

# Does Intellectual Capital Management 'Make a Difference'? A Critical Case Study Application of Structuration Theory

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**Abstract:** The central problem addressed in this paper is how intellectual capital (IC) management can progress beyond measurement and disclosure to provide a more dynamic interpretive scheme, in order to meet strategic management's demand that IC should 'make a difference'.

Via a longitudinal case study, we observe an evolving use of narrative in disclosing IC and the manner and impacts of that change, set in the real example of a sophisticated organisation's struggle to realise the potential value of managing IC amidst rapid business change and intense competition. In order to frame the discussion, elements of Giddens' 'structuration theory' are critically applied to understand the recursiveness of the change that occurred from within the organisation.

We report three main findings. First, we identify how IC narrative evolved in response to significant changes to the organisation's operating environment, as reflected in changes to the framework adopted for managing IC despite continuing frustration in realising the envisaged benefits. Second, we establish the use of structuration theory as a tool to analyse the manner and impact of IC practices in future research. Third, we show how the stated aims of IC practice have not yet been fully realised by the studied organisation, thus providing a realistic example of the possible failings of IC practice due to inadequacies of the modalities employed by management to bring about recursive change and the need for a fuller assessment of projective agency.

**Keywords:** intellectual capital, structuration, narrative, organisational change, strategic impact

## 1. Introduction

The study of intellectual capital (IC) has been marred by the inability to create similar meaning for all organisations and, as Mouritsen (2006: 822) posits, attempting to do so may be almost an impossible task. Furthermore, IC discourse has essentially been about 'knowledge intensive' companies, those wherein a very high proportion of market value is ascribed to intangibles (Guthrie, 2001), leaving the question of the relevance of IC for 'other' types of firms subject to speculation or silence. Additionally, the theoretical frameworks by which IC has been investigated have not developed much in the past few years, suggesting there is possible value in looking at the practice of IC from different theoretical perspectives.

This paper addresses these issues through a case study of IC practice in a European manufacturing firm, in order to evaluate the impact of the management of IC on the organisation and to account for their continuing struggle to achieve desired outcomes. Giddens' (1976; 1984) structuration theory is used as the analytical framework. To do so, this paper is presented in four further sections. First, section 2 establishes the use of structuration theory and justifies its applicability to the analysis of IC narrative. Section 3 then profiles our research site and method, while section 4 discusses the results of our research through a critical application of the structuration theory framework. Lastly, section 5 discusses our findings and limitations, and offers brief concluding remarks on further application of the framework.

## 2. Narrative, structuration theory and IC discourse

Why do organisations invest in IC and what difference does it supposedly make? To answer this Marr et al. (2003) identified five main reasons why organisations manage IC, namely: to support strategy formulation; strategic development, diversification and expansion decisions; assessing strategy execution; employee compensation; and communication of measures to external stakeholders. In addition Peña (2002) argues that active management and development of IC may be associated with higher levels of organisational performance, while Dumay and Tull (2007) found that even partial disclosure of how an organisation manages its IC may also lead to other benefits such as a sustained increase in share price and mitigates the negative consequences of otherwise failing to fully disclose such information. Thus, the management of IC seems to offer potential benefits ranging from assisting the improvement of management processes to potential operational and financial benefits for multiple stakeholders.

In response to a need for IC disclosure tools, numerous frameworks have been proffered for the management, measurement and reporting of IC (see Sveiby (2007) for a review of 34 different frameworks). Most frequently, the dissemination of IC information to stakeholders has occurred either via the annual report (Guthrie et al., 2004) or the IC report (ICR) as some form of discrete disclosure (Mouritsen et al., 2003; Mouritsen et al., 2001). While the literature on IC often espouses the benefits of disclosure (Andriessen, 2004; Marr et al., 2003; Mouritsen et al., 2003), there can be disadvantages as well (van der Meer-Kooistra and Zijlstra, 2001) and IC can be seen as both an asset and as a liability (Caddy, 2000). Therefore, the decision to disclose IC information must be balanced between the needs and wants of the stakeholders and the interests of the organisation.

ICR's can be presented in many different forms, from simple one page matrices (Boedker, 2005; Sveiby, 1989), and as supplements to annual reports (see NSW Department of Lands, 2006), to comprehensive independent documents (see Systematic, 2002, 2004). But as can be seen from Sveiby's (2007) collation of different ICR frameworks, a fascination with numbers dominates the IC literature (for example Andriessen, 2004; Chen, 2003; Mouritsen et al., 2001). One of the claimed differentiating features of supplemental and comprehensive documents is the use of narrative to complement the reporting of the measures of IC. The main benefit of using narrative in IC disclosure is espoused by Mouritsen et al. (2002: 14) as follows:

*"The narrative presents something close to the identity of the firm, and therefore presents some kind of raison d'être of its activities. Therefore, when understanding knowledge as a narrative it is part of a wider justification of its role in helping the firm to develop and produce something 'good', and it also suggests where it is different from things, which in the situation is considered 'bad'."*

Narrative offers the promise of giving meaningful explanations of why and how an organisation is concerned with managing its IC in addition to disclosing its IC measures. This can serve as a basis for explicating the application and impact of IC from the perspective of the organisational actors who construct that narrative. However, few empirical studies of the role of narrative in IC practice have been conducted to date. Thus, there is a gap in the IC literature as to the role of narrative in offering an explanation of an organisation's foray into IC and the resulting strategic impact. This leads to our research question: "Can narratives of IC be analysed to determine whether the management of IC makes a strategic difference?"

In order to address this research question a framework is required that is capable of analysing the impact of IC, evidenced as change at an organisational level, by utilising the role of narrative. This has recently been addressed by Dumay (2007) who combined Giddens' (1976; 1984) structuration theory with insights from narrative theory (see Czarniawska, 1998; Weick and Browning, 1986), to analyse the impact of IC-driven change on an organisation by examining its IC discourse. He identified that structuration theory is a useful framework for analysing IC and change, offering deep insights into IC-in-action (see also Gurd, 2007). Structuration theory, while not specifically explicating organisational change, does provide a framework that allows us to think about the maintenance, reproduction and changes of social structures (Gurd, 2007: 5). Other popular theories used in the analysis of accounting change, such as Laughlin's (1991) alternative models of organisational change, have been critiqued as being too simplistic (Gurd, 2007: 4) and as presenting a static perspective (Dumay and Guthrie, 2007). Thus, as our aim here is to identify and evaluate the impact of IC over time and not as a static phenomenon, we argue that Giddens' theory of structuration is better able to explain the complexities and dynamics of change.

The term 'structure' is a neologism constructed by Giddens' (1984: 377), defined as being "the rules and resources, recursively implicated in the reproduction of social systems." Structure is simultaneously both a product of and the basis for social interactions. Giddens (1984: 29) explains that in structuration theory, interactions (classified as being of three types: communication, power and sanction) are constantly transformed into related categories of structure (signification, domination and legitimation) by way of socially constructed instruments or modalities (interpretive schemes, facilities and norms); and vice versa (see Figure 1). This essential recursiveness forms the concept of the 'duality of structure', in that structure is continuously recreated through interactions and thereby in turn provides the basis of such future interactions.

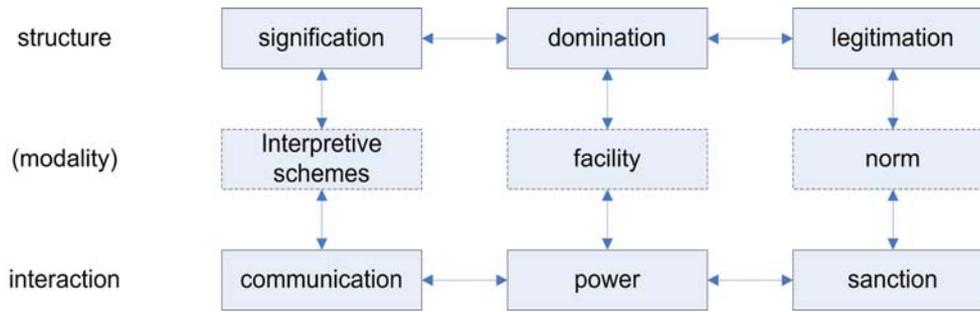


Figure 1: Giddens' structuration theory model; Source: Giddens (1984)

Another important aspect of structuration theory is the concept of 'agency' (see Figure 2); being the "actions taken by individuals in social settings" (Macintosh and Scapens, 1990: 458). Agents intervene in, rather than react to, social situations, allowing them to influence and alter social structures. But it is not possible for agents to: "...pause, reflect and make conscious choices about their behaviour" in every intervention (Macintosh and Scapens, 1990: 458); as many interactions are in fact "routinized", although always subject to reflexive review. The actions of agents are seen to occur at different levels of consciousness however (Giddens, 1984). At the unconscious level, agents possess 'ontological security' in acting, having "...confidence or trust that the natural and social worlds are as they appear to be, including...self and social identity." (Giddens 1984: 375) At the conscious level, actors' behaviour is reflexive and occurs at two levels: practical and discursive (Giddens (1984: 7). At the practical level, agents rely on their tacit knowledge about how to act and interpret the world (Rose, 1998). Whereas at the discursive level, agents imply reasoning to explain their actions, and the resulting discourse affects structure in addition to affecting the modalities of interpretive schemes, norms and facilities (Weick and Browning, 1986). Changes result from both the intended and unintended consequences of action and interaction and are a direct result of agents' recognition, at the level of discursive consciousness, of the need to change structure (Giddens, 1984: 8-12).

Weick and Browning (1986: 243-5) identify two forms of communication which can affect the structure of 'signification', namely argument and narration. They contend that the application of structuration theory to the process of communication highlights the relevance of narration as the preferred form of communication, as narration gives greater meaning to actors. Every human agent has narrative capacity, allowing them to participate in the collective sensemaking of narratives, whereas argument privileges some parties as 'experts' required to judge the argument (Weick and Browning, 1986: 248-9). Thus, communicative interaction concerning IC, arising through agents' reflexivity at the practical level of consciousness, is a reproduction of the structure of signification (meaning) of IC within an organisation. It is these shared communicative interactions, by means of the modality of IC statements and related documents, which is of interest in this paper. This is because the narratives in these statements provide evidence of why the organisation invested resources to implement and maintain IC practices and of how IC has impacted the organisation.

### 3. The PARTSCO research

The data in this study relates to the implementation of IC practice at 'PARTSCO' (disguised), a European manufacturer of automotive components. We chose a manufacturing company as this sector appears to be the 'Cinderella' in the study of IC, in that services and information technology-based organisations clearly dominate the IC research literature (Nilsson and Ford, 2004). For example, of the 53 organisations involved in the Danish IC guidelines, only three firms are considered to have a manufacturing base (see Mouritsen et al., 2003).

PARTSCO, a medium-sized firm embedded in a complex supply chain of high value-added production within an increasingly competitive industry sector, has been managing its IC explicitly since 2000 when it began reporting specifically on IC by way of an annual Statement of Intellectual Capital (SIC). The authors visited PARTSCO in 2004 and 2006 to investigate PARTSCO's IC-in-action, where they received extensive access to primary and secondary sources of data as summarised in Table 1.

**Table 1:** Data collection 2004-2006

Sources	Represented by
Management presentations, informal interviews during site visits ( 2004 and 2006)	Internal IC Documents, observations, management interviews, unstructured dialogue with management and supervisors, field notes
Statement of Intangible Capital (six years: focus on 2002 and 2005 SICs)	IC measurements, accompanying narrative, workplace artefact observation, external presentations made by management, corporate website

The SICs provide a narrative-based longitudinal observation of changes at PARTSCO, from a managerial perspective. They provide evidence of which elements were discussed or ignored, the conclusions drawn and the decisions made. Additionally, PARTSCO management provided feedback on our observations, reducing bias and specificity in the case study (Creswell, 1998; Yin, 2003). This feedback was essential, as by 2005 the authors had become aware that PARTSCO personnel were dissatisfied with the results from their IC management practice.

#### 4. PARTSCO IC through a structuration lens

For the purpose of this paper we concentrate on the narrative and metrics contained in the 2002 and 2005 SIC's (PARTSCO, 2002, 2005), representing a significant passage of time to allow observation of change. In addition this is supported from the field notes of observations and informal discussions by the authors during their visits to PARTSCO in 2004 and 2006. In terms of structuration analysis, the SIC is an interpretive scheme modality which reproduces the structure of IC at any particular point in time within the company. It is representative of an ongoing communicative interaction, sponsored by management and brought about by reflexive monitoring of the action and interactions by actors in the development of IC by PARTSCO.

##### 4.1 The need for change – why IC?

Having sponsored the launch of the SIC and related processes in 2000, by 2004 the Managing Director expressed a growing frustration at the rate of progress, stating that they needed to “*get something more*” out of the IC practice. This was still the case in 2006, however, reiterated by the Managing director in an interview as the “*need for IC management to make more of a difference*” in a context of ever-shortening product lifecycles and the new threat of emerging market competitors from China and India.

In trying to understand how IC practice has evolved at PARTSCO, we must first understand the reasons why management believes that managing IC would benefit the organisation. In 2002 the company appeared upbeat about its two year venture into IC, experiencing increased sales and market share. At this juncture, the rationale for investing in IC management was internal (PARTSCO, 2002), stated in the SIC as the:

*“...comprehension of the dynamics that enable a company to create intellectual capital would appear...to be a lever for the development of the value of the company”*

By 2005 the purpose for the development of IC had changed to include a substantial external focus, in particular the need for improved communication with external stakeholders to complement the financial reports and to increase customer confidence. By this time PARTSCO's business was less upbeat, as a result of increasing competition and economic downturn in its home country, as indicated with a shrug by the Managing Director in a 2006 interview:

*“...it is becoming increasingly difficult to understand why anyone would invest in this industry”.*

##### 4.2 Signification structure

These changing pressures are reflected in the evolving SIC, as seen in changes in the representation of the signification structure, beginning with the choice of what to highlight and measure. In developing the SIC, PARTSCO has adopted the IC classification scheme of ‘structural’, ‘relational’ and ‘human’ capital, with multiple content categories identified for each attribute of IC. Our examination of the documents revealed how comprehensive PARTSCO's reporting of IC is, with between 50 and almost 80 measurements reported at various times, and how it has evolved over time, as summarised in Table 2.

**Table 2:** Specific Attributes of Intangible Capital in PARTSCO's Reporting

'Relational'			'Organizational'			'Human'		
Year (2002, 2005)	02	05		02	05		02	05
Brands			Intellectual property			Know-how	X	X
Customers	X	X	Patents	X	X	Education	X	X
Customer loyalty		X	Copyrights			Vocational qualification	X	X
Company names			Trademarks			Work-related knowledge	X	X
Distribution channels	X		Infrastructure assets	X	X	Work-related competences	X	X
Business collaborations	X	X	Management philosophy	X	X	Entrepreneurial spirit	X	X
Licensing/Marketing			Corporate culture	X	X			
Favourable contracts	X	X	Management processes	X				
Franchising			Information systems	X	X			
			Networking systems					
			Financial relationships		X			

Adapted from (Guthrie, 2001); Source: PARTSCO (2002; 2005)

PARTSCO's sustained investment in IC reporting only partly achieves management's stated objectives; but what is absent is a model of how everything inter-relates (Rimmel et al., 2004). In Table 2 we see that PARTSCO has consistently emphasised the reporting and management of human capital and corporate culture, as these affect both external stakeholders and employees, evidencing their priority in the company's development of IC. Narrative descriptions with occasional explanation are provided in addition to figures and graphics. Achievement against purportedly critical metrics relating to quality and production efficiency varies from year to year, with very limited discussion of causes and effects in the SIC. We also observe notable shifts in attention to certain attributes, such as Customer Loyalty and Distribution Channels; and potentially significant omissions, such as Brands, Licensing/Marketing and aspects of Intellectual Property, throughout the duration. This may reflect enduring strengths of PARTSCO, reflecting the bonding with a small number of major customers and suppliers. Conversely, this may reflect an inward-directedness, undermining the company's prospects for IC to support business expansion.

If we assume that PARTSCO's adjudged 'more meaningful' elements of IC are reflected in these reports, Table 2 summarises important changes in the structure of IC. We interpret this as due to heightened awareness of the changing circumstances of the firm in an increasingly competitive market, signalled by the identification of IC elements that require greater understanding and management. This is further evidenced by the manner in which the format of the SIC has changed. The 2002 statement contained 77 measurements of intangible assets whereas by 2005 the company claimed to use 68 measurements but provided just 47 in the SIC. This reflects a shift towards a narrative-based presentation, commensurate with the changed reasons for managing IC, from wanting to understand IC *per-se* as a discipline, to improving its management and the subsequent realisation of value from IC and to demonstrate to its stakeholders, via communicative interactions, with that it was in control of IC.

### 4.3 Legitimation structure

The legitimisation process for IC at PARTSCO is analysed by asking "What modality is used to sanction IC as a management practice requiring corporate investment, and how has this changed?" The answer to this question is viewed from two perspectives: value creation and the framework utilised to represent IC.

Value creation figures as the primary legitimising rationale in the 2002 SIC, wherein PARTSCO argues that the IC indicators chosen are those identified by management to 'create value'. They do not specify exactly what 'value' is, but do assert linkages to sales and strategic considerations. By the 2005 SIC, the value focus changes to concentrating on customers, internal factors of value creation and with a need for providing

greater transparency to stakeholders. The related IC indicators are legitimised as being necessary for the management of PARTSCO's value creation through IC in these focal areas. Changing competitive and economic environments are at work here, forcing PARTSCO to have a harder look at 'value' from within. This is then communicated to internal and external stakeholders, in order to legitimise the ongoing management of IC as a worthwhile and necessary endeavour. The Managing Director expressed in 2006 that PARTSCO's internal agenda needed to change, from:

*"...(an) historical focus on customer satisfaction, with cost considerations coming only afterwards, to a heightened level of cost consciousness across the company as the first priority."*

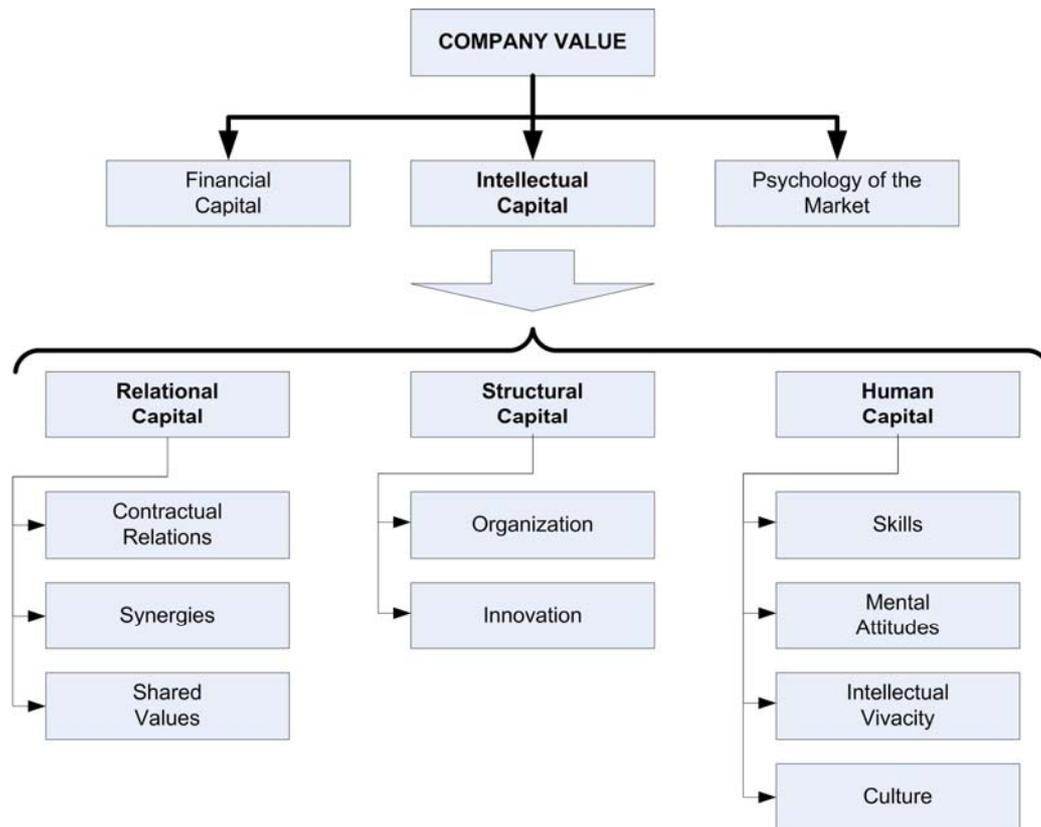
One of the unresolved debates in IC concerns which IC framework to use and whether we can establish that the chosen framework is the correct one. Unlike statutory financial reports or budgets which gain their legitimation by communicating "a common set of values and ideals about what is approved and what is disapproved" (Macintosh and Scapens, 1990: 462), there is no regulation sanctioning what form an IC statement should take, nor an agreed standard framework that can be used to represent IC (Brennan and Connell, 2000). Thus the framework that is used to legitimise the IC statement is of particular interest.

Complementing the 'value' argument for legitimising chosen IC measures, PARTSCO management recognise the importance of also providing a normative framework to legitimise the use of IC. In its initial SIC, PARTSCO projected a distinctly numerical perspective, with management depicting the report as an extension of the financial accounts which, at that time, reported good 'economic' performance. This was sanctioned through narrative text espousing the SIC's "compliance" with accounting-related guidelines (see Loro et al., 2002). By the time of the 2005 SIC however, management announced the use of the Intellectual Capital Value® framework as depicted (in a modified form) in Figure 3, a proprietary framework developed by Summit Consulting originally for Brembo Group (D'Egido and Caredda, 2002). Summit was employed by PARTSCO to help it to identify and manage IC, including the development of their SIC.

PARTSCO (2005) describes the motivation for the use of this changed model as being the need for achieving greater value from IC:

*"The traditional models for evaluation, starting with the conventional Financial Statements, are no longer sufficient to determine the real worth of a corporation. New instruments are necessary to measure those aspects of the business that are less tangible."*

In the absence of rules, standards or legislation, management now asserted a methodological legitimation for their selected approach based on the Intellectual Capital Value® structure. Our analysis is that, as business competition intensified, the normalisation of IC was now handed over to the consultants, representing 'business' expertise via their proprietary framework. This symbolised the failure of the accountants to provide PARTSCO with the correct formulae for developing IC that was more than simply 'complying' with a measurement framework, to one that gained legitimacy through the discernibly greater potential to 'make a difference'.



**Figure 3:** Intellectual Capital Value® framework. © Summit Consulting Group Source: PARTSCO (2005)

#### 4.4 Domination structure

The domination structure is dependent on the organisation and its use of two types of resources, being allocative and authoritative (Giddens, 1984: 33). In this light, the 2002 SIC indicated that, resulting from an inability to fully achieve the desired objectives in PARTSCO's development of IC, it was mobilising resources under an 'Intellectual Capital Action Plan'. Consequently, management set up four strategic focus working groups of employee and supervisor volunteers to concentrate on internal customers, external customers, R&D and suppliers. The significance of this working group formation is evidenced by two changes in the organisation of resources: first, by the prioritisation of the formation and operation of these groups, consuming organisational resources; and second, by the necessary transfer of some authority and responsibility from management to these groups in order to address specific IC applications.

However, the progress of these company-wide task forces is not evaluated in any subsequent SIC. In 2005, the 'Intellectual Capital Action Plan' and the working groups were reported to still be in existence. The SIC was transformed from analysing IC measures and implementing actions, to the Intellectual Capital Value® framework complemented by stronger efforts at communication about IC practice to internal and external stakeholders. Nevertheless, causal linkages continued to be omitted in the discourse, leaving implications un-stated and contradictions unevaluated. For example, costs increased significantly for externally sourced R&D in 2005, due to "inferior internal planning", whereas the 2002 SIC had espoused the strategic importance of an opposite approach, that of developing greater R&D self-reliance. Apart from what was noted above, no commentary was provided as to the rationale behind such a change in direction.

Thus, the continued existence of the Intellectual Capital Action Plan and the working groups in 2005 signifies their consolidation within the domination structure. However these SIC discursive narratives are essentially descriptive. The managers preparing the SIC reflect in their narrative only that there are 'shortcomings' in the management of IC, thus its value is 'questioned'; and that within each area, 'improvements' are required. We would question whether their failure to present coherent stories about industry conditions, business strategies and the outcomes of actions, can provide sufficient guidance to the strategic focus working groups to enable achievement of their objectives.

By contrast, the Managing Director reflected strategically in a 2006 interview that IC management needed a change of modality and focus, to enable the organisation to begin "*seeing the group more as a whole, not*

*business unit by business unit*". In commencing in this new direction, he had just initiated an organisational separation of Development from Manufacturing in order to gain better visibility and control of design cost and development efficiency, as reflected through the realignment of metrics in that latest SIC.

#### 4.5 Extension of Giddens' Structuration

We adopted a focus on narrative in the PARTSCO analysis, as narrative can provide greater understanding of IC (see Mouritsen et al., 2002). Narrative, however, also requires a 'plot' to be effective (Czarniawska, 1998). The Managing Director continues to espouse a need for strategic change which led him to sponsor modifications to IC practices, including by way of increased narrative disclosure of PARTSCO's IC. However, even when the modalities of the SIC and IC Action Plans remain constant, the lack of sufficient underlying 'plot' in crucial areas either fails completely to link strategic responses to those IC modalities, or provides narrative accounts but not in a form that can guide employees and value chain partners to execute consistently. For example, in a thorough search of the 2002 SIC narratives we were unable to find the use of the word 'problem' or any closely associated synonym such as 'difficulty, trouble, crisis, dilemma, predicament, quandary, or setback' to symbolise the evidence of any coherent plot. This was still the case in the 2005 SIC, thus indicating that PARTSCO, while realising what was needed to better manage its IC and recursively creating and enacting routines around specific points of emphasis, as usefully analysed by Giddens' structuration theory, is nevertheless not yet fully able to tell the story of why and how.

This lends support for one critique of Giddens' interpretation of structuration, the argument that he overemphasises the recursive routinization of structures, offering little explanation of how new structures may emerge (Emirbayer and Mische, 1998), even during in periods of disruption (Giddens 1984: 60-62). Instead, agency involves purpose and judgement in addition to routine – a temporal element highlighting agents' abilities to shift their focus to projections of the future. A more agent-oriented account creates the possibility of projective change in those structures, arising in response to the effect of interests, their "hopes, fears and desires for the future" (Emirbayer and Mische, 1998: 971).

This may help us interpret the gap between PARTSCO top management's attention to IC and the inconsistent execution of strategy as witnessed in the case. PARTSCO's IC narratives focus on the tasks and goals as set by management, but do not develop them in persuasive narratives depicting causal themes and collective implications, nor do they relate them to the interests of employees required to enact those decisions. Interviews corroborated a universal awareness of and access to IC information by employees; however as a shop floor supervisor observed in a 2006 interview "*...not everyone in the unit participates, it isn't closely managed*".

This reinforces our sense that even after six years of vigorous sponsorship, the concept of IC had not yet fully been accepted within PARTSCO's workplace culture. Our findings suggest that, to the extent that change must be enacted by agents in order to make a difference, Giddens' structuration framework should be extended beyond recursively routinized embodiment to include fuller consideration of modes for engaging that projective agency.

### 5. Discussion and conclusion

In this section we focus on three findings in order to develop new insights into how IC impacts an organisation. First, we find that the evolving use of narrative becomes increasingly important in times of disruptive change; we saw this reflected in the IC practices of PARTSCO management as economic downturn, customer relationship dynamics and emergence of stronger, non-traditional competition increased business risk. This enables PARTSCO to at least partially explain the *why* and *how* of developing IC resources, to communicate more effectively with stakeholders and to give meaning to the selected measures of IC. As the HR Director espoused in 2006, the aim being:

*"...to present the innovation capability, knowledge, motivation and strength of external relationships, so that employees understand their organisation and we can prevent future contingencies through anticipation and action."*

We witness a longstanding frustration by senior management concerning the strategic implications of the slower than expected rate of progress in IC contributions to the desired outcomes. IC practice is still only partially effective, as seen in the quantitative disclosures of sudden reversals in multiple measures of quality, wastage and new business development, along with continuing omissions noted earlier. It is noteworthy that only rarely does the SIC include commentary on the strategic risks or implications of the results recorded.

In our second finding, we evaluate, through a case study application, the use of structuration theory as a tool to analyse the manner and impact of IC practices. This can be viewed from two perspectives. First, we show that the use of structuration theory provides an ability to understand the recursive changes in an organisation's structure as a result of the operation of IC practices. In PARTSCO's case we note the continued drive to develop their IC resources through the SIC, and management's continued concern to legitimise the activity. This development of IC through the SIC is identified as the principal interpretive modality by which the evolving structure of PARTSCO's IC has emerged. Further, structuration analysis allows us to observe the response of IC practices to external forces of competition and business environment, and to assess their impact on the structure of IC. These structural responses range from management's decision to continue to manage specific measures that it perceives as representing strategic IC categories, regardless of environmental pressures, to a marked adaptation of other IC practices in order to communicate more effectively about its IC with all stakeholders.

However, we observe a gap between declared strategic imperatives and management's satisfaction with the degree to which IC practice seems capable of resulting in desired impacts. This suggests a process lag, one that may for the first time be explicated by means of structuration theory's account of the recursive nature of the interactions that underlie both the use and adaptation of the interpretive modalities by which the evolving structure of IC emerges.

Our third finding is to identify that structuration theory provides a useful framework for analysing how management intended their promotion and 'routinization' (see Giddens, 1984) of IC narrative to help make cognitive links between IC indicators and their meaning, in support of a program of improvements in process and product innovation. We find that the stated aims of IC practice have not yet been fully realised by PARTSCO, thus providing a realistic example of the possible failings of IC practice due at least in part to inadequacies of the modalities that are required to bring about recursive change. The expressions of frustration about IC outcomes constitute a reflexive monitoring by the Managing Director of the organisation's capacity for strategic change, at the level of discursive consciousness. However the recursiveness of that change process, mediated by agents and how they enact current and sought-for interactions, is a significant factor in steering and implementing change.

As a result, the original concept of IC and management's growing attention to narrative disclosure affect the 'structure' of the organisation, but the task of re-crafting the signification, legitimation and domination structures of IC within PARTSCO remains a 'work in progress'. We suggest that this work needs to continue, but with greater inclusion of the agency and interests of employees, in a mode beyond Giddens' focus on routinization, in order to make the desired difference through IC.

## **5.1 Implications for future research**

This study highlights the need to better understand the evolution of IC in even relatively less knowledge intensive organisations through analysis of observed management responses to changes in the external environment. By means of structuration theory, future research could extend the investigation of such changes through analysis at both the discursive and reflexive levels. This provides a model for recursive change that accommodates the dynamic effect of external factors mediated by purposive, reflexive agents, as well as encompassing the internal factors more frequently focused upon in IC discourse.

Future research could use this approach to analyse the impact of IC in terms of the effects of IC practice modalities on the actions of agents. It could also investigate whether a more dynamic view of the structure of IC can close the observed gap between strategic management requirements and perceptions to date of the capability of IC management to 'make a difference'.

## **5.2 Limitations**

This case study is limited to the presentation of findings of a phenomenon within a particular organisation within a manufacturing sector context. In addition, the reasons for change that influenced the researched company to adopt and persevere with IC practice may have different impacts in other organisations.

## **5.3 Conclusion**

This case study builds upon the theme of IC practice by offering insights into the applicability of narrative in helping IC practice create value; provides a realistic look at why the promise of IC remains only partly

realised in the subject organisation despite sustained executive sponsorship; and holds out structuration theory as an applicable framework for a more inclusive interpretation of the evolution and impact of IC.

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