Role of Enterprise Systems in Organizational Transformation

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Abstract: This paper offers a new perspective on the role of the Enterprise System (ES) as an instrument for radical organizational change. The findings are based on an in-depth case study in a large, European, high-tech company that went through a major re-organization, adopting a matrix organization structure. The paper offers valuable insights into the de-institutionalization process and the role of ES in a company's re-organization. The findings show how ES-in-use served as an agent and a platform for de-institutionalization and later as a powerful force in forming the new institutional arrangement.

Keywords: Enterprise Systems, Organizational Transformation

EMJ Focus Areas: Knowledge & Information Management; Organization & Work System Design; Program and Project Management

Faced with environmental uncertainty and the need to improve organizational efficiency, and ultimately performance, large international companies have been seeking to implement standardized processes and practices across borders and divisions. Localized business practices have been increasingly forced out by general rules and uniform practices, often implemented through integrated, enterprise-wide information systems (for example, Enterprise System (ES), and in its primary form: Enterprise Resource Planning (ERP) system). A uniformly implemented enterprise system could facilitate standardization of processes and satisfies needs for management control by concentrating all information into one real-time system (Davenport, 1998).

In this study we seek to understand the roles that the ES play during an organizational change. The new organization and ES in the case company was aimed at enhancing the efficiency and control of their global project delivery. We analyze the case company's transformation to gain insights into how the ES affects and is affected by the organizational change.

The relationship between information technology and organizational change has been widely recognized (e.g., Leavitt and Whisler, 1958; Robey and Boudreau, 1999). This study draws on a model for understanding organizational change (Greenwood and Hinings, 1996) to gain insights into the roles ES played in the change process. We study how the case company responds to market and institutional pressures and focus on the role of ES in the change process from a "silo" type organization into a horizontally integrated company with fewer organizational units and stronger company-wide competence centers.

Research Approach

In order to investigate the role of ES, an in-depth case study was carried out in a large, publicly quoted, high-tech company that delivers professional services. Data collection took six months from December, 2008, to May, 2009. We interviewed twelve managers, ES designers, and ES users with different backgrounds. The face-to-face interviews lasted from 40 to 80 minutes and were recorded and later transcribed for subsequent analysis. The findings were checked with the interviewees. In addition an extensive review of company documents, such as annual reports, financial reviews, and Intranet and training materials was carried out during this field study phase.

Company Background

Neon (a pseudonym) is a large European high-tech company delivering IT, R&D, outsourcing, and consulting services to customers ranging from SMEs to multinationals both locally and globally. During the last decade the company has experienced rapid growth through acquisitions, mergers, and strategic alliances. For the last few years, the market environment has been challenging causing Neon's revenues to decline, and the company's shareholders received a public tender offer during spring 2008 (see Exhibit 1). Major changes in the financial markets and prudent IT investment by customers were seen as major challenges for Neon.

At the beginning of 2009, Neon announced a new steering model and a matrix organizational structure. This was aimed at transforming Neon into a more horizontally integrated company. Previously the company structure had been based on business areas (customer-specific industries) and it had operated in small, industry- or customer-specific teams, which had taken care of every phase of customer projects. The interaction between business areas had been inefficient as one interviewee described:

> "We definitely had quite strong process owners in Finance and in Sales; however, business areas were so independent that there was not such process owner, whose position would have been so strong and legitimized that he or she would have been capable to telling how we have to do things." (Director)

The team heads had been responsible for resource management by exchanging employees between teams according to project and customer needs. During the last few years, Neon had gradually been transferring employees from teams to larger, industry-specific or customer-specific competence groups located in business areas (see Exhibit 2A).

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Exhibit 1. Timeline of Major Events at Neon

Organizational changes

2010

New steering model and matrix structure

Resource Management (RM) module implementations

Strategy formulation process (1000 employees)

2009

Public tender offer

Newly appointed executives

Over 90% of Neon's staff uses ES daily in 9 countries

Decline in revenues

2008

Rapid growth through acquisitions, mergers and strategic alliances

2003-2009: Enterprise system implementations

Tools

Exhibit 2. Transforming into a More Horizontally Integrated Company

Business area | Business area | Business area | Business area | Business area

Infrastructure mgmt services

Shared services

Service development

A. Business Area Structure

Countries

Service lines

Industries

CEO office, Business Support

B. The New Matrix Model
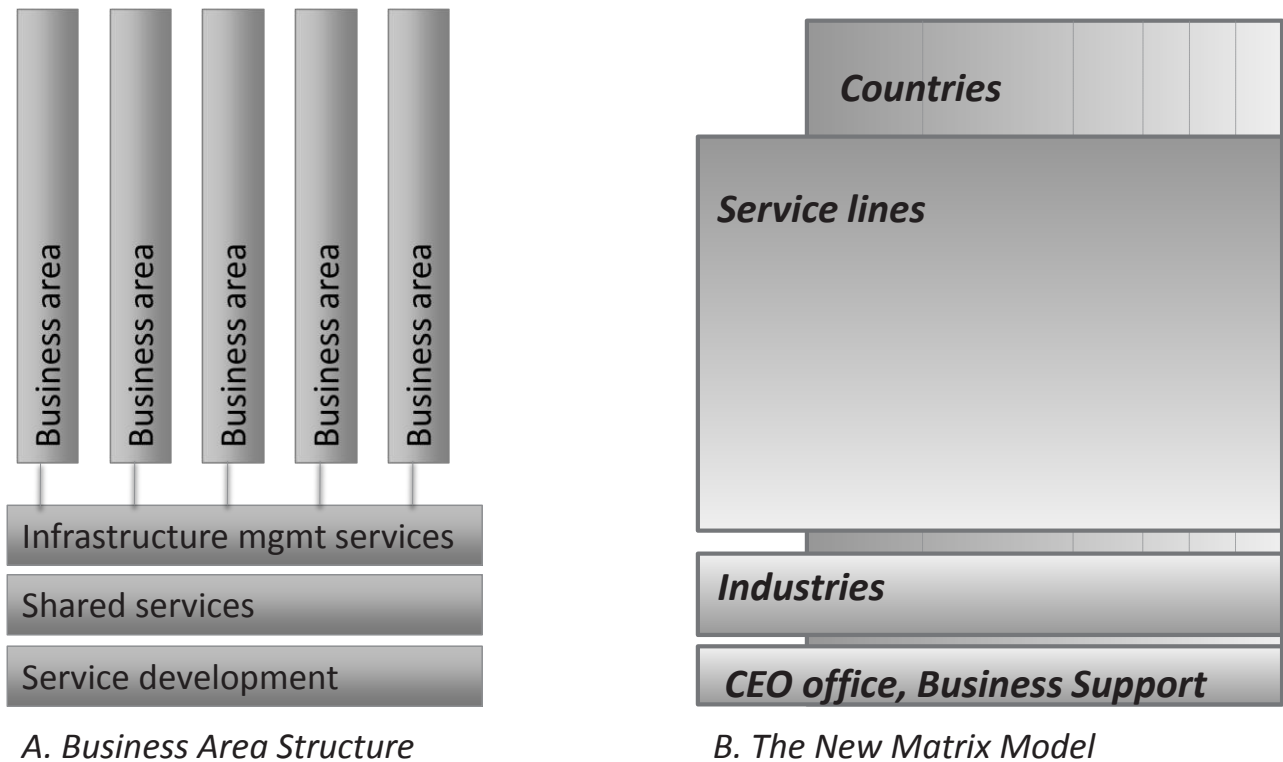
In the new matrix model, most of the employees were located in service lines and industries diminished in size and in power. The new organizational structure had a stronger focus on countries, fewer organizational units, and stronger company-wide competence centers (see Exhibit 2B). In order to respond to competition, the company implemented a global delivery model.

Neon had many newly appointed executives, such as the CEO, Head of Service lines, Head of Country, and Head of HR, and some of them came from non-high-tech sectors. Neon also recruited executives with strong experience in the outsourcing services and familiarity with the market situation in strategically important locations. The new management considered ES to be

an important tool for this transformation as it could be used to enforce the new processes and policies.

Neon's ES was based on a commercial product, and it was integrated with local banks, local payroll systems, a common invoice center system, and common reporting and budgeting system. It had the basic operational functionalities for an expert organization. ES was aimed at providing a common service for the whole organization.

"*A need for cost-efficiency led to the situation that we got sort of as a by-product a possibility to relocate accounting activities. First we centralized accounting activities and second we re-located them in a lower-cost country.*" (VP Finance)

Findings from the Case
It was evident that the use of ES served the transformation by providing a reporting structure and tools for both vertical and horizontal reporting needs. Neon also implemented some new corporate level metrics concerning internal processes and increased the reporting frequency. Faster and more transparent decision-making created a potential pressure for change or inertia, because interests of different groups conflicted at all events. This caused resistance to ES use or unwillingness to provide more accurate information. For example, employees perceived forecasting of personal workloads frustrating in a turbulent market situation.

Because of the challenging market situation, Neon had searched for opportunities to become more horizontally integrated. The aim of the new steering model and matrix model was to make it easier for Neon to utilize competencies and to release the full potential to become more agile and to serve customers more efficiently.

In the past, the complexity of the organizational arrangements had produced a large range of product and service offerings. In addition, the composition of the workforce had diversified and different parts of the organization had been grouped into silos of expertise. The emerging matrix model was seen as a solution that could dissolve the organizational fragmentation.

Neon's new steering model and matrix organization seemed to emphasize HR processes and a unified corporate culture. Rewards were increasingly based on individual performance. The company sought to increase investments in employees to achieve skills and competencies required to function within the new matrix model.

Discussion and Implications for Management Practice
Our analysis indicates that ES played a dual role of de-institutionalization by providing tools for re-structuring, controlling and decision-making, as well as performance measuring and gradually becoming an agent in the re-institutionalization process. Exhibit 3 depicts this dual role of de-institutionalization and re-institutionalization. The findings offer valuable insights into the role of ES in a company's re-organization.

Exhibit 3. Dual Role of Enterprise System

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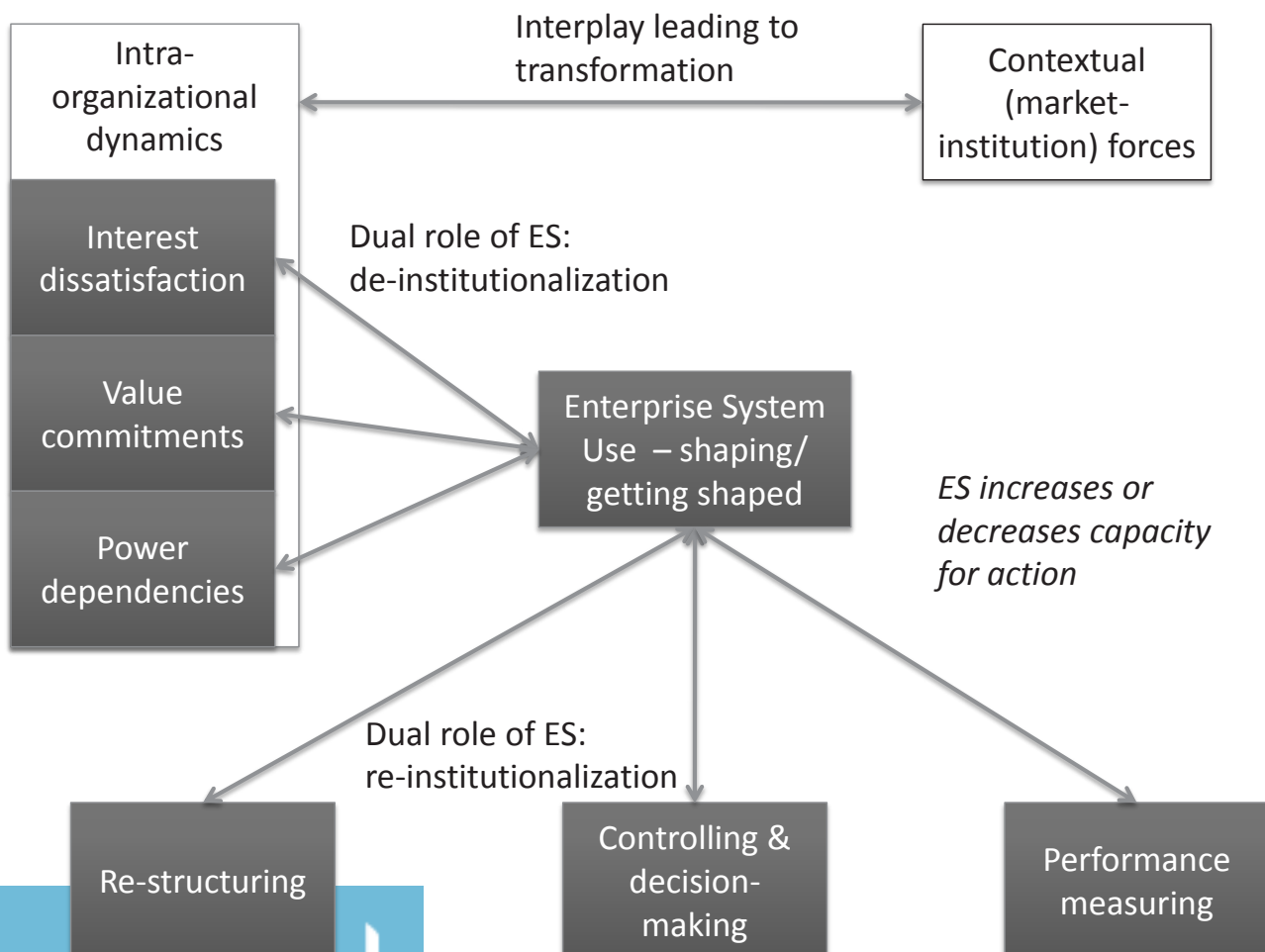
In the new matrix model, the managers had more direct subordinates located globally. In this situation the use of ES served as an instrument for re-structuring by helping to introduce and enforce common procedures and practices; however, increased transparency, measurability, and comparability between units and competence centers linked with implicit off-shoring objectives caused resistance toward ES. This, combined with the complexity of ES usage, caused employee frustration and difficulties in communication process.

At Neon, the usage of ES varied between business areas, and the principle of "one company and one tool" did not work in practice. The new matrix model and lack of hierarchy posed far more stringent requirements for information quality, forecasts, and common processes than the previous organizational structure. ES acted as an agent for change by relocating and tightening centralized decision-making authority and operative control. Previously, resource management was handled between small teams, but in the new global delivery model service line management was responsible for allocating people to projects through ES. ES's project resource management module was the main tool for resource management. We found that in the new matrix model, the control of ES was not decentralized but rather re-located to staffing managers and service line management in order to achieve company's off-shoring objectives. Exhibit 3 below lists some pros (+) and cons (-) relating to the interplay between ES and the re-institutionalization process.

The use of ES acted as an instrument in the company's cultural shift toward individualism by providing tools for individual performance measurement. This is somewhat contradictory to the espoused values of seeing team and project performance as the key to company success. Also a strong emphasis on utilization rate in the managers' short-time incentives may lead to ignoring the off shoring objectives, which are seen as critical for the company's long-term competitiveness.

Our analysis highlights the importance of planning the deployment order and timing of ES in such a way that it helps the process of change instead of hindering it. In this case, the delay in implementation of the resource allocation and project monitoring modules clearly caused resistance for the whole change, as the benefits and burden of the new tasks were unevenly distributed (e.g., project managers had to input far more detailed planning information, but they did not get advanced project reporting before the monitoring module would be implemented). This also meant that the project managers were often reluctant to use the new system, as it seemed to only call for more form filling for them, without any benefit for their own work.

Our results have several important practical, managerial implications:

- Planning the deployment order and timing of ES is critical to enable the change process instead of hindering it
- ES institutionalizes and formalizes performance measurement at individual level, which might be detrimental for overall objectives
- The goals of ES implementation must be clearly communicated to the users so that they understand why more complex processes and detailed information are needed

Organizations and enterprise systems transform constantly and exploring their co-evolution is one of the most interesting future research directions. An interesting area for future research would be to investigate the use of the ES at a more detailed level over a time period and to understand how the use evolves with experience.

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Exhibit 4. Pros and Cons of ES Relating to Organizational Change

Restructuring	Controlling and decision-making	Performance measuring
+ Helps to introduce common procedures	+/- Requires more detailed information and common decision-making processes	+ Provides tools for performance measurement
+ Has potential to establish synergies between business units	+/- Relocates and tightens centralized decision-making authority and operative control	+/- Supports cultural shift towards individualism
- Causes resistance towards ES due to increased visibility linked with off-shoring objectives		
- Causes frustration and difficulties in communication process due to complexity of ES usage		

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About the Authors

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