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Beyond the Resource-Based View: Commitment as the Underlying Mechanism in the Application of IT Competencies

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Abstract

As an applied discipline, IS draws on the behavioural sciences for its theoretical foundations (Bariff and Ginzberg, 1982). Despite its weaknesses, Simon's (1957) concept of bounded rationality has been widely adopted by IS researchers to explain the behaviour of social actors in organizations (Checkland and Holwell, 1998). Drawing on a recent empirical study, this paper develops a competing view, based on the concept of commitment, which helps explain the how and why of competence development among social actors in organizations (see Butler and Murphy, 1999). This approach is congruent with Williamson's (1998) call for the development of an 'intentionality view' of organizational competencies. It is also in line with Knudsen's (1994) argument that Selznick's (1957) process-based theory of institutional behaviour augments the outcome-centric view of organizational competence prevalent in the literature. Accordingly, this paper provides a well-articulated example of the relevance of theory in institutional sociology to the IS field and posits a behavioural model of the "underlying mechanisms through which...IT-capability leads to improved firm performance": hence, it offers a much needed direction for future research on the emergent topic of IT competencies (Bharadwaj, 1999: p. 26). In order to illustrate the relevance of commitment in shaping and influencing the application of IT competencies, a short empirical analysis of the various commitments that characterized the Windows NT development project is undertaken.

Introduction

Heraclitus said, "a man's character is his fate." Over two millennia later, Phillip Selznick argued that an organisation's character determines its fate. Selznick (1949, 1957) maintains that the commitments of social actors define a firm's character and shape competence development within an organization. In the IS field, Winograd and Flores (1986) provide a similar view of organizations and suggest that firms are constituted by networks of commitments which result from the 'speech acts' of organizational actors. As with Selznick, Flores (1998) argues that commitments are identity-defining and therefore play a significant role in the definition of individual and organisational character. While the seminal work of Philip Selznick (1949, 1957) provides a thorough

treatment of the topic, additional insights are required to fully illustrate the relevance of the concept of commitment in the development of individual, group, and organizational competences. Hence, contributions are forthcoming from Burns (1963), Kanter (1968), Winograd and Flores (1986), Bruner, (1990), and Flores (1998).

Bariff and Ginzberg (1982) argue that research on the IS-related behaviour should encompass four levels of analysis viz. the societal/interorganizational, organisational, group and individual levels. Nordhaug (1994) also argues that in-depth empirical research on organizational competencies requires conceptual perspectives that operate at all four levels of analysis. While Selznick's theory operates well at the first three levels, Rosbeth Moss Kanter's (1968) insights into the formation of individual commitment and its concomitant effect on institutional structures and processes provides this paper with a conceptual vehicle that operates at an individual level of analysis. Furthermore, Scott (1995) underlines the need for organizational theories that straddle the regulative, normative and cognitive pillars of institutional behaviour: this is because of the different positions taken by researchers. For example, regulative theorists in the new institutional economics stress the importance of rules, agency and social power (see Williamson, 1998). Normative theorists, on the other hand, emphasize the stabilizing influence of shared norms that are imposed by others and then internalized (see Selznick, 1949, 1957; Kanter, 1967). Finally, cognitive theorists stress the role played by unconscious, taken-for-granted assumptions defining social reality (See Berger and Luckmann, 1967; Kanter, 1967). This paper's marriage of Selznick's and Kanter's conceptual apparatus, coupled with the integration of additional perspectives from the social sciences, results in a theoretical vehicle that addresses Scott's concerns and meets the criteria laid down by Bariff and Ginzberg (1982) and Nordhaug (1994). This theoretical vehicle is applied to Zachary's (1994) groundbreaking case study of the Windows NT development project in a brief empirical analysis that indicates the explanatory power of the concept of commitment in describing the relationship between the application of IT competencies and eventual success of the project.

Table 1 Determinants of Organisational Character (adapted from Selznick, 1949)

Type of Commitment	Description
Commitments enforced by uniquely organisational imperatives.	Organisational imperatives are concerned with 'reality' maintenance. They are usually implemented by policy decisions associated with system maintenance, consequently, they ensure that the organisational requirements of order, discipline, unity, defense, and consent are fulfilled.
Commitments enforced by the social character of the personnel.	The personnel, or so-called human capital, in organisations come to an organisation with particular needs, levels of aspiration, training and education, social ideals and class interest; thus, influences from the external environment are directly imported into an organisation by its personnel.
Commitments enforced by institutionalisation.	Because organisations are social systems, goals, policies or procedures tend to achieve an established, value-impregnated status. Commitment to established or institutionalized patterns is thereby accomplished, restricting choice and enforcing specific behavioural standards.
Commitments enforced by the social and cultural environment.	Organisational policies and outcomes are often influenced and shaped by actors in the external social and cultural environment.
Commitments enforced by the centers of interest generated in the course of action.	Decentralization and delegation of decision making to particular individuals and groups within an organisation runs the risk that policies and programs, influenced by the tangential informal goals of these individuals and sectional interests, and which are unanticipated and incongruent with those of the organisation, will be entered into.

A Sociological Theory of Organisational Commitment

Philip Selznick (1949) first described how an organization's character could be socially constructed through the commitments entered into by social actors in his groundbreaking case study of the Tennessee Valley Authority. He later refined this theory in his seminal work on organisational leadership. In both works, Selznick drew on psychological theory in order to illustrate how organisational character is developed through the commitment of social actors. Support for Selznick's position is to be found in the cultural psychology of Jerome Bruner (1990) who argued that social actors establish their value systems by committing to 'ways of life' and that the complex interactions of individual 'ways of life' in turn constitute a culture. Hence, an organisation's character is socially constructed over time through the commitments entered into by social actors (Berger and Luckmann, 1967).

Commitment as the Determinant of Organisational Character

In describing the role of commitment in organisations, Selznick (1949: pp. 258-259) argued that:

The systematized commitments of an organisation define its character. Day-to-day decision, relevant to the actual problems met in the translation of policy into action, create precedents, alliances, effective symbols, and personal loyalties which transform the organisation from a profane, manipulable instrument into something having a sacred status and thus resistant to treatment simply as a means to some external goal.

For Selznick, a 'commitment' in an 'enforced' component of social action: it refers to the binding of an individual to particular behavioural acts in the pursuit of organisational objectives: Selznick (1949) delineates several types of commitment; these are illustrated in Table 1. However, Winograd and Flores (1986) and Bruner (1990) describe the mechanism by which individual social actors form commitments: Winograd and Flores, for example, argue that the 'speech acts' of individuals in socially constructed contexts give rise to the various commitments

there observed. Bruner (1990) too focuses on ‘speech acts’ and emphasizes the role of narrative in the construction and maintenance of social worlds. However, looking beyond tangible decisions and ‘speech acts’, Bruner (1990: pp. 33) illustrates that intentional states of mind guide human action; however, “*the form of these intentional states is realized only through participation in the symbolic systems of culture.*” Thus, Bruner, and Winograd and Flores, like Selznick before them, recognize the multifaceted, multidimensional, reciprocal relationship between individual commitment and the cultural contexts that give rise to it. While Selznick (1949) employs the term ‘enforced’ to indicate the mechanisms by which ‘commitment’ is operationalized in organisational contexts, enforcement does not necessarily imply that social actors are at all times compelled by rule-based organisational *dictat* to adopt desired behavioural patterns in the pursuance of organisational objectives. As Scott (1995) has illustrated, normative and cognitive mechanisms are also at play. In addition, it is clear from Selznick that the locus of commitment and its enforcement varies from the individual in certain circumstances, to social groupings, to the organisation of which they are members, and to agencies outside the organisation. Burns (1963) agrees with this conceptualization and posits a tripartite system of commitments on behalf of social actors viz. commitments to the organisation, to ‘political’ groups within the organisation, and to the individual’s career and well-being. As with Selznick, Burns also points out that social actors will have a multiplicity of commitment relationships within their broader social and cultural environments. It is clear, however, that intentional mental states are the primordial source of commitment, whatever the origin of the social forces that contribute to their formation. That said, Kanter (1968) has shown that institutional factors, be they formal rule-based organs of the institution or less formal normative and cognitive social mechanisms, operate through role-based activities to compel or bind actors to adopt particular behaviours by operating on their intentional states. Accordingly, Bruner (1990) points out that while belief guides social action, being compelled to act in a particular way can also help shape and influence belief: thus as with belief and action, the relationships between speech acts of social actors and their commitments are reciprocal.

Nevertheless, it is clear that commitments do not evolve spontaneously—they are shaped by so called ‘critical decisions’ that reflect or constitute management policy (cf. Kanter, 1968). As Selznick (1949; 1957) argues, the visible hand of leadership influences the social and technological character of organisations. However, ‘critical decisions’ and associated management policies—evidence as they are of managerial commitment—have negative as well as positive consequences for organisations, as Pfeffer (1994) has illustrated. It is also evident from Selznick’s study of Tennessee Valley

Authority that social actors will often lack commitment toward organisational goals: this so-called lack of commitment does not imply that social actors are not committed to some end or other, it simply means that the commitments they possess are not congruent with those required to attain organisational objectives (see Burns, 1963). In sum, Selznick indicates that the sophisticated interplay of cognitive, affective and behavioural manifestations of commitment act to shape and influence an organisation’s character for better or worse. The following section presents Kanter’s (1968) treatment of the topic in order to shed further light on the process by which individuals form their commitments.

The Structure and Process of Individual Commitment in Organizational Contexts

Notably absent from much of the literature on the topic of commitment are descriptions of the structural arrangements and processes which promote and sustain it at an individual level. In order to remedy this situation, the following discussion focuses on the seminal work of Kanter (1968). In her comprehensive study of the phenomenon of commitment, Rosbeth Moss Kanter (1968) suggests that there are three fundamental types of commitment viz. *continuance*, *cohesion* and *control*. These commitments act to bind social actors to organisations by linking *cognitive*, *cathectic*, and *evaluative* intentional states to the roles, relationships, and social norms of actors (see also Bruner, 1990). Based on her empirical observations, Kanter proposes three sets of dichotomous processes that act to encourage and maintain commitment along specific lines.

Continuance commitment is *cognitive* in its orientation. What is meant here is that actors perceive an organisation or ‘community of practice’ in terms of the utility it possesses for them as expressed in terms of rewards, gains, or losses—these may be tangible or intangible, expressed in monetary terms or in terms of individual utility such as job satisfaction. Thus, social actors commit to continue with an organisation or organisational sub-group for a variety of reasons. The strength of this commitment—that is the magnitude of the stake that an individual has in the organisation or social grouping—depends on what the actor has either *invested* or *sacrificed* to remain part of it. For example, the acquisition of tenure by academics staff involves a significant investment in time and effort at great personal sacrifice for little immediate monetary reward. Zachary’s (1994) in-depth case study of the team of developers who built Windows NT provides ample evidence for and examples of *continuance commitment* as it impacted on the development and application of IT competencies in Microsoft.

The second type of commitment considered here is *cohesive commitment*. Again, Zachary’s (1994) study of

Table 2 An Analysis of Team Commitment in the Windows NT Development Project

Social, Organizational and Group Commitment	Examples from the Windows NT Case
Commitments enforced by uniquely organisational imperatives.	Microsoft's competitive position was threatened by proposals to have UNIX run on RISC platforms and Intel workstations. The trajectory of the joint development of OS/2 with IBM and the souring of relations with IBM was also a major factor.
Commitments enforced by the social character of the personnel.	The social character of the personnel centered on membership of a general community of practice as software engineers. Common social ideals, class interests, and the 'kernel' development team members' background in DIGITAL were also major influences. A strong sense of individualism and creativity characterized the individual makeup of team members
Commitments enforced by institutionalisation.	While commitment to established patterns existed within Microsoft, the NT team was institutionalised as a separate 'tribe' within the organization, with special contract conditions. Members of Microsoft's existing management team acted as 'boundary spanners' to integrate the team into the overall corpus of the organization.
Commitments enforced by the social and cultural environment.	The expectations of the software industry, public and private commercial interests, potential customers, and the adherence to industry standards, affected the overall design of the product. The commitment of other software vendors to write software for the new platform was also influenced the trajectory of the project.
Commitments enforced by the centers of interest generated in the course of action.	The NT development team consisted of several sub-teams based on their function viz. the 'kernel' team, the graphics team, the file system team, test team and build lab. The activities and contribution was influenced by their own sectional interests, which in turn affected the attitudes and contributions of other groups.
Individual Commitment	
Continuance commitment	Levels of continuance commitment were high as team members invested heavily in terms of time (the project ran for 5 years) at the expense of that spent with families, friends and outside interests. On the other hand, handsome stock options and other incentives made millionaires of many team members.
Cohesive commitment	Previous institutional ties within and without Microsoft were renounced so that team members could commune with their teammates and establish local 'communities of practice'.
Control commitment	The strong personality of the team's leader, Dave Cutler, coupled with the nature of the project, had team members align their goals and aspirations with those of Microsoft, and the NT team.

Dave Cutler and his team of Windows NT developers illustrate empirically the social processes underpinning *cohesive commitment*. As Kanter (1967) points out, social actors do not normally embrace the organisation as a whole, rather *affective* ties are maintained at an interpersonal level or among team or group members. Group affiliation is based on the dichotomous processes of *renunciation* and *communion*. Organizational actors often renounce ties to competing or prohibited entities in order to construct and sustain associations with the objects of their affection or to maintain congruence with group and organizational objectives. Take, for example, labour union officers/representatives who join

management, staff who are promoted, or employees who move from one company to another: each must, to a certain extent, renounce previous ties and allegiances. On the other hand, social ties within the group must be constituted are preserved. Hence individuals will enter into a communion with other social actors in their 'community of practice' or organisation. It is from this that cathetic bonds are formed among social groupings within the organisation: thus, social actors transitively establish an affinity for the organisation, its purposes, and goals. Communion here is conceived as being a dialogue that transcends language; examples here are participation in social and business activities and engagement in

prescribed rituals and routines that mark the individual as a group member. Information technology provides extended forums for such communion. For example, it is now well-accepted that communication media such as email, video and teleconferencing whether via corporate Intranets, Extranets or the Internet itself act to enhance and maintain affective relationships (see Boland and Tenkasi, 1995, for some examples), while IT applications such as Lotus Notes allow groups to share information and knowledge within particular 'communities of practice'.

Finally, there is *control commitment*, which involves an *evaluative* orientation on behalf of social actors toward social phenomena. The somewhat severe-sounding processes of *mortification* and *surrender* are at play here. Mortification simply refers to the recognition by individuals of the importance and superiority of the organisation, its organs, purposes, goals and objectives, over the individual's own desires, status, and role. Basically, what Kanter emphasizes here is that the whole of the organisation is greater than the sum of its parts. Hence, social actors voluntarily surrender control of their behaviour and conform to institutional rules and directives, normative expectations, and cognitive influences. In so doing, social actors become part of the firm's context and structure and thereby engage willingly in the attainment of business goals and objectives. Alternatively put, this is one of the final stages of the socialisation process where individuals internalise the values and norms of social groupings within the organisation (Berger and Luckmann, 1967). Thus, the interplay of Kanter's dichotomous processes coalesce to shape the commitment of social actors within social organisations. In addition, Kanter's description of how social actors develop commitments in institutional contexts accords well with descriptions that emphasise the role of regulative, normative, and cognitive pillars in shaping institutional life as articulated by Scott (1995) and others.

Commitment in the Windows NT Development Team: An Interpretation of the Zachary Case Study

Bharadwaj (1999) argues that a firm's 'knowledge assets', which include the knowledge and skills of its human IT assets, are a key organizational resource. But while Bharadwaj argues that human IT assets are necessary for the creation of IT infrastructures, which in turn enable general 'knowledge assets' to be shared and utilized, the fundamental process that underpins the acquisition and application of IT managerial and technical skills eludes description. Zachary's (1994) case study is again called upon to provide evidence for the empirical fidelity of the proposed conceptual model presented herein. In attempting to uncover the secret of the

Windows NT development team's success, Zachary (1994: p. 280) asks the following questions:

Why did NT meet most of its goals and arrive, if not on schedule, at least in time to affect the competition? How did Cutler's team avoid the loss of purpose and initiative that often burdens large teams?

Zachary attempts to answer these questions but no grounded process-based theory results from his labors. Clearly, the Windows NT team members' IT competencies were pivotal factors, but the possession of competencies is insufficient to explain the social and personal processes at work. However, if the Zachary's case is interpreted using the above integrative conceptual model of commitment as a lens, then a clearer picture emerges. Table 2 provides an overview of this paper's interpretation of the NT case. Clearly, the analysis presented does not do justice to the complexity of the proposed conceptual model, or the detail and complexity of the case. It does, nevertheless, indicate the utility of the concept of commitment as an analytical vehicle to help describe and explain the social dynamics underpinning the application of IT competencies in organisations.

Conclusions

With few exceptions, studies on IT competencies have operated from theoretical perspectives found in the resource-based view of the firm. IS researchers are, therefore, unaware of or choose to ignore theoretical deficiencies associated with what is a predominantly regulative perspective on individual behaviour in organizational contexts. This paper has drawn on institutional sociology in order to posit a theory of behaviour that spans all three institutional pillars—regulative, normative and cognitive (Scott, 1995). Thus, IS researchers are alerted to the existence of competing yet complementary views on organizations. Another of the benefits that arise from the marriage of the conceptual vehicles proposed by Selznick (1949, 1957) and Kanter (1967) is that a conceptual model is arrived at which operates at all four of the levels of analysis called for by Bariff and Ginzberg (1982) and Nordhaug (1994). Hence, IS researchers are presented with a conceptual apparatus that allows them to interpret and explain the commitment of social actors at individual, group, organizational, and societal levels of analysis. Consequently, this study answers recent calls for a conceptual vehicle that helps explain the underlying mechanisms by which IT competencies are developed and contribute to organizational distinctive competence.

References

- Bariff, M.L. and Ginzberg, M.J. "MIS and the Behavioural Sciences: Research Patterns and Prescriptions," *Data Base*, Fall, 1982, pp. 19-26.
- Berger, P. and Luckmann, T. *The Social Construction Of Reality—A Treatise in the Sociology of Knowledge*. Doubleday and Company, Inc., Garden City, NY, 1967.
- Boland, R.J. and Tenkasi, R.V. "Perspective Making and Perspective Taking in Communities of Knowing," *Organization Science*, (6:4), 1995, pp. 350-372.
- Bruner, J. *Acts of Meaning*, Harvard University Press, Cambridge, MA, 1990.
- Burns, T. "Industry in a New Age," *New Society*, (18), January 1963, pp. 17-20.
- Butler T. and Murphy, C. "Shaping Information and Communication Technologies Infrastructures in the Newspaper Industry: Cases on the Role of IT Competencies," in *Proceedings of the 20th International Conference on Information Systems*, Prabuddha De and J. I. DeGross (eds.), Charlotte, NC, December 13-15, pp. 364-377, 1999.
- Checkland, P. and Holwell S. *Information, Systems and Information Systems: Making Sense of the Field*, John Wiley and Sons Ltd., Chichester, UK, 1998.
- Flores, F. "Information technology and the institution of identity: reflections since Understanding Computers and Cognition," *Information Technology and People*, (In E.A. Whitley and L.D. Introna (Eds.) Heidegger and Information Technology), 1998, (11:4), pp. 351-372.
- Kanter, R.M. "Commitment and Social Organisation: a study of commitment mechanisms in utopian communities," *American Sociological Review*, (33), 1968, pp. 449-517.
- Knudsen, C. "The Competence View of the Firm: What Can Modern Economists Learn from Philip Selznick's Sociological Theory of Leadership," in *The Institutional Construction of Organisations: International and Longitudinal Studies*, W.R. Scott and S. Christensen, Sage Publications, Thousand Oaks, CA, 1994, pp. 135-163.
- Pfeffer, J. *Competitive Advantage through People: Unleashing the Power of the Workforce*. Harvard Business School Press, Boston, MA, 1994.
- Prahalad, C. and Hamel, G. "The core competence of the corporation," *Harvard Business Review*, May-June, 1990, pp. 79-91.
- Scott, W.R. *Institutions and Organizations*, Sage Publications Ltd., Thousand Oaks, CA, 1995.
- Selznick, P. *TVA and the Grass Roots*, University of California Press, Berkley and Los Angeles, CA, 1949.
- Selznick, P. *Leadership in Administration. A Sociological Interpretation*, Harper and Row, NY, 1957.
- Simon, H. A. *Models of Man*, John Wiley & Sons, New York, NY, 1957.
- Teece, D. J., G. Pisano and A. Shuen "Firm Capabilities, Resources and the Concept of Strategy," CCC Working Paper No. 90-8. University of California at Berkeley, CA, 1990.
- Williamson, O. "Transaction Cost Economics and Organization Theory formation, Knowledge, Vision, and theories of the Firm," in *Technology, Organisation, and Competitiveness: Perspectives on Industrial and Corporate Change*, G. Dosi, D.J. Teece and J. Chytry (eds.), Oxford University Press Inc., New York, NY, 1998, pp. 17-66.
- Winograd T. and Flores, F. (1986) *Understanding Computers and Cognition: A New Foundation for Design*, Ablex Publishing Corporation, Norwood, NJ.
- Zachary, G.P. (1994). *Showstopper: The breakneck Race to Create Windows NT and the Next Generation at Microsoft*. The Free Press, New York, NY.