Towards Maximum Grip: Reaching a higher level of expertise through ERP (Enterprise resource planning) implementations

GUNSON, John, DE BLASIS, Jean-Paul, NEARY, Mary

Abstract
L’atteinte d’un haut niveau d’expertise par la mise en place de PGI (progiciels de gestion intégrés) : vers un effet de levier maximal. ERP implementation success is a priority for adopters and has been elusive for some. Over the last decade, both organizations putting in solutions and their ERP editors-integrators have learnt lessons and there has been a gradual improvement in implementation method. In this paper we focus on the implementation team as a community of practice. Treating the team as a community of practice, rather than as just a project team, has the effect of leveraging to a higher level of expertise. We also study the progression from novice to expert for the organization’s key users and I.T. staff.

Reference
GUNSON, John, DE BLASIS, Jean-Paul, NEARY, Mary. Towards Maximum Grip: Reaching a higher level of expertise through ERP (Enterprise resource planning) implementations. 2004

Available at:
http://archive-ouverte.unige.ch/unige:5770

Disclaimer: layout of this document may differ from the published version.
TOWARDS MAXIMUM GRIP: REACHING A HIGHER LEVEL OF EXPERTISE THROUGH ERP (ENTERPRISE RESOURCE PLANNING) IMPLEMENTATIONS

John GUNSON
Jean-Paul DE BLASIS
Mary NEARY
TOWARDS MAXIMUM GRIP: REACHING A HIGHER LEVEL OF EXPERTISE THROUGH ERP (ENTERPRISE RESOURCE PLANNING) IMPLEMENTATIONS

L’ATTEINTE D’UN HAUT NIVEAU D’EXPERTISE PAR LA MISE EN PLACE DE PGI (PROGICIELS DE GESTION INTÉGRÉS) : VERS UN EFFET DE LEVIER MAXIMAL

John Gunson
Lecturer, University of Wales Institute Cardiff (UWIC)
PhD Candidate, University of Geneva

Jean-Paul De Blasis
Professor
SES/HEC - University of Geneva

Mary Neary
Lecturer, Cardiff University
Visiting Professor, University of Tampere

ABSTRACT

ERP implementation success is a priority for adopters and has been elusive for some. Over the last decade, both organizations putting in solutions and their ERP editors-integrators have learnt lessons and there has been a gradual improvement in implementation method. In this paper we focus on the implementation team as a community of practice. Treating the team as a community of practice, rather than as just a project team, has the effect of leveraging to a higher level of expertise. We also study the progression from novice to expert for the organization’s key users and I.T. staff.

Keywords: ERP; Learning; Communities of Practice; Novice; Expert; Maximum grip.

RÉSUMÉ

Le succès de la mise en place d’un progiciel de gestion intégré est une priorité pour les organisations qui les adoptent, pourtant certaines essuient un échec. Aussi bien les organisations que les éditeurs et sociétés de services qui les assistent dans la mise en œuvre, ont appris des expériences passées. La dernière décennie a connu des améliorations graduelles dans les méthodes de mise en place. Cet article analyse l’équipe de mise en œuvre sous l’angle d’une communauté de pratique pour obtenir un effet de levier vers un niveau d’expertise qui va au delà de celui d’une simple équipe de projet. L’évolution de débutant à expert pour les utilisateurs clés et les informaticiens est également analysée.

Mots-clés: PGI (Progiciels de Gestion Intégrés); apprentissage ; communautés de pratique ; utilisateurs-clés débutants et experts ; haut niveau d’expertise.
# CONTENT

Introduction.................................................................................................................................. 3

The Community of Practice ...................................................................................................... 4

The ERP implementation team as a Community of Practice .................................................. 5

ERP implementation mission .................................................................................................. 7

Team dynamics........................................................................................................................ 8

Learning in this Community of Practice ................................................................................ 10

How to nurture the Community of Practice ......................................................................... 14

Conclusion ............................................................................................................................... 16

References................................................................................................................................. 17
Introduction

Esteves (2004) remarks that it is unlikely that a broadly agreed upon definition for ERP (Enterprise Resource Planning) can be achieved. Markus and Tanis (2000) consider that ERP relates to “commercial software packages that enable the integration of transaction-oriented data and business process throughout an organization”. Leaders among such editors are SAP, Oracle Applications, Peoplesoft.

ERP (Enterprise Resource Planning) implementation success and later return on investment depends, among other factors, on the project team dynamic. This success and payback (quantitative and qualitative) is vital to the organization since implementation cost is high and the resulting Information Technology platform needs to contribute significantly to the organization’s business strategy and survival. Since competitors are likely to be implementing ERP solutions at the same time, there is the added incentive to gain an advantage, an edge. How is this achieved?

In this paper we apply contributions from certain academics who have increased our understanding of how we learn. In particular we examine the work of Hubert Dreyfus and his model ‘Novice to Expert’ and the work of Jean Lave and Etienne Wenger and their notion of ‘Communities of Practice’ (Lave and Wenger 1990). We seek to identify the ERP implementation team as a community of practice (both during implementation and after as the team changes and drops its official ‘project’ status to then help the enterprise to realize advantage post Live). Then we apply the novice to expert progression as it pertains to this community of practice.

The object of this reflection is to demonstrate concretely how individuals and the community of practice can be nurtured, valued, so that a higher level of expertise and organizational excellence can be achieved. The term ‘maximum grip’ comes from the work of Merleau-Ponty and his observation that higher animals and human beings are always tending towards a maximum grip on their situation.

Dreyfus (2004) cites Merleau-Ponty’s example:
“For each object, as for each picture in an art gallery, there is an optimum distance from which it requires to be seen, a direction viewed from which it vouchsafes most of itself: at a shorter or greater distance we have merely a perception blurred through excess or deficiency. We therefore tend towards the maximum of visibility, and seek a better focus as with a microscope.”

In addition to a review of literature, our reflection is also based on ten years of ERP implementations, a longitudinal study concerning two multinational affiliates in the Pharmaceutical and Medical Device industry (1992 to 2002). The reflection on the practice and workings of the implementation groups is the basis for this paper. Our finding is that to view the ERP implementation team as a community of practice and treating it as such brings benefit – not only contributing to a successful implementation but also serving as an example of how to capitalize from future enterprise wide projects. It allows for a fresh approach to the meeting of unfettered minds and transformational leadership. It also reflects a transversal approach to the organization rather than by traditional top down management, functional silos. (Note that even the more recent paradigm of business units is not a radical enough departure from functional silos such as Finance, Logistics, Sales/Marketing).

The community of practice

Jean Lave (Lave 2004), in her keynote speech to the OKLC 2004 (the fifth European conference Organizational Knowledge, Learning, and Capabilities held in Innsbruck Austria) made some common-sense comments which include:

A good analysis is: what am I looking at here?, and Lave quoted Wittgenstein ‘Don’t think, look’…What is the ‘it’ we want to change?…Don’t talk about knowledge as disembodied…

Communities of practice are mutually engaged in doing things together; participation, (read: person participating, practice participated in)…

Do not divide person from world…

In her recent research in the context of changing practice, Lave speaks to the inevitable ‘situationality’ of ideas, trajectory of ideas (fit other people’s projects) and critical perspective…
The fact that teams such as ERP implementation teams are so critical to organization success and survival, we propose to ‘look’ at them in the light of a community of practice.

Lave and Wenger (1991) suggest that communities of practice are everywhere and that we are generally involved in a number of them. They may be formal or fluid and informal. They may be seen in three dimensions: what the community is about, how it functions and what capability it has produced. Their own examples included Yucatec midwives, Vai and Gola tailors, US Navy quartermasters, Meat cutters and non-drinking alcoholics in AA (Alcoholics Anonymous).

**ERP implementation team as a Community of Practice.**

In a business context, Wenger (2001) distinguishes between communities of practice, formal work groups, project teams and informal networks. The ERP implementation team can be seen as a project team of course; the purpose being to accomplish a specified task (the Live on a new integrated software platform); members are assigned by senior management; project’s goals and milestones hold the team together; and the team remains together until the project is complete.

In examining Wenger’s characteristics of a project team this seems to us too simplistic (the French word réducteur is better). We would argue that the ERP implementation project team needs to take on the characteristics of a community of practice to progress. Wenger describes the purpose to develop members’ capabilities; to build and exchange knowledge. The members join based on expertise or passion for a topic. The passion, commitment, and identification with the group’s expertise holds them together. The community of practice lasts as long as there is interest in maintaining the group.
In defining the community of practice, the key element are the people that make it up. 
Figure 1 shows communities from which the ERP implementation Case Study B team were drawn. These were existing communities within or without the organization:

- the I.T. (Information Technology) department,
- the different User departments (such as Finance, Logistics, etc.),
- the ERP Editor community,
- the organization’s steering committee representing management, and the wider community for the organization which includes state, employees, suppliers, customers, banks etc.

Team members were drawn from the I.T. department: the business analysts and those who had programmed around prior systems became the main team members representing I.T. The Information Management Director became the Project Manager. Key users were drawn from each functional silo particularly Finance and Logistics. This formed the main working team that worked together intensely for a period of approximately 18 months up to the Live date of January 2002. This team needed to learn the new software (the Xe version of J.D. Edwards (JDE) One World (also
known as JDE1W Xe), and brought to the table their expertise of prior systems (a mixed platform of Oracle Applications, Bpix, SAP) and their business expertise.

From the ERP Integrator a manager would be dedicated as their customer manager to liaise with the project manager. In addition technical experts would be brought in part-time or full-time as necessary, usually one expert per set of JDE1W Xe modules:

- Finance (accounts receivable, accounts payable, general ledger)
- Distribution (sales orders, inventory, purchase orders, customer relations management)
- Payroll (payroll, human resources).

One step removed from the team, the role of the Steering Committee was to monitor progress and budget (delays and costs), help resolve issues which they could impact. In the wider community context, at different project stages the team would consult as appropriate (customers, suppliers, users and user management not directly in the team, etc.) Three individuals help in particular to drive the project: the Project Manager, the Project Sponsor and the liaison manager representing the ERP Editor. In both Case Study A and B the Project Manager was also the manager responsible for Information Technology. The Case Study B example concerned the pilot country for going Live on the new system the team was duplicated, including a Core team based in Belgium and comprising I.T., Users and JDE integrators from different countries, as well as other country teams as they prepared for role-out.

**ERP Implementation Mission**

The main task, or as Jean Lave might say, the ‘it’ that needed to be changed centered around the improvement to the I.T. platform by using one integrated ERP system instead of three. This also meant upgrading to a system that could accommodate the Euro currency. Other benefits would be a fully integrated system avoiding more than one input or control listings to be checked daily between systems to ensure coherence.

As part of the implementation process, a complete review of processes would be undertaken, reengineering to follow as closely to standard as possible the new
software which itself incorporated best practices according to legal, fiscal and local business practice constraints. The organization expected through this rationalization to be able to absorb increased sales and expansion without a linear increase in headcount and overheads.

The implementation was also to include seamless management of the supply chain and customer relations. Either through the ERP solution and/or by adding other solutions. In Case Study A, for instance, Siebel’s CRM (Customer Relationship Management) solution was interfaced.

The aims here seem fairly straightforward, but to ensure maximum grip, it is necessary to look at processes and their improvement horizontally across the organization and make decisions which may impact vertical functional silos and vertical hierarchies. The focus needs to be transformational rather than just improvements to transaction handling.

**Team dynamics**

**Power**

Understandably there can at times be conflict or tensions, we have mentioned hierarchy and functions, there are also power games new to the organization. Editor experts work very closely with key users and I.T. staff, but editors are suppliers and the key users and I.T. staff customers. Editor support is quantified as billable mandays, and expensive days at that. The organization may want to transfer knowledge to its own staff and jettison the editor support quickly post Live. The ERP implementation may be the first time that a team, adding value through their expertise, from outside the organization becomes part of the internal team to this extent.

**Gender**

Beverley-Alimo Metcalfe (2003), in a study of 2000 NHS and Council employees asked to rate their bosses according to 14 new criteria for measuring managerial success, found that women bosses scored more highly (higher than men for 11 criteria, equally placed for 3).
Interestingly the survey suggested women were more ‘transformational’ leaders while men were more ‘transactional’. Perhaps there is a correlation and at least it is of note that in Case Study B the Project Manager, the Core Team Leader and one of the key leaders for the project and for testing were women.

Certainly management need to take on board Metcalfe and her family’s findings since for example, to paraphrase their work, a white Anglo-Saxon male is perhaps overly present in British management if you are looking for transformational change. Employee judgments would suggest this. Should management, rather than looking for ‘one of us’ as project manager, rather welcome diversity and conducting 360 degree appraisals?

**Culture diversity**

The core and pilot country teams coming together for the first Live of a major affiliate meant for 18 months a mix of profiles roughly as follows:

- at least seven different nationalities
- age range 25 years old to 60 years old
- different socio-economic groups
- different levels of education
- mix male and female, perhaps 2:1 ratio but with several women in leadership roles
- residence of team members in different countries (necessitating weekly flights, hotel accommodation and living out of a suitcase)

In Case Study B there were pockets of nationalities, for example the Core team ERP Editor contributors were mainly Italian. A company of integrators, Proxima, now owned by IBM Global Services formed the backbone of JDE module specialists. The Core team leader and Finance leader were Portuguese since the Portugal affiliate had piloted the software as a smaller affiliate. France was the larger affiliate pilot. While the French team were staff from the affiliate, again there was a mix of nationalities. The Country leader was from the UK, the test leader (who was also a member of the Core team as well as the pilot Country team) was of Vietnamese origin. This made for a very dynamic and cosmopolitan group.
For both Case Studies, the project and the team were successful. Not all deadlines were met, the post-live was difficult to manage at times in the first weeks, the budget may have been exceeded. But for the magnitude of this project type, expectations in general were met.

Lessons can be learnt from tensions and stressors that occurred during the project. In Case Study A the stressors were immediate, the I.T./project managers of two of the major affiliates left the company due to team or project strategies or management issues. In Case Study B the stressors were more towards the end of the project when the I.T. Manager/ Country Project Leader transferred and the integrator team may have felt a bit let down, some steering committee trust shifted to a new much smaller team brought in to coordinate issues.

**Learning in this community of practice**

Hubert Dreyfus (2004) identifies a progression from novice to expert with different levels of skill:

- Novice
- Advanced Beginner
- Competent
- Proficient
- Expert

Interestingly in his observations, it is not a smooth progression. For example at the Competent level there can be discomfort as there is to some extent a letting go of reliance purely on rules and procedures and calculation to a more, what Dreyfus terms, ‘deliberative rationality’.

Another Dreyfus observation is that experts can have difficulty in explaining the mechanics of their expertise. Or as he comments:
“The difficulty of getting an expert to articulate the rules he is using is that the expert is simply not following any rules. He is discriminating thousands of cases.”

It is possible that in our excitement to label Learning Organizations, Intellectual Capital, Knowledge Management (not new phenomenon but very much in vogue), that we are ignoring this difficulty in ordering, classifying, explaining, documenting skill and expertise.

Dreyfus shows that there is a danger:

“…(the) increasingly bureaucratic nature of society is heightening the danger that in the future skill and expertise will be lost by over reliance on calculative rationality”.

And goes on to suggest that society must clearly distinguish its members who have intuitive expertise from those who have only calculative rationality.

So how does this progression of novice to expert manifest itself in this ERP implementation team community of practice?

One first observation is that no-one is expert at the outset in this community. These are the necessary skills:

- Business skills Finance
- Business skills Logistics
- Business skills Sales / Marketing
- Business skills Manufacturing (if appropriate)
- Module set skills JDE, Finance
- Module set skills JDE, Distribution
- Module set skills JDE, Sales / Marketing
- Module set skills JDE, Manufacturing (if appropriate)
- I.T. skills, Conversion of data
- I.T. skills, Interfaces
- I.T. skills, Modifications
- Testing and validation skills
- Project Management skills

The issue here is that each skill set requires several years of experience, incorporating theory and practice. It is difficult for one person to combine more than one set of skills. For the team to progress there has to be constant intense communication between the key users and the JDE integrator specialists. For example, for Finance as they decide on parameter setting for the system. As and when there is an impact for Logistics then key user Logistics and the JDE integrator specialist for Logistics would huddle on the issue with the two from Finance.

The word ‘intense’ is not used lightly; for example to parameter Automatic Accounting Instructions and for both Case Studies, it was a question of the Finance Director, the JDE Integrator Finance being locked in, key figuratively thrown away, until the parameters were set! Similarly amendments to the Chart of Accounts required much deliberation.

For Case Study B, the JDE module experts are for the most part young (early 20’s and 30’s). The life is a hard one, living out of a suitcase, working long hours, hotels, flights home (from Paris or Strasbourg to Milan, Florence, Rome), difficult to find a work/life balance, stressful and intense at work, using a second language, trying to learn a new business at each client, needing to be thoroughly acquainted with their module set and best practices… it is no wonder that burnout can occur after few years of this activity.

For key users the 18 month period is also intense; even with backup temporary contract staff for their operations duties, they may well be called upon for any crisis that arises while business as normal is in parallel to project implementation.

The progression novice to expert in this community is as follows:
In figure 2 we look at the ‘it’ we want to change. The organization’s key users and I.T. staff will learn, through the implementation process itself and the close working proximity with the ERP integrators, to be expert in the new system. This coupled with their prior acquisition of business experience will arm them for the transformation. The object is not just improved transactional performance but transformation. A measure for this transformation is the ability to cater for increasing business a) without a heavier structure and b) with eventual excellence in supply chain, excellence in added value from the organization, excellence in customer service. In other words this is not an accumulation of bits; but rather bit, bit, bit, quantum leap, bit, bit, bit. An example would be a trapeze artist who swings on the bar and then at the appropriate moment lets go to grab a second bar leading the second halfway to the desired destination. No usefulness in not letting go, letting go too early or letting go too late! And yet in ERP implementations, it is common for steering committees to lack trust in what they do not understand (the synergy of the team leaving them standing and breathless) or hesitating to decide whether to give the green light at a certain date for the go Live. They can be loath, as an organization’s top management,
to let go of the first bar and grab the second. So besides power, gender, culture, trust is also a factor.

How to nurture the community of practice.

Our premise is that if a community of practice can be nurtured, this will achieve maximal grip, i.e. that project requirements are met and excelled for all stakeholders. There will be a quantum leap in learning (competent to proficient, eventually expert).

What can top management do to start with a project team and end up with a (more performing) community of practice?

Pitcher (1999) shows us that Damasio’s work gives us a hint by reminding us that there are limits to pure reason.

Descarte’s ‘I think therefore I am’ becomes Damasio’s ‘I am, therefore I think’. And thinking is based on emotion. Damasio’s observations of patients with damage to the prefrontal cortex show the difficulty or insufficiency of decision-making based purely on reason. (Interestingly, an IBM motto is ‘Think, not feel’).

Pitcher goes on to explain that emotional signals include: pain, remorse, guilt, fear, empathy, doubt, pride. Adjectives to describe Emotional Quotient (EQ) rich leaders include: warm, generous, people-oriented, imaginative, emotional, unpredictable, open-minded, visionary, inspiring, intuitive, daring, funny.

Top management are unlikely to find team leaders who combine high IQ and EQ in the one person. But it is important to have both represented in team drivers/supporters/coachers/mentors. High EQ supports the team, high IQ is out in front and enables actions/decisions/issue resolution. An analogy would be the good policeman, bad policeman. In Case Study B this was very noticeable, the Country Leader shone by EQ, the Test leader (also a member of the multinational Core Team) by IQ. Both were vital to project success and team member well-being. It is the EQ rich leadership which is likely to lead to the important project management
characteristic of caring, holism (Gunson et al [2003]). The high IQ leader is (equally?) important but the team may look at this person in askance as they are likely to be at times perfectionist, not have ‘a life’ and drive the team harshly.

Wenger et al (2002) and Wenger (2001) suggest that communities of practice provide an environment for:

- solving everyday problems
- recognizing and publicizing best practices
- institutionalizing knowledge
- encouraging innovation
- ensuring project related quality assurance
- ensuring risk management
- increasing personal skills and efficiency
- driving strategy
- generating new business
- helping recruit and retain talented workers

In other words, a community of practice is likely to yield transformational (rather than just improved transactional) change.

Wenger (2001) points out that successful managers

“focus on bringing the right people together, providing an infrastructure in which communities of practice can thrive and measuring their value in nontraditional ways”

He gives concrete advice for top management, suggesting that communities, to avoid vulnerability or lack of legitimacy, be integrated into the business, and supported in specific ways (budget, voice, chance for employees to show off talents and skills, etc.). Wenger exhorts managers not to micromanage or to manage like a business unit.
Conclusion

How is maximal grip achieved? In other words how does the implementation of an ERP solution go beyond transactional improvement and transform the enterprise giving a lead, an edge over competitors and their solutions?

In this paper we have explored how cultivating a community of practice out of the implementation team can contribute to the leverage effect. This premise is grounded in social practice theory. Important contributions by Lave, Wenger (communities of practice), Dreyfus (how we learn), Damasio (reason and emotion) have been adapted to the context of ERP implementation teams. Primary research findings resulting from a longitudinal study from 1992 to 2002 (two case studies concerning French multinational affiliates in the Pharmaceutical and Medical Device industry implementing J D Edwards ERP software) and reflection on the practice of these implementations has formed a basis for these observations.

ERP implementations are by their very nature painful and costly. There can be a tendency at go Live to consider the job done. But successful companies can achieve much more than I.T. platform improvement or ERP editor promises, find excellence instead of just searching for it, by nurturing a community of practice.
References


