

Organizational transformation through FSI framework: Personnel, Processes and Collaborative technologies

Adapting collaborative technologies for organizational productivity

Organizations, of all sizes, in every domain and in all geographies, are facing growing challenges to comprehend the scope of social media based technologies for their internal process use and for their networks. To assist the CIO's and executives, FIR has developed a tool based framework to evaluate the impact of social web based collaborative technologies to support knowledge intensive processes. The FSI framework extends organizational spectrum to three categories of Formal, Semi-formal and Informal. The FSI tool places the emphasis on both business process and IT level. The FSI framework and approach are validated in conjunction with industrial and research clients as test cases. Initial finding, reflected in this article, show a dire mismatch between the process exploitable potential level and organizational ICT profile. At the end, a set of recommendations are included for the organizational management to consider for organizational transformation.

Problem domain

The challenges businesses faces today are not due to the inability to create information, but rather an inability to manage and to connect diverse information and knowledge sources. According to the report from Forrester Research in 2011, 80 % of learning and innovation is informal, which means only 20 % of potential is exploitable through formal means. Yet organizations spend most of their ICT budget on formal aspects, which means they are spending 80 % of the company's budget on programs that benefit only 20 % of employee's work. Innovation and learning organizations must address this discrepancy by exploring non-conventional and unorthodox techniques and models.

FSI Framework: Process and ICT categorization

FSI framework, supported by evaluation approach and assessment tool, presents revolutionary means for the organization's management to analyse and restructure their process and IT profiles. The main focus of FSI framework is to highlight the knowledge and collaboration potentials of organizational processes and then mapping them to the organizational collaborative technology. Thereby, identifying the mismatches between the process itself and employed ICT, as well as, providing the bases of organizational address the gaps.

The framework is structured into three operational parts:

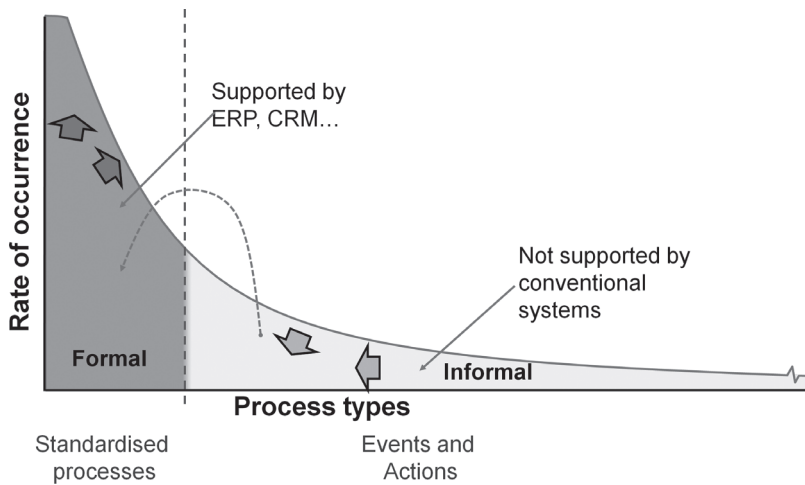
- First part presents an extended spectrum to include semi-formal category within both organizational process and ICT profile
- Second part looks into the dynamics of organizational knowledge and collaboration constraints
- Third part maps the organizational ICT for knowledge and collaboration support

Process categorization

In process context, any entity (person, department, agency) expecting a specific outcome, from the given process for its further use, is considered a client and thus a stakeholder along with the staff performing the task. To make such a structure operational it is important to consider looking at the processes in a different light; i.e. instead of using process description as a strict workflow, organizations should take them as recommendations and guidelines. This is highly helpful in the markets that deal with high customization of products and services. To make change into a success we need a different representation and categorization of processes. In Figure 1 two perspectives on business process are traced to long tail curve; X-axis represents uniquely identifiable processes and Y-axis represents the sum of the occurrences of a process. The curve on the left represents a conventional view of organizations and the curve on the right represents the contemporary view based on the FSI framework.

In FSI process categorization, formal processes are automated with higher occurrence without any change in the configurations; traced to the left of the X-axis. The processes that require high level of configurations and are executed as a reaction to a non-traced unique event in the environment are Informal and are traced further right on the X-axis. The Semi-formal segment, represented in the right curve, relies on both formal and informal aspects of a process by considering the formal features and tracing them to the informal events, thereby making this segment as much traceable to the organizational value drivers as the formal processes. There are some specific high level characteristics associated with semi-formal processes:

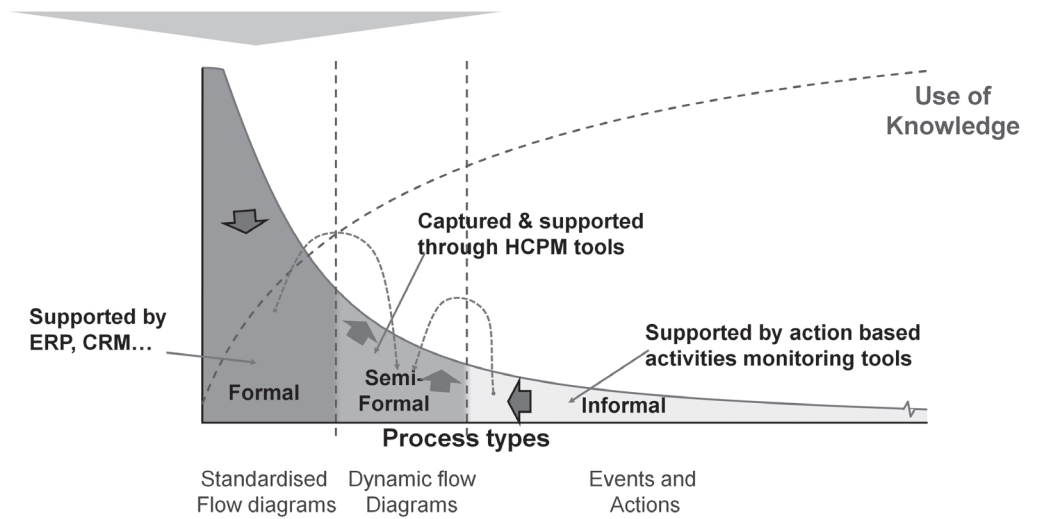
- Semi-formal tasks are triggered based on the occurrence of known events in the working environment that require the formal tasks to be adjusted or partially customised.



introducing standards. Therefore, the IT tools introduced into the workflow are based on requirements that have the capability to support only the formal tasks, good example are classic Off-the-Shelf ERP and CRM tools. Usually, the informal process and task support is completely neglected within the workflow descriptions and consequently for the IT tools.

In an environment, where the processes are diverse and changing, the ICT has to be more adaptive. The focus of semi-formal tool suites is human centric and the modelling of semi-formal task is done with the help of tools made for such flexible work. During the last couple of years

Figure 1 and 2: Introducing semi-formal segment within organizational process spectrum



- Semi-formal tasks are not limited to organizational boundaries but to the required knowledge nodes forming knowledge workspace.
- Semi-formal tasks are characterised by the fact that they are driven by ICT based recommendations rather than a strict directions and manual based on templates and forms.
- During planning or pre-execution of Semi-formal tasks recordable patterns are generated that can be captured by the ICT application suites in the form of recommendations.
- Reoccurrence patterns of a Semi-formal tasks schemas evolve that may provide guideline to other similar tasks. These schemas are generated based on execution steps and collaboration among resources.

the concept of social web and mash-ups has led to adaptable collaborative applications also at enterprise level. These Human centric tools or collaborative technologies emphasize the importance and representation of knowledge within organization. Figure 3 (page 27) presents a snapshot of the ICT categorization.

FSI approach and tool

The FSI approach and tool is divided into four main steps:

1. Generate case profile and scope
2. Map the case's assets and processes to the factors of knowledge intensive processes
3. Map the organizational software applications to the functionalities of collaborative technologies
4. Aggregate the process and ICT profiles to the configuration types for evaluation

The Semi-formal process segment extends the classic business process classification from two to three; formal, semi-formal and informal. Thus, this extended categorization is termed as FSI classification framework.

The evaluation approach initiates by acquiring company data, evaluation data and process data. The company data includes basic information, such as industrial sector, location and contact information. The evaluation data stipulates the goals of the analysis. The process data specifies information about the respective process, such as type and name, and also, the number of

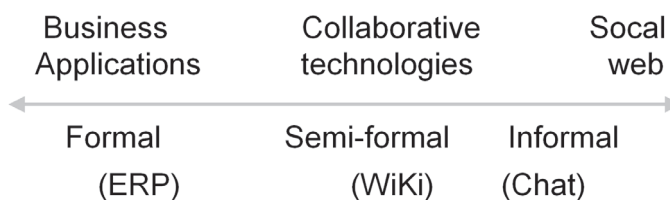
people involved. Here, the process level scope is defined, on one hand, as single isolated process or group of processes, on the other hand, as process within one department, one organization, or distributed over networks. In case of multiple processes, each process is evaluated independently and the outcome of each is aggregated to generate the overall result.

This stipulation of process data sets a relevant frame for the analysis of collaboration and the involved knowledge in the processes. In the second step, the process level factors identified in the evaluation model are mapped to the two process segments of knowledge and collaboration. In the third step, the case's ICT application infrastructure is mapped to the collaborative technology's functionalities. Based on both process and ICT mapping, evaluation is conducted to assess the impact of collaborative technology's functionalities to support knowledge intensive process.

The tool allows a rather uncomplicated and structured construction of templates that permit an inclusion of case data. The results are supported by hierarchical graphical illustrations to allow different detail levels of analysis.

First observations and typical mismatch

The tool based approach was applied in four industrial domains, Automotive, Consulting, Manufacturing and Logistics, and



Telecommunication. Minimum mismatch of 10 % exploitable potential is observed for formal part of the processes; more than 30 % for semi-formal activities and for informal activities more than 40 %. The aggregated illustrations in figure 5 (page 28), are based on projected manufacturing industry case, show the mismatch between three process profiles and their mapped ICT. One common observation in every case is that, that the ICT is a limiting factor.

Figure 3: Organizational ICT profile

Management level recommendations

As an added outcome of the preceding, there are some management level recommendations that determine the successful adoption of the collaborative technologies within an organization:

1. All gets used within the flow: Collaborative technologies should be included as part of workflows. Otherwise, they won't be considered at all. Gradual introduction and careful placement is of critical importance.
2. Cultural transformation needs to be top-down: Executives need to be role models in

Figure 4: FSI Tool overview

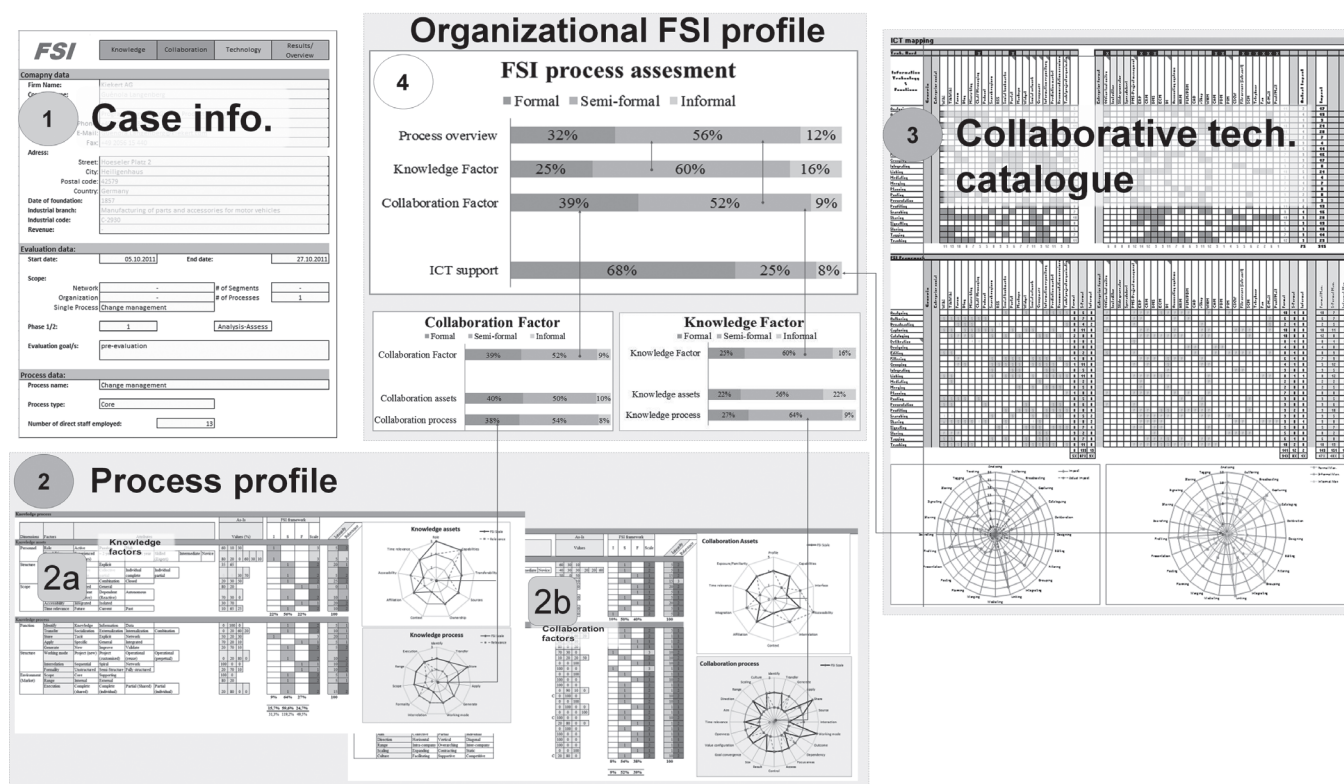
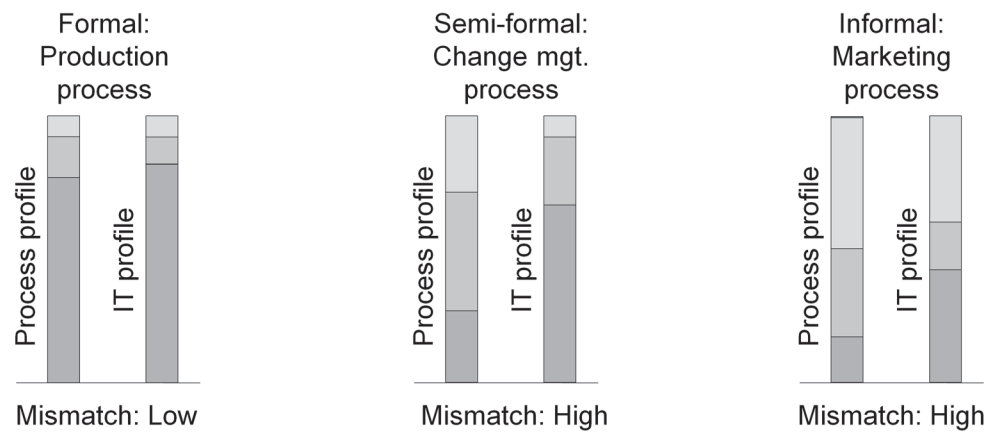


Figure 5:
Process and ICT profile
mismatches



- both using the technology and exemplifying the soft benefits.
- 3. Technology transformation needs to be bottom-up: CIOs shouldn't dictate how technologies are to be used. It is more helpful to let usage patterns emerge organically from users.
- 4. Incentives for egos and needs, not just for wallets: Social media users want to gain friends, followers, connections. Well communicated incentives are the key to collaborative knowledge workspace.
- 5. Risk balance: the top-down and self-management: Derive a collaborative formation of policy before fixing and enforcing. A well thought-out and timely publishing policy is necessary.



Ali Imtiaz MBA, MSc (li.)
FIR, Bereich Informationsmanagement
Fachgruppe Informationslogistik
Tel.: +49 241 47705-511
E-Mail: Ali.Imtiaz@fir.rwth-aachen.de

Prof. Dr.-Ing. Volker Stich (re.)
Geschäftsführer des FIR e. V. an der RWTH Aachen
Tel.: +49 241 47705-100
E-Mail: Volker.Stich@fir.rwth-aachen.de

Prof. Dr.-Ing. Dipl.-Wirt.-Ing. Günther Schuh (mi.)
Direktor des FIR e. V. an der RWTH Aachen
Tel.: +49 241 47705-103
E-Mail: Guenther.Schuh@fir.rwth-aachen.de