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## The Impact of Symbolic power on Information Systems Adoption: A Bourdieusian Perspective

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**Abstract:** IS adoption is a complex issue of socio-technical interaction and a lot of organizations can't utilize it successfully. We should not pay attention to power shift activities and IS attributes such as MRPII/ERP/ERP II but adopt relation thinking mode to explore the nature of IS as symbolic power and cause mechanism of power alteration in IS adoption. In the study, we use critical realism to explore change of power relations in IS adoption processes and construct the model of the symbolic power generation mechanism based on Bourdieu's social practice theory. From symbolic power perspective, we conclude that character status and role prestige is ascribed to IS, implementation of an IS is configuration of power relation designed by IS software vendors. We propose a framework for analyzing IS as symbolic power to explain the regular pattern and the process of IS adoption and recommend that one must review power from relation thinking mode in IS adoption.

**Key words:** Symbolic power, information systems adoption, critical realism, bourdieu's practice theory, social recognition

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### INTRODUCTION

Information Systems (IS) researchers, oscillates between two seemingly incompatible points of view, two apparently irreconcilable perspectives: technology materialism and subjective socialism. On the one hand, it can treat information system as technology artifacts and thus leave out everything that they owe to the fact that they are objects of knowledge, of cognition-or misrecognition within social existence. On the other hand, it can reduce the social world to the representations that agents have of it, the task of social science consisting then in producing an account of the accounts produced by social subjects. The major contribution of what must rightly be called the structuralist revolution consists in having applied to the social world the relational mode of thinking which is that of modern mathematics and physics and which identifies the real not with substances but with relations (Bourdieu *et al.*, 1968). In this study, we tried to transcend the artificial opposition that is thus created between technology structures and representations based on relational mode of thinking.

### FOCUS POWER RELATION ON IS ADOPTION BY RELATION THINKING MODE

Bourdieu intended for his concepts which he coined a set of 'thinking tools' (Wacquant, 1989) visible through

the results they yield, to be applied in this way: The ground for these tools lies in research, in the practical problems and puzzles encountered and generated in the effort to construct a phenomenally diverse set of objects in such a way that they can be treated, thought of, comparatively (Bourdieu and Wacquant, 1992). In spite of the scrutiny and many attempts to apply Bourdieu's theoretical work (Calhoun *et al.*, 1993; Swartz, 2003; Swartz and Zolberg, 2004), the way in which he saw his 'thinking tools' being deployed is often overlooked. We take on advice from Webb *et al.* (2005) who stated that: Bourdieu's concepts are not simply theoretical filters which process social practices; rather they are technologies which are transformed and need to be re-thought as they are applied. He intended for his concepts to have malleable characteristics and stressed that good quality research marries theory and empirical investigation so that his concepts come to life through application. Similarly drawing on a relational ontology, Latham and Sassen (2005) point to the emergence of whole new socio technical relations and domains-digital formations-which they argue need to be constructed as objects of study. These "sociodigitized" structures "exhibit dynamics of their own that derive from technological capacities that enable specific patterns of interaction (Latham and Sassen, 2005).

Information system, in its objectivist moment, is a social topology, an analysis of relative positions and of

the objective relations between these positions. The "social reality" which Durkheim spoke of is an ensemble of invisible relations, those very relations which constitute a space of positions external to each other and defined by their proximity to, neighborhood with, or distance from each other and also by their relative position, above or below or yet in between, in the middle. This relational mode of thinking can be used to analysis IS construction of social value such as increasing revenue growth, attracting new customers from new and existing markets, supporting new business models, optimizing processes and getting sustain competitive advantage during the toughest of economic times.

We focus our study on power relation in IS adoption based on relation thinking mode. Information is a source of power as it is needed for decision-making (Bariff and Galbraith, 1978). Thus, when changes are made to systems that produce information, then power relations may be impacted. Even though it is always the case that information system implementations will change power relations, IS researchers have not pay more attention to power relations configured in IS itself. Traditional research method and paradigm of power is primarily studied using the case study method. This is especially the MRPII/ERP/ERP/ERP case with the interpretive studies. With regard to the functionalist studies, theoretical reasoning and archival studies are conducted. Bariff and Galbraith (1978) argue that power shifts downwards as the monopoly of top management, with regard to information, is reduced. On the other hand, the loss by subordinates of the possibility of smoothing data will upwardly shift power. Thus, the effects of and on power relations seem to be highly context dependent.

IS also has the potential to change or conflict with the social structure, culture and values, causing some parties to resist implementation while others will support it (Markus and Pfeffer, 1983). For example, use of MRPII/ERP/ERP/ERP is found to have a positive effect on inventory reduction but inventory reduction is hampered if purchase staffs want to get discount from suppliers under the table. In this context, informal power is determination to ERP failure.

The insufficient integration of sociological approaches to IS research is of interest. We argue that power alteration is not resulted from implementation processes. We should not pay attention to power shift activities and IS attributes such as MRPII/ERP/ERP/ERP but think the nature of IS as symbolic power and cause mechanism of power alteration. Information as symbol and sign means status and prestige. From symbolic power perspective, character status and role prestige is ascribed to information system. Implementation of an IS are

configuration of power relation designed by IS software vendors. IS adopters choose IS to re-configure power relation which may have several and even opposing effects from subordinates. This is the case when the new IS does not match the current social structure, human habit and field logic and thus bring with conflicts.

In this study, we show how French social theorist Pierre Bourdieu's sociological approach helps us to tap into the power relation research which beyond the dichotomy of IS adoption decisions as either a determination of cultural environment or the result of power change. As part of a critical project, this study focuses on the power relations in IS and try to express power dominance that entail the privileging of management interests over others. We use critical realism and a sociological approach to IS adoption research.

#### **USING CRITICAL REALISM TO EXPLORE CAUSE MECHANISM OF POWER CHANGE**

We have difficulty in finding solution of power conflict in organization theory and try to find solution in social theory. Through 20 years MRPII/ERP/ERP/ERP application and theory research, we find that critical realism and social practice theory of Pierre Bourdieu (Bourdieu, 1986) can give us direction and can give us some explanation.

ERP II systems was introduced by Gartner Group in 2000 (etc. Bond *et al.*, 2000).As MRP II to ERP, ERP/ERP is the next-generation of ERP systems (Weston, 2003). Charles (Moller, 2005) concluded the prime functionalities of ERP/ERP systems are E-commerce, Supply Chain Management (SCM), Customer Relationship Management (CRM), Business Intelligence (BI), Advance Planning and Scheduling (APS) and Internet procurement or e-procurement. These new functions are provided through a combination of best-practices processes and technologies such as product data management, collaboration, visualization, enterprise applications integration, components supplier management, knowledge management, etc. For example, SAP provides ERP/ERP software for complete application integration and easy collaboration over the Internet. SAP's ERP/ERP systems are based on the SAP NetWeaver platform which includes Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), SAP Product Lifecycle Management (PLM), SAP Supply Chain Management (SCM), Supplier Relationship Management (SRM) (Business Week Research Services, 2008).

The nature of society as an open system makes it impossible to make predictions as can be done in natural science. According to Bourdieu's practice, people are not

aware of the factors affecting their behaviour, nor the implicit logic behind that behaviour (Bourdieu, 1977). One of the Bourdieu's key epistemological critiques of the research process was the inability of study participants to critically reflect upon their behaviour because as humans our 'practical logic'-the inherent association between what people do and their location in social space-is limited (Bourdieu, 1977, 1990). Bourdieu suggested that 'the principles embodied in this way are placed beyond the grasp of consciousness and hence cannot be touched by voluntary, deliberate transformation cannot even be made explicit' (Bourdieu, 1977; Bourdieu, 1984).

This research is situated in a critical realist paradigm which, as sociologist Margaret Archer argues, views society as 'inseparable from its human components because the very existence of society depends in some way upon our activities' (Archer, 1995). This view is largely consistent with Bourdieu's ontology (Bourdieu, 1991). Central to critical realism is that the explanation of social phenomena is achieved through revealing the causal mechanisms that produce them (Archer, 2010).

According to critical realism, the objective IS software are reflection of power relations between positions occupied within the distributions of the resources which are or may become active, effective, like aces in a game of cards, in the competition for the appropriation of scarce goods of which this social universe is the site. By basing this research on the analysis of the causal mechanisms of IS adoption, it is possible to arrive at IS configuration analysis about the potential consequences of mechanisms that operate in IS implementation. But, uncovering these causal mechanisms is not a linear process whereby the researcher can ask IS designer and IS consultants why they design IS in a certain way or for what cause. In this study we contextualize the broad reach of IS adoption into a complex set of relationships, classification schemes and social dynamics that Bourdieu discusses in his work on the social field through the concept of symbolic capital and symbolic power. We argue that Bourdieu's relation thinking mode and Archer's critical realism should be tapped into IS adoption research. We need to use critical realism to explore power mechanism to IS adoption research. As part of a critical project, this study focuses on the power relations in IS and try to express power dominance that entail the privileging of management interests over others. We use critical realism and try to explore change of power relations in IS adoption processes as Fig. 1.

IS as symbolic capital is nothing other than economic capital, social capital or cultural capital means that symbolic capital is the representation of economic capital,

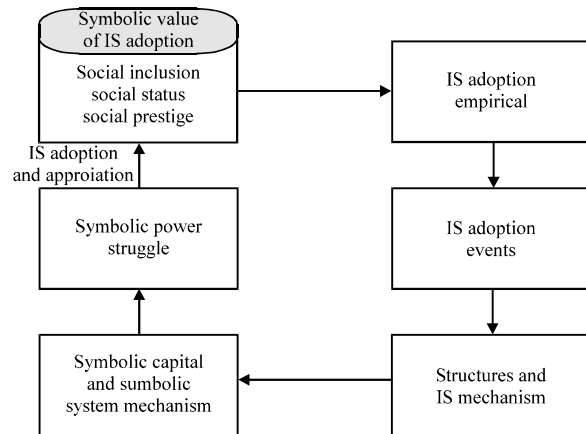


Fig. 1: Framework of IS adoption field and practice from critical realism

social capital and cultural capital in IS field. We suggested IS being symbolic capital to change power relations because symbolic capital is the transformed form of economic capital, social capital and cultural capital. Traditional IS adoption research are focus on the empirical level and events level which did not deepen into mechanism and structure level as right part of Fig. 1.

Critical realism offers researchers tool to explore 'black box' of power struggle as top part of Fig. 1. The framework discussed symbolic power is a suitable analytical tool for making sense of the manoeuvre made by powerful actors to create obligatory passage points for weaker actors. We should not pay attention to power shift activities and attributes of IS, such as MRPII/ERP/ERP II but think the nature of IS as symbolic power and cause mechanism of power alteration. Information system adoption means social status and prestige. From symbolic power perspective, character status and role prestige is ascribed to information system. The symbolic value in Fig. 1 emphasizes social value aspects such as role status, social inclusion and legitimacy which determine IS adoption decision. The objective of the study is to argue that given the complexity of IS adoption, power phenomenon requires a complex and rich theory such as symbolic power. Moreover, the hidden nature of power relationship need to be explored around IS practice.

#### **FOCUS ON SYMBOLIC POWER CONFIGURED IN IS SOFTWARE**

According to Bourdieu's practice logic, fundamental powers in social relation are economic capital (in its different forms), cultural capital, social capital and symbolic capital. Symbolic capital is the form that the

various species of capital assume when they are perceived and recognized as legitimate (Bourdieu, 1986). Economic capital “is immediately and directly convertible into money and may be institutionalized in the form of property rights”; cultural capital “may be institutionalized in the form of educational qualifications” and social capital is an individual feature which is “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition”. Thus agents in social are distributed in the overall social space, in the first dimension, according to the overall volume of capital they possess and, in the second dimension, according to the structure of their capital that is, the relative weight of the different species of capital, economic and cultural, in the total volume of their assets such as economic capital, cultural capital, social capital and symbolic capital.

Bourdieu (1986)’s power relation gave us another kind of view of IS power relation. IS as a social system is a symbol system which also embedded symbolic capital and symbolic power. Thus IS software vendors and implementers are distributed in social space according to the overall volume of capital they possess and adopt different IS software. On the other hand, according to the structure of their capital, IS software vendors and implementers adopt different strategies based on the relative weight of the different species of capital, economic and cultural. Thus power relation change in IS adoption processes and final value are quite dependent on the total volume of their assets such as economic capital, cultural capital, social capital and symbolic capital. The capital volume and asset species possessed by IS software vendors and implementers are cause power of change in IS adoption. According to Pirre Bourdieu, symbolic capital can take on forms such as obligations and expectations, information potential and norms and effective sanctions. Owing to the fact that symbolic capital is nothing other than economic, social or cultural

capital when it is known and recognized, when it is known through the categories of perception that it imposes, symbolic relations of power tend to reproduce and to reinforce the power relations that constitute the structure of social space. More concretely, legitimacy of the social world is not, as some believe, the product of a deliberate and purposive action of propaganda or symbolic imposition; it results, rather, from the fact that agents apply to the objective structures of the social world structures of perception and appreciation which are issued out of these which tend to picture very structures and the world as evident. From this point, IS vendors design objective structures of the social structures of perception and appreciation which tend to picture very structures and the world as evident in IS system as Fig. 2.

Therefore, IS as symbolic capital is nothing other than economic, social or cultural capital when it is adopted and implemented, when it is known through the promotion of IS vendors that it imposes symbolic power relations. IS vendors and implementers tend to reproduce and to reinforce the power relations that constitute structure of social space. More concretely, legitimacy of IS worldwide best- practice seems not the product of a deliberate and purposive action of propaganda or symbolic imposition. In fact, IS best practice is myth making and has symbolic imposition and legitimacy effect underpinning symbolic power relations.

### REVIEW IS ADOPTION FROM SOCIAL RECOGNITION PERSPECTIVE

Understanding how individuals are structured into social positions in a field helps to understand how IS adoption is shaped. Bourdieu explained that dominance works through utilisation of the forms of capital and because enterprise’ access to capital (disposable income, social networks, cultural background, symbolic accumulation) is different by the nature of enterprise development, so too is an enterprise’s position within

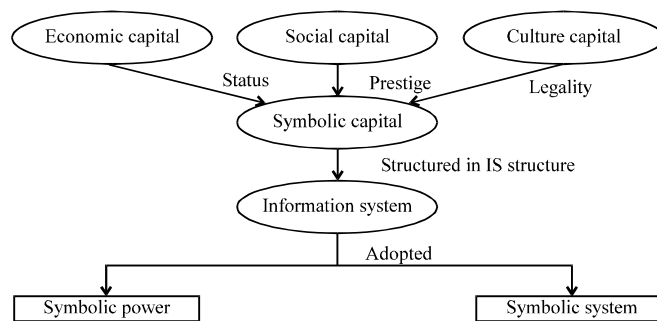


Fig. 2: Symbolic power resulted from symbolic capital in IS adoption

social hierarchy. We can use Bourdieu's conceptualisation of symbolic capital focused on enduring outcomes whereas the overlapping nature of IS vendors and implementers. This means the social status earned by IS adoption can produce symbolic value. This may explain why IS adopters revered opportunities for worldwide fame to engage in symbolic struggles. IS vendors such as SAP offer Chinese enterprises chance to use ERP as a key resource to demonstrate their advanced management mode and potentially achieve ascendancy in their social status. Acknowledging and analysing these IS alignment helps to develop the theory and captures the flexible characteristics Bourdieu intended of his ideas.

When enterprise engages in social practices like IS adoption, they enter a game-like scenario where they draw on their capital to make social gains or 'wins'. Participation in the 'game' of IS adoption relies on previous accrual and use of capital (e.g., IS investment, employee cultural, IS application history, IS vendor competency) and knowledge of the rules and engagement in 'symbolic struggles' to improve social positioning. By adoption a certain IS software such as SAP, ORACLE, KINDEEN, USERFRIEND or adopting a particular consultant brand, IS application enterprises express their affiliation to a social group or rejection of lifestyles or groups to which they do not relate or do not wish to be perceived as related. In this way, IS adoption complex than they appear at the outset; they are also meaningful, figurative and an important element of social status and prestige.

Of particular relevance to understanding IS adoption is not just Bourdieu's theory on struggles for recognition through the fit for, accrual and display (activation) of symbolic capital but the means by which symbolic capital is recognised and given value so it can be exchanged for desired outcomes (Webb *et al.*, 2005). The notion of recognition helps explain the "performative" nature of IS adoption. It also highlights the requisite that IS adoption must be validated and appreciated by collaboration community to become sources of symbolic capital. The ratification of a witnessing customer and financial marketing is an essential strategy for the accrual of symbolic capital amongst Coxes. This explains the popularity of SAP ERPII suite and user community which provides an expansion of their virtual enterprises and an opportunity to display enterprise image in a public field. At present, the necessity to adopt, implement and displays of ERPII is a central distinction asserting business strategy.

For example, SAP partnered with Business Week Research Services (Business Week Research Services,

2008) in 2008 to reexamine the role that Return On Investment (ROI) and Total Cost of Ownership (TCO) play in ERPII investment decisions. BWRS launched overviews of C-level executives-CEOs, CFOs, COOs, CIOs-at large and midsize companies on how to calculate the value of ERPII investments, especially given new technologies such as SOA, software as a service (SaaS) and modular upgrades that provide less easily measured business opportunities. According to BWRS report, traditional formulas are no longer sufficient to calculate the payback of integrated Enterprise Resource Planning (ERP) application suites, especially given new delivery platforms such as Service-Oriented Architecture (SOA). The conflict between establishing a realistic business case and simultaneously recognizing potential top-line benefits can be seen in the survey. Respondents say they are more focused on developing new uses of technology than on developing new metrics of IT ROI. Companies that want to look at the possibility for top-line growth still have measurement systems that look at costs. That creates a paradox-the measurement systems are conflicted and the management processes don't honour that. On the other hand, the 350 executives surveyed are mainly concerned with increasing revenue growth, in part by attracting new customers from new and existing markets. The findings indicate that leading companies base their decisions of ERPII investment on how well an enterprise application can support them as they adapt new business models, create optimized processes and sustain competitive advantage during the toughest of economic times.

This BWRS report opens a wide world of understanding how organizations are evaluating investments in enterprise applications during these tough economic times. A forward-thinking enterprise have been factoring greater flexibility and business agility into their ERPII investment decisions for quite a while now but IS researchers are lagged in ERPII practice just as ERP research lagged ERP practice 10 years ago. In the past 8 years, ERPII have been developed but academic study is few. "ERP has become obsolete and enterprises should to plan to undertake the difficult transition from ERP to ERP II through 2005, from both business and technological perspectives, so that they might take advantage of the competitive opportunities enabled by c-commerce. However, caution is in order-the transition to ERP II will challenge the ERP vendors (Bond *et al.*, 2000)".

Traditional formulas such as ROI, TOC are not enough measure IS adoption reason. What are the supplements of ERPII adoption evaluation? ERPII system itself provides a base for power analysis. Researchers

have the opportunity to master power relation embedded in ERPII by review social recognition. By doing so, researchers may gain power knowledge based on Bourdieu's symbolic capital and symbolic value.

ERPII means affirming congruence with socially sanctioned practice and aligning internal business according to what is deemed socially correct or legitimate. ERPII adoption highlights acceptable behaviours and creates distinctions between social positions. Bourdieu termed this a 'symbolic struggle' over capital (Bourdieu, 1989).

Prestige is defined and distinction reasserted through the exclusion of particular enterprise who exhibit behaviours that are not congruent with the dominant and legitimated ways to IS application. When calculating value of ERPII investments, especially given new technologies such as SOA, software as a service (SaaS), we can use symbolic values which provide invisible business opportunities and growth space. Even in toughest economic time, ERPII adoptions is appropriate by more dominant business CXOs and are not value-free but are loaded with symbolic meanings. In this sense, very specific aspects of ERPII adoption are socialised according to a system of monitoring, recognition and reproduction from MRPII to ERPII which is constantly in flux. Evident through the research presented here is that ERPII adoption can be interpreted as symbolically significant activity with the potential to create and maintain social differentiations amongst enterprises.

### CONCLUSION

We utilize Bourdieu's concepts as a means of translating sociological ideas to IS adoption. We introduce symbolic power of Bourdieu's practice concepts to IS adoption research using our research on MRPII/ERP/ERPII. Our work provides an example that researchers in IS adoption can draw on to critical realism and more complete social understandings of the social capital underpinning IS adoption.

IS adoption is inherently a social practice shaped by the immediate social context but sociology does not have a stronger presence in IS research. We emphasize sociology practice on wider social field as shaping IS adoption decision which more fit with ERPII implementation. The implications of ERPII implementation on power relations cannot be perceived on business processes or ERPII function module. Power relations depend on how the actors make use of ERPII and the position power resulted from symbolic capital. Symbolic power indicates that power has a legitimate source for symbolic value.

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