# Understanding Project Team Composition in Enterprise System Adoption: Preliminary Findings from a Field Study

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## ABSTRACT

This study's goal is to investigate and better understand the issues connected with project teams' building in enterprise system (ES) implementation. The analysis builds on two-phased research conducted among two groups of enterprises introducing ES into their organizations. The investigated issues include the project team composition, the involvement of a system provider's representatives, project manager's characteristics, and the composition of a steering committee. The defined issues were investigated in an exploratory manner during the first phase of the study. Next, in the second phase, this study seeks to discover their impact on the ES adoption success using multiple regression techniques. The main findings suggest the importance of a complete implementation team building and the necessity of keeping a high status of the project by appointing people holding high managerial positions within the company. Finally, recommendations regarding the implementation team composition conclude the paper.

## Keywords

Enterprise system, adoption, project team composition, steering committee, project manager, project success.

## INTRODUCTION

Enterprise systems (ES) are complex application software packages designed to support the management of the whole company and integrate all areas of its functioning (Davenport, 1998). ES adoption in a particular business environment usually requires meticulous system configuration and serious changes in the business processes of a given company. Nonetheless, it is often said that ES implementation is about people, not processes or technology (Bingi, Sharma and Godla, 1999). An ES project involves different people and teamwork is an important implementation issue of enterprise systems (e.g. Stefanou, 1999). Key players in ES adoption include the steering committee, the project manager, project team members, IT specialists, and vendor representatives/consultants (Markus and Tanis, 2000; Somers and Nelson, 2004).

The steering committee is usually involved in system selection, monitoring during implementation, and management of outside consultants (Somers and Nelson, 2004). One of their tasks is to determine the scope and objectives of the project in advance and then adhere to it (Parr and Shanks, 2000a). Members of the steering committee usually include senior management from different corporate functions, senior project management representatives, and system end users.

During ES adoption a project manager should be appointed, who possess an adequate knowledge, skills, abilities, and experience (Somers and Nelson, 2001). The project manager must be capable of balancing the technical, business, and change management requirements (Bancroft, Seip and Sprengel, 1997). During the implementation, s/he should be given broad authority to manage all aspects of the project (Welti, 1999).

The project team should include highly respected individuals from each function who should be entrusted with decision making responsibility (Umble and Umble, 2002). They should make up a cross functional implementation team consisting of both business and IT/IS people and of internal personnel and external consultants (Stefanou, 2001). The implementation team should be balanced, i.e. it should form the right mix of business analysts, technical experts and users from within the organization and consultants from external companies (Parr and Shanks, 2000a).

During ES adoption it is important to involve in the project team not only people representing various functional areas of the organization, but also the supplier's consultants (Volkoff and Sawyer, 2001). They usually have product knowledge of the ES package and experience in implementing ES in various organizations. The consultants bring external perspectives and knowledge which can contribute much to the process of technical and business innovation (Willcocks and Sykes, 2000). They mediate, enable, and confine the organizational learning about the ERP systems and its inherent constructs for business process structures (Baskerville, Pawlowski and McLean, 2000).

The goal of this paper is to examine and better understand the issues connected with project team organization in ES implementation and their influence on ES adoption success. The issues investigated concentrate on project team composition, the project manager, the steering committee arrangement, and project leadership and support. This study builds on a two-phased research conducted among two groups of ES adopters. The first, exploratory phase of the research is briefly described and then the main phase is thoroughly discussed. During this second phase of the study, the influence of project team-related variables on ES adoption success is being evaluated.

**RESEARCH METHODOLOGY**

The research question involved in this study is as follows:

- How to organize project teams in order to achieve success in enterprise system adoption?

In order to answer the research question, this research paper employs a two-phased approach which consists of two empirical sub-studies conducted among ES adopters. The research approach is illustrated in Figure 1.
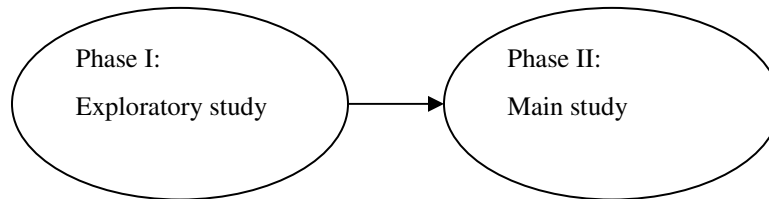


**Figure 1. Study Phases**

The purpose of the first study (Phase I) is to explore issues connected with project teams' organization in ES adoption. The particular issues investigated concentrate on implementation team composition, the project manager, and the steering committee arrangement. Another interesting topic is connected with the participation of IT/IS people and top management representatives in the above-mentioned project roles and groups. Building on research conducted among ES adopters, this sub-study seeks to discover the characteristics of the project team and to preliminarily evaluate their impact on ES adoption success.

The goal of the main study (Phase II) is to investigate the impact of project teams' characteristics on ES adoption success. The variables describing ES project teams are elaborated on the basis of the results of Phase I study. Dependent variable denotes the success of ES adoption. The study employs user satisfaction as a success measure of an ES implementation project (e.g. Sedera and Tan, 2005; Somers, Nelson and Karimi, 2003). Also, since ES projects are very diverse and adopt various scope of ES (e.g. Parr and Shanks, 2000b), this study's tries to investigate if the scope of ES adoption has impact on project teams' characteristics and their impact on ES adoption success. The general research model is depicted in Figure 2.
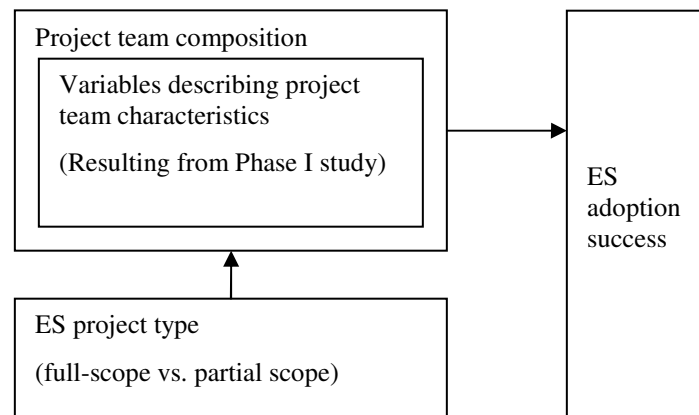


**Figure 2. General research model**

A field study was used as a general research approach and questionnaires were employed as a data-gathering technique (Boudreau, Gefen and Straub, 2001). The research setting comprises Polish companies that had adopted enterprise system.

Phase I study builds on the experience of 41 ES adoption projects conducted among companies of different size and industry. The main study (Phase II) draws from the experience of 140 ES adoption projects. The involved companies were located in southern Poland and include organizations of various size who were operating in a variety of industries and employed various system solutions. The respondents were people present in the company during ES adoption and usually involved in implementation duties.

## RESULTS

### Phase I Study's Findings

The Phase I exploratory study investigates issues related with ES project team building which are connected with steering committee, implementation team composition, the project manager, and project leadership and support. The influence of the investigated issues of ES adoption successfulness has been preliminary verified. Project success measures and user satisfaction were adopted as dependent variables. The concrete issues investigated are described below.

- Project team composition issues cover team completeness, the position of an IT person within the team, and the involvement of a system provider's representative.
- Project manager related issues include his/her organizational position, IT background and functional department.
- The steering committee related issues are connected with the seniority of the head of the steering committee and the representation of IT department in the committee.
- Project support and leadership issues contain the extent of top management involvement in the project and the question if the project was headed by an IT person.

The main findings of Phase I exploratory study are shortly described above, for more details see (Soja, 2006).

*Project Team Composition*

The exploratory study reveals mixed results as regards team completeness which is understood as involvement of people responsible for each system module introduced. They surprisingly suggest that success metrics decrease when team completeness increases and, on the other hand, imply that the projects involving more people tend to achieve somewhat higher levels of success measures. The results also illustrate that, in general, the higher the position of an IT person within the project team, the better results achieved. Finally, the presence of the system supplier representative in the project team had no influence on ES success measures.

*Project Manager*

The project manager related findings suggest that projects where functional managers played the role of a project manager revealed the highest level of user satisfaction. Project managers came from outside the IT/IS department in the majority of projects and these implementations achieved, on average, higher levels of success metrics. In the case of ES adoptions managed by IT people, a tendency can be observed that projects led by the IT people of lowest organizational rank (i.e. specialists) achieved the lowest levels of success metrics. Finally, the examination of a project manager's functional department shows the mixed results without statistically significant differences.

*The Steering Committee*

The main findings of Phase I study connected with the steering committee suggest that projects that appointed a steering committee achieved a slightly higher level of success metrics. However, no statistical significance was discovered. Considering the organizational position of the head of a steering committee, it turns out that the most successful were projects employing top management representatives as the head of a steering committee. Examining if an IT/IS person was a member of a steering committee, the results show that projects where IT/IS people were not present in a steering committee achieved a slightly higher level in all success metrics.

*Project Support and Leadership*

The study suggests that the projects where top management representatives took part in the implementation duties appear to achieve a slightly higher success. They also illustrate that success measures were higher among projects not led by IT people.

**Resulting Variables for Phase II Study and Revised Research Model**

The examination of Phase I study results suggests concrete issues that deserve closer examination in a more structured way. This phase's findings allowed us to formulate a number of issues which were then reflected in the research questionnaire used in Phase II study. The developed issues are described in Table 1.

| Issue/Variable Code | Issue/Variable Description |
|---|---|
| SteerComm | Is a Steering Committee appointed? |
| SteerCommChiefPosition | Position of the Chief of the Steering Committee |
| SteerCommITPosition | Position of the IT Representative in the Steering Committee |
| SteerCommProviderPosition | Position of the Provider Representative in the Steering Committee |
| ProjectManagerIsIT | Is the Project Manager from the IT Department? |
| ProjectManagerPosition | Position of the Project Manager |
| ProjectTeamITPosition | Position of the IT Representative in the Project Team |
| ProjectTeamProviderPosition | Position of the Provider Representative in the Project Team |
| ProjectTeamAreAllDepartments | Are All Departments Represented in the Project Team? |

**Table 1. Phase II Study's Variables**

The definition of concrete issues/variables has led to the revised research model which is illustrated in Figure 3.
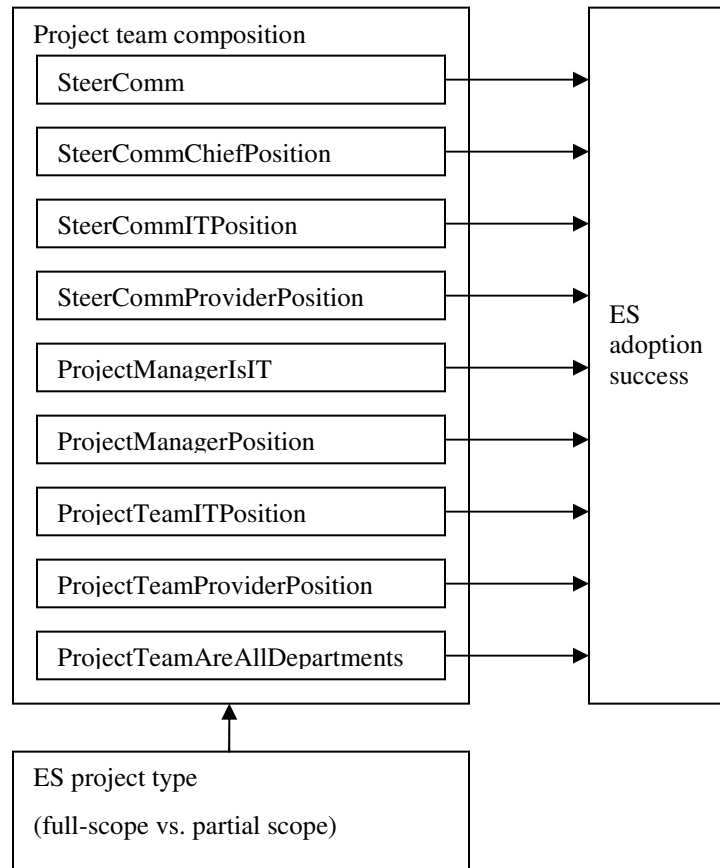


**Figure 3. Revised Research Model**

**Phase II Study's Findings**

In order to investigate the influence of project team composition on ES adoption success, a multiple regression was employed with the defined elements as independent variables and ES success measure as a dependent variable. Since one of the research goals was to investigate the role of the project scope in the influence of project team composition on ES adoption success, the investigated projects were divided into two groups of partial scope and full scope adoptions. The definition of scope is based on the number of fundamental modules introduced during ES adoption. The modules considered in this definition include: Finance, Purchasing, Inventory, Sales, Shop Floor Control, MRP Explosion, and Production Planning. Projects that introduced less than 3 modules were considered partial scope adoptions, while project implementing 3 and more modules were considered full scope adoptions. Multiple regression calculations were performed 3 times: for all projects, for partial scope projects, and for full-scope projects. The results of the calculations are present in Table 2.

| Variable code | All projects (N=140) p<0.084 $R^2$=0.10 | | Partial scope (N=53) p<0.001 $R^2$=0.46 | | Full scope (N=87) p<0.85 $R^2$=0.06 | |
|---|---|---|---|---|---|---|
| | Coefficient | t(130) | Coefficient | t(43) | Coefficient | t(77) |
| SteerComm | 0.16 | 1.19 | 0.16 | 0.79 | 0.17 | 0.95 |
| SteerCommChiefPosition | -0.03 | -0.23 | 0.06 | 0.34 | -0.11 | -0.58 |
| SteerCommITPosition | 0.06 | 0.49 | 0.18 | 1.12 | 0.01 | 0.08 |
| SteerCommProviderPosition | -0.27*** | -2.45 | -0.49* | -3.61 | -0.10 | -0.62 |
| ProjectManagerIsIT | -0.14 | -1.59 | -0.12 | -0.91 | -0.23^ | -1.93 |
| ProjectManagerPosition | 0.13 | 1.44 | 0.12 | 0.94 | 0.05 | 0.41 |
| ProjectTeamITPosition | 0.09 | 0.92 | 0.35*** | 2.47 | -0.01 | -0.06 |
| ProjectTeamProviderPosition | -0.03 | -0.31 | -0.17 | -1.28 | 0.00 | 0.00 |
| ProjectTeamAreAllDepartments | 0.16^ | 1.91 | 0.31*** | 2.59 | 0.05 | 0.42 |

Note: *p<0.001, **p<0.01, ***p<0.05, ^p<0.06

**Table 2. Multiple Regression Coefficients for Phase II Study**

The results show that, in the case of all projects, the defined model of multiple regression reveal a borderline significance (p<0.084) and explains 10% of success measure variance. In the case of partial scope projects the model is significant and explains 46% of success measure variance. However, on the other hand, the regression model is not significant whatsoever in the case of full scope projects.

Two variables, the first connected with the position of the system provider in the steering committee project and the second related to the presence of all departments' representatives in the project team, have the significant influence on ES adoption success in the case of all projects and partial scope adoptions. The first positively influences ES success, while the latter has a negative influence. Additionally, in the case of partial scope projects, the position of an IT department representative has a strong, significant and positive influence on the project successfulness.

**DISCUSSION OF FINDINGS**

The presented multiple regression model reveals a certain fit in the case of all ES adoption projects and demonstrates the significant role of some characteristics of the project team. What is more, it turns out that these characteristics become far more significant for partial scope projects, which are relatively simpler. In the case of partial scope adoptions, the model presented nicely explains ES success. Simultaneously, the subgroup of full scope projects do not seem to be well described by the presented model.

The findings regarding the steering committee are mixed and interesting. First, the results suggest that regardless project scope it is beneficial for the project successfulness to appoint a steering committee; however, the coefficients are not statistically significant. In the same way, the findings suggest that it is advised to involve an IT department representative in the steering committee; however, this person should hold a reasonably high organizational position. On the contrary, the role of the organizational position of the chief of the steering committee is not clearly revealed, the related coefficients vary and

are not significant. Nevertheless, the most interesting findings relate to the role of the system provider's representative in the steering committee. The results suggest the significant negative influence of the high organizational position of the provider's representative on the adoption success. Moreover, the negative effect becomes stronger in the case of relatively simpler partial scope adoptions.

The research findings regarding the project manager person are not statistically significant, however, they deliver some interesting insights. First of all, the results suggest that, regardless project scope, ES adoptions led by the project manager from the IT/IS department tend to achieve worse results. On the other hand, the organizational position of the project manager seem to positively affect ES adoption successfulness. Namely, the findings indicate that, regardless project scope, higher organizational position of the project manager may be connected with higher level of ES adoption success.

The results connected with the implementation team composition suggest that it is essential for the ES adoption successfulness to involve in the project team people from all company's departments affected by the adoption project. Also, the findings suggest that a representative of the IT department should be a member of the project team. This is especially important for relatively simpler partial scope adoptions. Moreover, the results reveal that the higher organizational position of the IT department's representative have a significant positive influence on the ES success. However, as far as the system provider's representative is concerned, the findings suggest the opposite relationship. Namely, although not statistically significant, the regression coefficients suggest the higher position of the provider representative may have the negative impact of on the project success. This might be especially important in the case of partial scope adoptions.

This study's results shed more light on the issue of cooperation with the system and implementation services provider. In general, they suggest that the involvement of a provider representative having too high organizational rank may negatively influence project successfulness. This refers both to the project team and the steering committee; however, it is especially important in the latter case. Moreover, interestingly, this negative influence is higher for partial scope projects.

This research findings contribute to the better understanding of the perspective of ES adoption management, i.e. the question if ES adoption should be treated as an IT-related or business oriented project. Some previous findings suggest that an ES project should be perceived as a business undertaking rather than an IT-related initiative (e.g. Law and Ngai, 2007; Wood and Caldas, 2001). Further, previous findings claim that successful ES implementations are typically headed by an individual outside the IT department (Umble and Umble, 2002). This study's results partially confirm prior findings by suggesting that a project manager from the IT department may have negative influence on the project.

However, on the other hand, this study's outcome sheds some new light by illustrating that it might be beneficial for the ES adoption to involve both in the steering committee and the project team representatives of the company's IT department holding high organizational positions. This could be explained that IT people holding managerial positions usually have greater insight into the company's business intricacies, which may have a positive impact on the project. Nonetheless, the findings suggest that companies should avoid appointing IT people having too low an organizational position within the implementation team. This might be explained that an appointment of organizationally low-ranked IT people in the team may be a message to the whole company that ES adoption is a merely IT project, not a business endeavor, and hence negatively influence the project.

This study's findings seem to describe the vital importance of the high status of ES adoption project within the company. The project's high status might be reflected by the involvement of people having relatively high organizational positions in the organization. Prior research suggests first and foremost the involvement of the company's top management representatives among people taking part in the project duties (e.g. Finney and Corbett, 2007). This study does not clearly confirm these findings, instead, it suggests that it might be beneficial for the project successfulness to involve people holding somewhat lower organizational positions, i.e. functional managers or directors.

On the basis of the results achieved, we can formulate certain recommendations related with implementation team building and directed to the practitioners dealing with ES implementations. In order to achieve the ultimate success of an ES project, they may consider the following suggestions:

- Build a complete and balanced project team which should include people from all departments of the company. Consider the involvement of people holding reasonably high organizational positions.

- Involve in the implementation team and the steering committee IT people having managerial positions. In general, try to avoid the involvement of IT people holding lowest organizational ranks. This refers both to the project team and the steering committee, with the special emphasis on the project team.

- While organizing the steering committee and defining cooperation with the system provider, think about the appropriate position of the provider representatives. The results suggest that the involvement of people having too high organizational position may have a negative influence on the project success.

- Consider appointing a project manager holding a managerial position and bear in mind that too low organizational position may negatively impact the adoption. Also, consider the possibility of appointing the project manager from outside the IT department in order to make the project a more business-led initiative.

**CONCLUSION**

This study examines issues connected with project teams' composition and their influence on enterprise system adoption success. The analysis builds on two-phased research conducted among two groups of Polish companies implementing ES into their organizations. The main findings suggest that it is essential that an ES adoption project involves people representing all departments of the company and holding reasonably high organizational positions. This may contribute to the project's high status within the organization and have positive impact on its successfulness. The outcome of the research should be valuable for the practitioners as it suggests several rules that could be helpful in project team building and working out the effective cooperation with the system and implementation services supplier. Future research may focus on more sophisticated data analysis and verifying various methods which may better fit the gathered data. This study's results also indicate the need for further research on the organization of an ES implementation team which may be connected with various characteristics of team members and discovering the optimal composition of the project team. Finally, future studies may take into consideration the type of ES project and company's industry, and seek to discover issues that might be typical of certain environment.

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