. Examining the everyday practices of IT experts who work as contract-based workers and taking into account the special features of Greek workplace, it attempts to shed light to the terms and conditions that make the contingent work arrangement beneficial and desirable for both parties (the individual and the organization).

In knowledge-intensive sectors of the economy, such as high technology and entertainment, stable employment seems to be declining and contingent work seems to be on the rise even among professionals and managers (Barley 1996). Both organizations and high skilled employees seem to display a significant preference towards this kind of non-standard working arrangements each one for one's own reasons.

On the one hand enterprises desire and favour the use of contractors in order to decrease fixed costs and increase organizational flexibility. In that way they attempt to maximize their ability to respond successfully and adapt quickly to the shifting demands of the market that current competitive forces impose (Wysocki 1996; Abraham and Taylor, 1996; Davis-Blake and Uzzi, 1993; Matusik and Hill, 1998).

On the other hand, contingent workers and particular technical experts and professionals seem to prefer the possibility of flexibility, accumulation of general skills, experience, variety and wealth which is associated with the participation in diverse and simultaneous projects and tasks (Sullivan, 1999; Lawler and Finegold, 2000; Marler et al., 2002). Other scholars found that technology contract workers liked working outside organizational boundaries because of the flexibility provided and the ability to distantiate themselves from organizational politics, incompetence and inequities (Kunda et al., 2002).

As far as Greece is concerned, its business economy has always displayed a long tradition in self-employment and the proliferation of private entrepreneurial initiatives

In the latest years, we witness a remarkable increase in the number of IS graduates who were till recently hired as salaried workers to show their preference to enter the free-lancing or consulting market.

Taking into account that most of the conducted research in contingent work arrangements tackles mainly with the reasons that lead to the above phenomenon, (and not with the practicalities and lived experience of people who participate and form this kind of relationship) and that the Greek case seems to be a good example for the investigation of the IT professionals' rise, we tend to believe that the current study could possibly produce really fruitful outcomes.

In the context of present article, we will attempt to shed light and understand: *how this contingent employment relationship is enacted and sustained in practice*; we will investigate into the nature of their work and work practices, their communication and collaboration patterns, the emerged learning processes, the observed socialization processes, the role of information and communication technologies and other features that shape and underline the so much controversial phenomenon of contingent work arrangements.

Drawing upon Activity Theory theoretical concepts, we aim to provide a general description of the context within which the IT person performs his/her work in a contingent basis. The analysis that follows is relied upon 20 preliminary in-depth interviews that have been held in Greece during the last three months.

#### Choice of an appropriate conceptual framework

Taking into account the complex and multi-dimensional nature of our research, we attempted to choose a kind of theoretical lenses that combine different scientific traditions and display a significant level of flexibility in the interpretation and manipulation of research variables. Rather than being accidental, our preference about activity theoretical model originates from the belief that “Activity Theory provides an exceptionally comprehensive basis for understanding the human, technological, temporal and organizational aspects of work as a systemic whole” (Korpela et al. 2002). The multi-disciplinary nature and “malleable” structure of the Activity Theory

model seems to provide important guarantees for an in-depth understanding and fruitful analysis of a complex and dense phenomenon, namely “IT experts in flexible forms of employment”.

In the following pages, we will endeavor to make a brief presentation of the basic Activity Theory concepts, trying to explain as explicitly as possible the reasons that led us think that Activity Theory is a very promising tool for analyzing IT experts-client firm employment relationship. To end with, we will make an effort to adjust and apply the Activity Theory model into our findings, derived from in-depth, semi-structure interviews with Greek IT freelancers.

### An introduction to Activity Theory

Activity theory is not a “theory” in the strict interpretation of the term, but rather a set of basic principles that constitute a general conceptual system (Bannon, 1997) which evolves around the notion of the human activity. “Activity Theory is a philosophical framework for studying different forms of human praxis as developmental processes, both individual and social levels interlinked at the same time” (Kuuti and Arvonen, 1992).

Human activity is always undertaken by somebody (an agent or a subject) and is directed at something (an aim or an object). “Transforming the object into an outcome motivates the existence of an activity” (Kuuti, 1995). The same scholar argues that an object can be a material thing, but it can also be less tangible (e.g. a plan) or totally intangible (e.g. an idea). According to Vygotsky, an individual never reacts merely directly to the environment that surrounds him/her. In most cases, human activities are accomplished or *mediated* by the use of culturally established tools or *artifacts*.

A “tool” or artifact that mediates human thought and behavior is anything which can be used in the transformation process of the object into the outcome. Vygotsky distinguishes two kinds of tools (Engestrom, 1987): the technical ones and the psychological ones. Technical tools are intended to act upon and transform physical material (e.g. a hammer), while the psychological tools are used by individuals to influence other people or themselves (e.g. language, a calendar, an advertisement, a

theory, skills, etc.). These artifacts have both an enabling and a constraining function which is substantially defined by the particular context within which they are used (Bannon, 1997; Engestrom 1999b). While tools expand our possibilities to manipulate and transform objects, they also set the limits within which the notion of the object is perceived and socially constructed into our mind. Artifacts embody the collective experience of a whole community of people and as a result they are not static entities, but are continuously transformed to meet the emergent needs of community (Bardram, 1997).

The aforementioned relation between the subject and the object or the actor and his environment could be depicted in the following diagram:

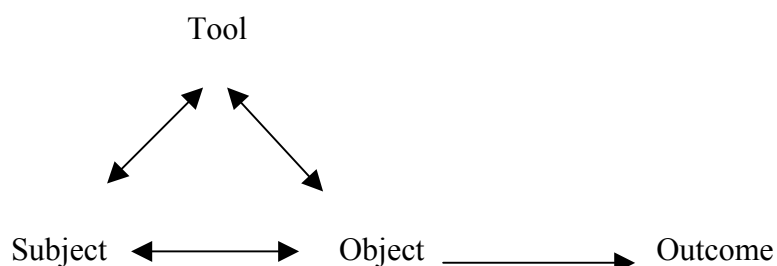


Figure 1: Structure of an human action

Engestrom (1987) draws the attention to the fact that the triangle portrayed in Figure 1, is not but “the tip of the iceberg”. The simple structure of human action depicted in the diagram is not adequate to describe the needs of the systemic relations emerged between an individual and his environment. In this respect, Engestrom adds a third main component in the activity system which he defines as *Community* (Kuuti and Arvonen, 1992). Community is an assembly of people who share the same object and their activity is directed to the fulfillment of the same human need. As a result, the systemic model describing the basic structure of activity contains now three mutual relationships between the subject, the object and the community.

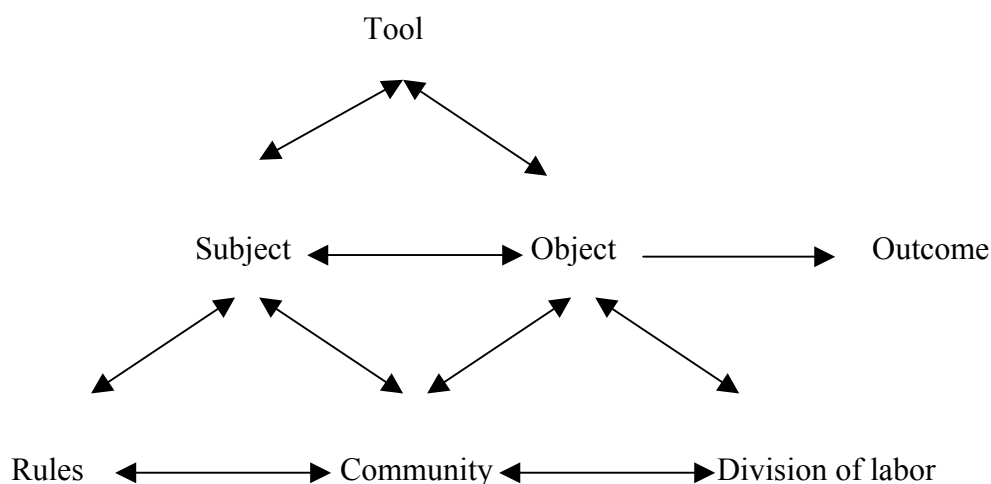


Figure 2: Basic structure of an activity- The activity system model (Engestrom 1999a)

Looking at the above diagram, one can notice that apart from the artifacts or instruments, there are also less visible social mediators of activity, such as the rules and the division of labor. More precisely, the relation between the subject and the object is mediated by tools, the one between the subject and the community is mediated by rules and the one between the object and the community is mediated by division of labor (Kuuti and Arvonen 1992).

It could be concluded that Engestrom’s diagram (1987) summarizes the structure of an activity system as such: An activity is undertaken by a human agent (*subject*) who is motivated towards the solution of a problem or the pursue of a purpose (*object*). The activity is almost never individualistic in its execution, but it usually entails the participation of an ensemble of people who share the same object (*community*). The activity is mediated both by a) tools (*artifacts*), as well as by social conventions such as b) *rules* that shape and define the limits of individual and collective conduct, and c) *division of labor* that determines the various kinds of tasks to be done and the way these tasks are distributed among the key actors of the activity, in order the desired outcome to be achieved in the best possible way (Strauss 1985, 1988).

According to Leontiev, the hierarchical structure of activity is consisted of three levels (Engestrom 1987): the overall *collective activity*, the *actions* and the *operations*. In most of the cases, human activity is by definition co-operative. The human activity is driven by a collective motive, which is formed when a collective

need meets an object that has the potential to fulfill this need (Engestrom, 1999b). Remarkable is the fact that “under the conditions of division of labor, the individual participates in activities mostly without being fully conscious of their objectives and motives” (Engestrom 1987). Individuals are rather conscious of the actions that operate/function supportively to the overall collective activity and are connected to clearly articulated goals. These actions are carried out through operations which are concerned with conditions/circumstances. Operations are related to routinized behaviors which are performed automatically, not consciously. For instance, tools are crystallized operations (Engestrom, 1987; 2000).

Engestrom (1999) argues that the same goal-directed action may accomplish various different activities, while the object and the motive of a collective activity may typically be served through the achievement of various alternative goals and actions. The aforementioned scholar also draws the attention to the fact that the object of an activity is not harmonious in itself, but it is rather internally contradictory. For instance, in software development, this can take the form of the final IS deliverable as an accumulation/allocation of laborious effort aiming to produce a premium IS application versus the final IS deliverable as solely a source of profit and revenue.

This contradictory nature of the object usually generates multiple levels of tension among the various components of the activity system and leads to an incessant reconstruction of the activity system as a whole. Engestrom (1999) notes that “in activity theory, developmental transformations are seen as attempts to re-organize or re-mediate the activity system in order to resolve its pressing contradictions”.

In conclusion, one could sustain the view that the interacting components, human and non-human, that formulate an activity system are not static entities, but live ones that are constantly transformed and redefined to achieve a better “fit” among them. The activity system seems to be in a dynamic equilibrium that changes over time accordingly to the emergent relationships between its three main components the subject, the object and the community.

In the next session, I will attempt to apply the basic principles Activity Theory outlined above, in order to describe and make sense out of the contingent employment relationship and the IT expert’s work practice.

Applying Activity Theory concepts to contingent employment relationship

In the context of the current paper, we will endeavour to analyse IT expert’s everyday work practice and the subsequent employment relationship between him/her and the employing firm, from the viewpoint of the former: the IT expert who has just signed a time-limited contract and has been assigned a particular project by a client-firm. Relied upon some preliminary empirical findings and following Activity Theory threads of logic, we will attempt to identify and make sense out of the general context within which the IT expert performs the assigned task.

An IS development project, such as a web site development or a software development, could apparently be described as an activity system, where all elements have a kind of relationship to other elements. Applying the Activity Theory principles to an IS project, we come up with the following diagram:

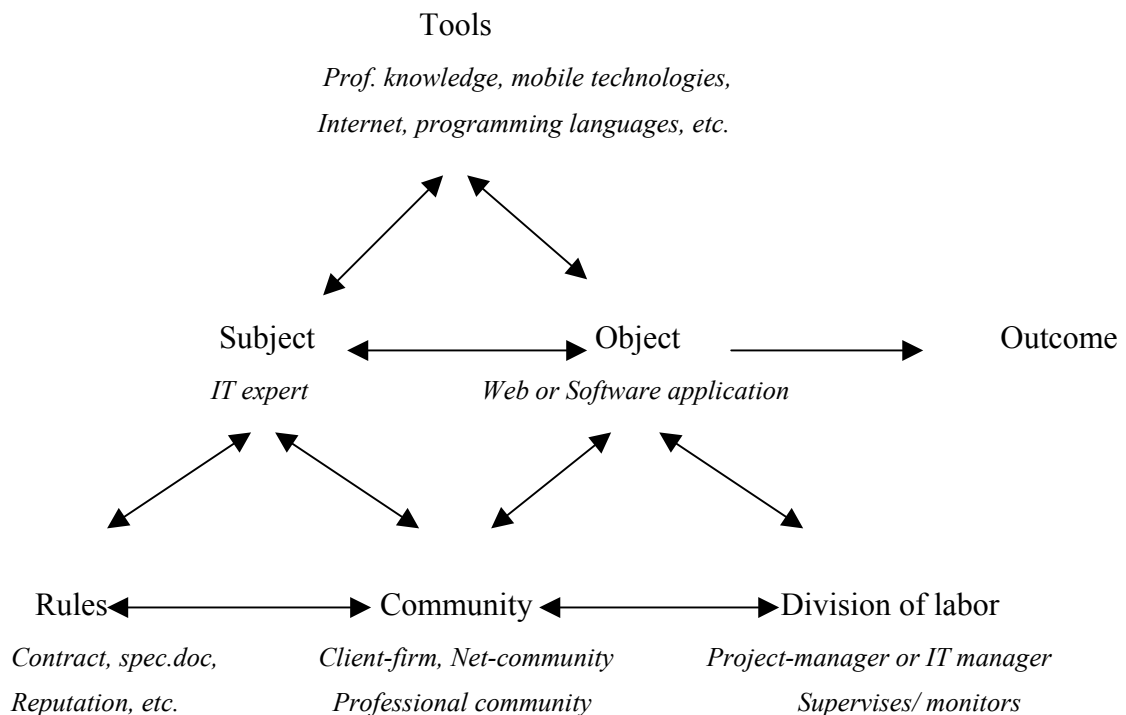


Figure 3: Application of the Activity System Model to web development application

Information systems development projects often deal with adjusting and integrating prefabricated pieces of software to meet the needs of a specific company (Lyytinen et al, 1998), while other times the required software application must be constructed from scratch. The development of a Web application, an IS activity which is very popular in the contingent IS field, belongs mostly to the second category, while the development of a software application belongs to the first one.

Relied upon some first data derived from preliminary interviews with IT contractors, we will attempt to apply the Activity Theory principles to the case of a web or software developer who is employed by a client-firm in a contingent basis.

The starting point or the *object* of an Information Systems Development activity is a *need* for better technological facilities that the management team or the IT manager of the organization has already realized and tries to find a way to cover it. For instance, a firm may realize that the accounting system that currently uses is too slow and dysfunctional for several kinds of transactions that it undertakes; consequently, the software accounting programme needs to be upgrade, to be modified so as to meet the desired performance standards. Another case could also be the one of a firm that decides to equip its internet web page with an on-line transaction system.

In both cases, the firm under study (the client firm) decides for various, financial and non-financial reasons to hire a contractor to do the IS job. One could distinguish two main reasons that justify firm's decision to outsource an IS technically demanding project. In brief, such a decision is explicated a) by the fact that the latter does not have the expertise in the specific domain and it is not interested in acquiring expertise in this domain or b) by the excessive competitive pressure that forces the company to acquire the IS application right away- the firm has no time to develop the required expertise internally. In both cases, the client-firm assigns the IS project to a contractor- IT expert.

In practical terms, the object is a “forthcoming” software or web programme that is expected to be transformed into a delivered, bug-free, user-friendly application. The client-firm (the employer) is the “community” who shares the object with the IT contractor-the subject of the activity. In other words, the IT contractor for a more or

less prolonged period of time engages in a collaborative activity with the client-firm with the aim to contribute his/her specialized knowledge and acquired experience to the development of the desired application.

The relationship between the client-firm (community) and the IT contractor (subject) is mediated by a set of *rules* (the left-down triangle in the figure 3). “Rules cover both explicit and implicit norms, conventions and social relations within a community” (Kuuti, 1995). This set of rules is necessary for the establishment of a well-sustained relationship between the two entities. Rules are the regulator and stabilizer of the relationship. The most conspicuous rule that governs the contingent employment relationship is the *labour contract* (Goldthrope, 1998) which defines in a more or less direct way the rights and the obligations of the two parties involved.

But before the signing of the contract, there is also a sequence of procedures that lead to the mutual agreement between the IT contractor and the client-firm. The formal process would entail that the client-firm declares its will to assign a specific part of an IS project to an IT contractor and towards that aim, it prepares and publishes a request for bid (RSB) document. This document contains the software specifications that describe in general terms what has to be done by the potential contractor. Every interested IT contractor, in his turn, gives his offer and everyone’s offer is judged in terms of estimated effort provided, money requested and time needed.

The process mentioned above is usually met in software development projects. In web development projects, the procedures followed seem to be less formal. For instance, frequent is the case when the client-firm is not in position to explicate its requirements into information systems specifications and it just limits itself at judging the final deliverable in terms of functionality. It is the IT contractor’s responsibility to understand and translate his client requirements into IS specifications.

Independently of what the case is, -software development project or web development project- an increasingly important *rule* that determines the relationship between the contractor and the client firm is the *reputation* that the former has built in the IS industry. Establishing trust seems to be one of the most crucial features and source of sustainable competitive advantage in the e-lance economy (Malone, 2004). Market

experience shows that when the client-firm is pleased by the output delivered by an IT contractor, it employs him again and again over time (Nardi et al., 2002). The aforementioned remark tends to provide a totally different perspective regarding the contingent employment world of the IS industry: the observed employment pattern seems to be the one of a “permanent” relationship in a contingent basis.

Explicit contract terms and bonds of trust, derived from a construction of a good reputation in the market seem to be the implicit rules that delimit the apparition of “tensions and contradictions” in the employment relationship. In other words, contract explicitness and interpersonal trust could possibly reduce the undesirable effects (opportunism exertion) that information asymmetry may cause to the principal-agent relation (Goldthrope, 1998).

The community, we have so far referred to is the client-firm and more specifically the personnel of the client-firm: the project manager, the IT manager or other employees who indirectly or directly are somehow involved into the specific IS project. Yet, what is interesting in the IT expert’s case is that one could possibly identify more than one community that directly or indirectly participate in the shaping of the final object. Besides the client-firm, it could be also detected another community, the *virtual community/communities* that IT experts are participating into, in order to respond adequately to the difficulties associated with the complex and insecure nature of their contingent IS work.

More and more often (Rheingold, 1993) IT freelancers and IT experts in general, visit the Web to acquire specialized information, to contact people with the same concerns and difficulties, to exchange opinions, etc. “On-line bulletin boards, on-line chat-rooms, web-reference material” (Kunda et al. 2002), internet sites with detailed information about various software programmes –concerning programme upgrading and programme bugs- constitute the virtual space of gathering of virtual communities. It could be argued that since IT freelancers work outside the conventional office and do not have the privilege to ask their colleagues about valuable information, they have substituted the traditional face-to-face communication among colleagues with the virtual communication among net-IT experts.

Close to the notion of virtual community could be the notion of *intentional network*, a social network of people who collaborate in order to get work done (Nardi et al. 2002). An IT virtual community is consisted by IT experts who come from all over the world and display a significant interest in IS related topics. Although these people do not participate in the same “activity”, they all share a general collective motive, namely the evolution of IS artifacts and IS discipline respectively. The notion of an IT virtual community could be considered to include both the idea of cooperation and collaboration, as defined by Lewis (1997): “Cooperation depends upon a supportive community of actors who agree to help one another in activities aimed at attaining the goals of each person involved. Collaboration depends upon the establishment of a common meaning and language in the task which leads to the community setting a common goal”. Although the members of the virtual community are not directly involved into the project undertaken by the IT expert-under study (the subject in the activity model), they may provide considerable mediation in the tasks being performed by the supply of crucial information that the IT expert could not otherwise acquire.

Finally, another community that tends to participate in the activity system under study is the professional community of IT experts. In Greece, there is an association of IT employees (EPE) which usually offers to them professional development programmes, awareness about job opportunities and a place for socializing. The membership in this professional peer group operates as an indication-guarantee about the level and quality of technical skills that IT experts possess and is often positively related with the establishment of a good reputation in the market. Apart from a financial annual subscription that members have to pay, there is also an implicit obligation of all members to help one another and contribute to the general “well-being” of the association.

As far as the relationship between the IT contractor (subject) and the delivered software or web application (object) is concerned (the up-triangle in figure 3), one cannot but draw the attention to the mediating role of *artifacts*. In every activity system artifacts are “integral and inseparable components of human functioning” (Engestrom 1991a).

In software or web development, mediating artifacts or means of work can range from conventional languages (e.g. English, Greek) to specialized design and programming languages and tools, methodologies, procedures and specific applications, timetables, computers, mobile phones etc. (Barthelmess and Anderson, 2002 ). In more detail, the high expertise that IT experts display, as a result of a lengthy formal training and a rich working experience, enables them to reach the object and transform it into the desired outcome. Supportively to their effort, information technology devices frame each of their actions, making the realization of the object practically attainable.

Before going any further, we would like to insist on the role of information technology, as a mediating artefact between the object and the subject as well as between the subject and the community. Information Technology tools seem to have a dual role in the activity scheme displayed above: they are used both as *means of work* as well as *means of communication and coordination* (Korpela, 2002). For IT experts, technology is the content of their job, the medium for conducting their work and their basic link to the external world. IT experts are experienced users of a variety of technologies. Almost all actions undertaken by them, from writing code and designing web pages to contacting the IT manager of the project or searching for specific information in the internet, involve the use of some kind of technological artifact. It would not be an exaggeration to argue that the notion of IT work could not be conceptualized without the idea of mediating hi-tec artifacts.

The above remarks are particularly important in work practices of contingent employment relationships, where the notion of time and space are relatively defined. It is a common knowledge that Information and Communication Technologies have enabled and facilitated new modes of communication at a distance and new interaction forms within and across organizational boundaries in real time settings (Kallinikos 2001, 2003). Due to the digitalized format of the deliverable product, the IT expert can work distantly, out of the conventional office of the client-firm and contact the client-firm personnel he is cooperating with via e-mail, instant messenger or common remote desktops. In IS literature, there is a wide range of papers about issues concerning cooperative work arrangements and their support via information technology (Bannon & Schmidt, 1989; 1992; Bannon 1992).

In general, it could be argued that communication and information sharing between the contractor and the firm is mostly taking place in a virtual space, where the physical presence, although irreplaceable (Olson and Olson, 2000), has been rendered costly and superfluous.

Furthermore, the use of information technology generates such circumstances and conditions that otherwise could not possibly emerge. Kuuti (1995) supports the view that information technology can be considered as the principal enabler of an activity, the pre-requisite catalyst that make an activity to be practically possible and feasible. In particular, specialized web sites that provide up-to-date and easily accessible information about specific software and hardware, constitute a non-conventional and content-rich source of knowledge and instant learning that has a significant impact on the knowledge repertory of IT experts and consequently on the way they are doing their work. Working independently and carrying the burden of upgrading one's own professional training (Kunda et al., 2002), is not an easy thing to accomplish. The importance of the above observation is further reinforced by the fact that the pace of technological change is extremely rapid and the attempt to possess “cutting-edge” skills is more than a necessity for an IT contractor who wishes to be constantly employed (Kunda et al. 2002). Without the training possibilities provided by information technologies, the whole idea and future of free-lancing would be doubtful and uncertain, if it could ever burgeon and prosper.

In accordance with the above is also the perception that this new organizational edifice, known under the name of “contingent employment relationship” would not probably proliferate without the existence of virtual communities and networks, whose emergence relies almost solely upon the usage of mobile and internet technologies. Lewis (1997) emphasizes the fact that the availability or choice of communication channels is critical in the creation and maintenance of distributed communities, whereas Nardi et al. (2002) note that “netWorkers rely heavily on their own personal social networks as they seek to get the work done in today's world of organizational boundary crossing”. The latter scholars also remark that there are two key actions that seem to be the prerequisite of a network sustainability: remembering and communicating. Taking for granted that IT contractors are always moving from

the one enterprise to the other, it is sensible to conclude that they can only keep in touch with their “contacts” through technologically advanced artifacts.

At last, the relationship between the client-firm (community) and the delivered software or web application (object) is mediated by the division of labour (the right-down triangle in figure 3). Strauss (1988) states that each project, as defined by its initiators, must begin with a vision (an image, an idea, a notion), of what can, should or might be done; and soon after that the initiators must consider ways and means of implementing the vision. For instance questions such as: “Who is working with whom, on what and for how long? Who knows what each person is up to and who is responsible about what? What is the level of interdependence of task X with the task Y?” answer the above initial question about the “realization of the vision” and address in practical terms the concerns posed by the division of labour.

“The division of labour refers to the explicit and implicit organization of a community as related to the transformation process of the object into the outcome” (Kuuti 1995). The division of labour is formulated according to the nature and the special needs of the participating organization and can be further refined to meet the requirements of a particular activity or project. On the other hand, a certain division of labour historically evolves within the professional communities that traditionally define what kind of skills and competences are required by someone to hold a particular job position.

A distinctive characteristic of contingent or time-limited contracts is the “grouping of tasks into modules that can be detached from particular contexts and be assigned to people with small or no acquaintance with specific organizations” (Kallinikos, 2003). Correspondingly, in software industry, the prevailing trend is towards “creating finer divisions of labour by separating analysis from programming and dividing programmers and programs further so that most ended up concentrating on coding small modules using structure coding methods” (Friedman 1992), namely “modularization” (Kraut & Streeter, 1995)

IT experts, who work as software or web development in a contingent basis, usually undertake a relatively autonomous and specific part of an overall project which they

mainly accomplish by themselves. Nevertheless, although the nature of programming work could be considered, at least to some extent, individualistic, it unavoidably concerns some kind of collaboration with the representatives of the client-firm. The IT contractor does not create a software application that will be applied in the vacuum; his deliverable application will respond to some problems or needs that the client-firm encounters. Therefore, even if it is the “cutting edge” skills about specific hardware and software that make IT experts so sought-after in the market and so indispensable to the client-firm, a certain kind of familiarization with the organizational culture of the client-firm is also important. Especially at the first phases of a project, meetings between the contractor and the representatives of the client firm are considered to be necessary so as the best possible result to be assured.

IT contractor has the complete responsibility of the assigned job and he is accountable (Strauss, 1985) about his actions to the general manager of the client-firm or to the person that the manager has set as leader of the project. The IT contractor is expected to accomplish a specific task into a strictly defined period of time, using all kinds of tools that are at his disposal. What is striking about the way an IT expert accomplishes his duties is that his threads of actions are not really accessible to easily monitoring and supervision. In other words, the way IT expert makes use of his esoteric, abstract as well as technical skills is usually out of the traditional methods of controlling and supervising work. Although information technology itself can possibly make, at least to a certain degree, the work done by the IT worker visible and comprehensible (Kuuti, 1995), the manager is not really in position to judge the work process embraced by the hired contractor. What the latter can control (Belanger & Collins, 1998) is the functionality and usability/utility of the final deliverable as well as the general behaviour of the contractor.

As far as the virtual community is concerned, one could not really identify the existence of explicit norms that dictate a certain division of labour or a certain type of accountability. As already mentioned, IT people formulate these communities in an informal and “volunteer” way, attempting to promote the IS discipline in general. On the other hand, in case where strong social ties and networks among IT contractors, who know each other, are developed and regular communication and interaction is taking place (professional community of IT experts) among them, there is the implicit

obligation of every member to be able to make some kind of contribution when he is asked to do so.

### Main strengths of Activity Theory

Activity Theory is a useful multi-disciplinary, descriptive tool for analyzing and understanding human activity and behavior, independently of any specific field of application. It incorporates quite different psychological, educational, cultural, historical and developmental approaches to human activity (Vygotsky 1978; Leontiev 1978; Engestrom 1987, 1999), providing a promising theoretical framework for studying complex socio-technical phenomena, such as work practices and behaviors.

As Kuuti and Arvonen (1992) notice the behavioral and social sciences have always suffered from a dichotomy between the individual and the social. Nevertheless, actions are always situated into a context and it is impossible for them to be understood without that context (Suchman, 1987). “Human mind comes to exist, develops and can only be understood within the context of meaningful, goal-oriented and socially determined interaction between human beings and their material environment” (Bannon, 1997).” Activity Theory seems to display a remedy for the aforementioned epistemological bipolarity by defining as unit of analysis the *notion of activity*, which implies the unity and inseparability of individual actions and social context within which these actions are embedded (Engestrom 2001). An “activity” consists the minimal meaningful context for individual actions to be adequately understood (Kuuti 1995).

Although the elements of the system and the relations between them are presented in a relatively abstract way, the AT model does not lose its analytical and descriptive power. In contrast to a strict definition and articulation of variables of interest, this “abstractness” gives the researcher more degrees of freedom to adjust Activity Theory tools to his subject-matter, according to the particular needs and conditions of the current research.

Another way of putting the matter would be that Activity Theory is not a rigid and static research framework, since its main constructs are under continuous change and

development, which is not linear or straightforward, but uneven and discontinuous: “the object and the motive will reveal themselves only in the process of doing” (Kuuti, 1995). This constant change and re-conceptualization of its basic components and the relationships between them, transforms Activity Theory model into an extremely flexible and adjustable analytical tool with multiple possibilities of use and application. By providing the researcher the possibility to deal with developmental and dynamic features of human practices and interaction, Activity Theory could be considered to outweigh other theories and research frameworks that are used to study work practices (Kuuti, 1995).

As far as the field of Information Systems is concerned, the contribution of Activity Theory seems to be that it highlights perspectives that are different from the typical “production-oriented” approach that is particular permanent in software engineering (Floyd, 1992). Activity Theory allows the researcher to obtain a view on the overall work process out of which the IS product is generated.

Moreover, Activity Theory enables the researcher to discuss on issues which belong to different levels within a relatively integrated framework (Kuuti, 1995). Individual actions are always embedded within a social context and are always analyzed and understood in relations to the particular social conditions emerged and the more general-communal motives that seem to be behind them.

In conclusion, it could be stressed that in comparison to other approaches used in studying work practice, the main strength of Activity Theory is in providing “a theoretically founded but detailed and practicable procedure for studying Information Systems development in context” (Korpela et al., 2002).

#### Conclusion- Discussion- Limitations

Within the context of the present paper, we attempted to identify and illustrate the agents and the contextual factors, -as well as the interactions developed among them-, that tend to shape the reality of IT expert’s work practice and everyday life. Relied upon some preliminary empirical data, we opted to give the big picture of a complex phenomenon, namely the employment relationship between IT experts contractors and

their employing organization. In other words, this authoring endeavour is nothing else but a first attempt to make “form” out of the “unformed” facts and interactions that shape contingent work arrangements in the Greek IS sector. And towards this aim, we selected deliberately Activity Theory model, as our pair of glasses to stare at and make sense out of our research subject.

To conclude we would like to argue that “the value of any theory is not whether the theory or framework provides an objective representation of the reality (Bardam, 1998), but rather how well a theory can shape an object of study, highlighting relevant issues (Halverson, 2002). Unavoidably, some elements of the observed world are brought into light, while others fade into obscurity (Halverson, 2002), according to the particular scientific focus of the research framework.

Finally, we have to acknowledge that although AT framework explicitly names and gives a general appreciation of important aspects of the social and communal dimensions of human behaviour, it does not really illuminate the role of them in the shaping of the overall activity. In most cases of AT application, the perspective of the individual is at the centre of everything (Halverson, 2002) and often no particular attention is paid to the impact of social and cultural structures on the system as a whole. More precisely, according to AT, every activity involves the interaction of an individual with various artifacts that are supposed to be structured via well-established procedures and routines, without specifying how these routine operations and behaviours emerge and function within the system.

Without underestimating the enlightening contribution of Activity Theory to our overall comprehension of the research subject, an attempt for enrichment and extension of Activity Theory concepts is something that should be taken under consideration, so as further useful insights about contingent work arrangements in the IS industry to be reached. Paying attention to the institutional complexity of work as well as to the other social, technological and psychological factors that refer to the employment relationship, could hopefully reveal subtle and often invisible mechanisms that render the above relationship sustainable and mutually beneficial.

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