Summary

The aim of this article is to provide further insights into the adoption of enterprise resource planning (ERP) systems and the impact on both firm and business process performance. It is based on survey during which data from both ERP and ERP non-user companies was collected and based on this data performances and their differences were measured. During the survey, three different variables were tested – ERP system independent existance (adoption), ERP system’s co-existance with supply change management system (SCMS) and the time factor of ERP system.

There have been many similar researches on the impact of ERPS on the performance of organisations. Although these researches provide valuable insights into a previously under-researched topic, they are all similar in their approach. First of all, they use only aggregated, publicly available financial accounting data to measure performance. Secondly, they do not clearly distinguish between overall firm performance and business process performance and finally the dependent variables used are essentially only ERPS adoption and the time of adoption. While the approach in all these studies is similar, the results differ substantially. The authors think that one of the reasons for these inconsistencies is that just relating ERPS-adoption to publicly available financial key performance indicators fails the explain the increasing diversity and complexity of the life cycle of enterprise systems.

In order to get clearer results, the authors of this article do not use only publicly available data, instead they carried out a large two-stage survey where even not publicly available key perfromance indicators are revealed. Furthermore, in this survey overall firm performance and business process performance, in particular supply chain performance, are treated as two separate performances. Before the survey was carried out and the results were analysed authors proposed 7 predictions for which they hoped to get an answer, either confirmation or not. The predictions were as follows:

- P1a – we predict better firm performance for ERPS users than for non-ERPS users;
- P1b – for ERPS users we predict that the longer the experience with ERPS, the better their firm performance;
- P1c – we predict better firm performance for ERPS users extending their ERPS with SCMS than for ERPS users that do not;
- P2a – we predict better supply chain performance for ERPS users than for non-ERPS users;
• P2b – for ERPS user we predict that the longer the experience with ERPS the better their supply chain performance;
• P2c – we predict better supply chain performance for ERPS users extending their ERPS with SCMS than for ERPS users that do not;
• P3 – we predict a positive impact of supply chain performance on firm performance.

The survey for collecting information was carried out in two stages. In the first stage, over 2000 questionnaires were e-mailed to Australian companies. In the second stage, a telephone survey was done. After eliminating the firms with inconsistent data, the sample for analysis was 102 firms. All those were sent another question to identify whether they were ERPS users, non-users or somewhere in between. As a result 49 ERPS users, 40 non-users and 13 ‘in-the-implementing-stage’ users were detected. This distribution was used to test all the proposed hypotheses.

The results of the research are brought out in three groups – the ones associated with ERPS adoption, ERPS history and ERPS extension. First variable includes the predictions P1a and P2a. Despite the fact that ERPS users on average scored higher in all dimensions of performance, we could not find any significant differences between the two samples, neither in terms of firm performance, nor in terms of performance along the supply chain. These overall results are partly contradicting those of recent studies quoted in the literature, which actually concluded that there are some significant differences in financial performance between ERPS adopters and non-adopters.

Second variable was ERPS history that included predictions P1b and P2b. The results of the first test confirm our predictions with regards to the relationship between ERPS history and firm performance, but not about the impact of ERPS history on supply chain performance. Two other tests confirmed the results of the first test and the performance impact of ERPS history is remarkable 6 percent per annum.

Finally the ERPS extension that covers the predictions P1c and P2c. The fact that only 12.3 percent of all ERPS users also had SCMS in place limits the statistical explanatory power of the analysis. Nevertheless, the results provide an indication that ERPS users that also adopted SCMS perform much better along the supply chain than ERPS users that did not use additional SCMS. However, the resource could not confirm prediction P1c, namely, that the adoption of a SCMS in ERPS user company also directly leads to firm performance increases.

In conclusion it can be said that according to this research, ERP systems do not directly improve overall firm performance but combined with some other company’s management system it can increase the performance of this particular business process. Nevertheless, some results indicated that users with longer ERPS history tend to have better overall performances. So it seems that an adoption of ERPS takes some time before it will result in some kind of overall firm performance increase. That opens a new path for research to find optimal way to integrate with other management processes.