
Enterprise Resource Planning (ERP): a review of the literature

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Abstract: This article is a review of work published in various journals on the topics of Enterprise Resource Planning (ERP) between January 2000 and May 2006. A total of 313 articles from 79 journals are reviewed. The article intends to serve three goals. First, it will be useful to researchers who are interested in understanding what kinds of questions have been addressed in the area of ERP. Second, the article will be a useful resource for searching for research topics. Third, it will serve as a comprehensive bibliography of the articles published during the period. The literature is analysed under six major themes and nine sub-themes.

Keywords: Enterprise Resource Planning; ERP; survey; journal articles.

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1 Introduction

The Enterprise Resource Planning (ERP) system is an enterprise information system designed to integrate and optimise the business processes and transactions in a corporation. The ERP is an industry-driven concepts and systems, and is universally accepted by the industry as a practical solution to achieve integrated enterprise information systems. The academic research community has been contributing to the field in various ways. A typical way of contributing to a field is by publishing archival journal papers for public benefits. This article is a review of the literature on ERP published between 2000 and 2006 (31 May).

The article intends to serve three goals. First, it will be useful to researchers who are interested in understanding what kinds of questions have been addressed in the area of ERP. Second, the article will be a useful resource for searching for research topics. Third, it will serve as a comprehensive bibliography of the articles published during the period.

The set of papers published in various journals between 2000 and 2006 (as of 31 May 2006) is vast, comprising 313 articles. As a consequence, it is difficult to provide detail review of all the articles. Instead, an aggregate summary for each theme is described. Direct references are deliberately avoided, but a complete list of references for each theme is provided. The reviewed articles are organised into themes and some collective properties of the articles are described for each theme.

Two review articles have been written on ERP prior to this article. The one by Esteves and Pastor (2001) is an annotated bibliography of the main journal and conference articles in Information Systems (IS) during the period 1997–2000. They include a brief summary sentence for each article along with a complete list of references. The total numbers of articles surveyed are 189. However, the numbers of journal articles among these is only 21, perhaps reflecting the infancy of the field during that period. The other review article on ERP is by Botta-Genoulaz *et al.* (2005). They analysed the ERP literature during the period 2003–2004. Similar to this article, they also developed six categories and classified the articles under each category. The six categories that they adopted are:

- 1 implementation of ERP
- 2 optimisation of ERP
- 3 management through ERP
- 4 the ERP software
- 5 ERP for supply chain management
- 6 case studies.

Summary and analysis are provided with a reference to corresponding articles. A total of 81 articles were surveyed. However, more than 17 of these are non-journal articles such as conference proceeding publications.

In contrast to previous two review articles, this article surveys only the journal articles and covers a longer and more recent period (between January 2000 and May 2006). No restrictions are imposed on the field of the journals, thus representing truly multi-disciplinary views on ERP.

The article is divided into four remaining sections. Section 2 describes the methodology followed in collecting and analysing the articles. Section 3 provides the aggregate properties of these articles for each major theme. Some analyses of statistics on the reviewed articles along with a few obvious trends are provided in Section 4. The paper concludes with Section 5.

2 Methodology

The criteria for choosing articles for the review are as follows. First of all, the article must have been published in a peer-review, archival journal. Second, to avoid never ending revision of the article, 31 May 2006 was selected as the cut-off date. Third, only the articles with 'ERP' as a part of their titles were selected. The exceptions are those articles that are explicitly dealing with 'ERP' but for some reasons the authors decided not to use 'ERP' in the title. The inclusion of such articles is inevitably *ad hoc*.

Consequently, it is possible that there exist more of such articles which are not surveyed in this article. Fourth, no restrictions were imposed on the field of the surveyed journal. This should allow a comprehensive set of viewpoints on ERP by different fields. According to these criteria, an attempt has been made to collect all the available journal articles. The effort to compile has been carried out over two years through exhaustive computer search, database search, internet search, reference checking, *etc.* However, it is always possible that some of the articles are missing from this list. The complete list of the 79 journals along with the number of articles appeared in each journal is found in Table 1.

Table 1 Number of articles in each journal (all in alphabetical order)

<i>Journal title</i>	<i>Number of ERP journal articles</i>
Australian Accounting Review	1
Business Horizons	1
Business Process Management Journal	30
Communications of the ACM	10
Communications of the AIS	3
Computer Standards and Interfaces	1
Computers in Human Behavior	2
Computers in Industry	12
Construction Management and Economics	1
Data & Knowledge Engineering	1
The Data Base for Advances in Information Systems	6
Decision Sciences	2
Decision Support Systems	3
European Journal of Information Systems	10
European Journal of Operational Research	10
Expert Systems with Applications	2
Government Information Quarterly	1
IEEE Transactions of Engineering Management	1
IEEE Transactions of Software Engineering	1
Industrial Management & Data Systems	25
Industrial Marketing Management	2
Information and Management	9
Information and Organization	2
Information and Software Technology	1
Information Management & Computer Security	5
Information Resources Management Journal	2
Information Systems	2
Information Systems Frontiers	5
Information Systems Management	3

Table 1 Number of articles in each journal (all in alphabetical order) (continued)

<i>Journal title</i>	<i>Number of ERP journal articles</i>
Information Technology and People	4
Information Technology and Management	1
Integrated Manufacturing Systems	1
International Journal of Accounting Information Systems	6
International Journal of Agile Management Systems	1
International Journal of Computer Applications in Technology	2
International Journal of Computer Integrated Manufacturing	1
International Journal of Human-Computer Interaction	6
International Journal of Information Management	1
International Journal of Management and Enterprise Development	7
International Journal of Operations and Production Management	4
International Journal of Physical Distribution and Logistics Management	1
International Journal of Production Economics	13
International Journal of Production Research	10
International Journal of Project Management	2
International Journal of Quality and Reliability Management	1
Journal of Computer Information Systems	1
Journal of Database Management	1
Journal of Education for Business	1
Journal of Engineering and Technology Management	2
Journal of Enterprise Information Management	22
Journal of Government Financial Management	1
Journal of Information Science	1
Journal of Information Systems	2
Journal of Information Systems Education	12
Journal of Information Technology	6
Journal of Information Technology Cases and Applications	1
Journal of Management in Medicine	1
Journal of Management Information Systems	3
Journal of Manufacturing Technology Management	3
Journal of Materials Processing Technology	1
Journal of Organizational and End User Computing	1
Journal of Organizational Change Management	1
Journal of Organizational Computing and Electronic Commerce	1
Journal of Software Maintenance and Evolution: Research Practice	5
Journal of Strategic Information Systems	9
Journal of Systems and Software	1
Knowledge and Process Management	1

Table 1 Number of articles in each journal (all in alphabetical order) (continued)

<i>Journal title</i>	<i>Number of ERP journal articles</i>
Logistics Information Management	1
Management Accounting Research	1
Management Decisions	1
Managerial Auditing Journal	1
Omega	4
Production and Inventory Management Journal	3
Qualitative Market Research: An International Journal	1
Requirements Engineering	1
Robotics and Computer-Integrated Manufacturing	1
Sloan Management Review	1
Technovation	5
Transportation Research Part E: Logistics and Transportation Review	1
<i>Total</i>	313

Table 2 Major themes and sub-themes within the domain of ERP

<i>Themes</i>
<i>Implementation</i>
Case study
Critical success factors
Change management
Focused stage in the implementation process
Cultural (national) issues
<i>Using ERP</i>
Decision support
Focused function in ERP
Maintenance
<i>Extension</i>
<i>Value</i>
<i>Trends and perspectives</i>
In a particular sector
<i>Education</i>

The major themes defined in this article are (1) implementation, (2) using ERP, (3) extension, (4) value, (5) trends, and (6) education. For (1) implementation, we defined five sub-themes: (a) case study, (b) critical success factors, (c) change management, (d) focused stage, and (e) cultural issues. For (2) using ERP, four sub-themes are defined: (a) change management, (b) decision support, (c) focused function, and (d) maintenance. For (5) trend, we have only one sub-theme: in a particular sector. Table 2 shows these themes and sub-themes used in this article.

A comprehensive table containing these themes and their classified references for each theme is provided in Table 3. There is no particular sequence among the references listed in the table. It is unavoidable to have an article that is relevant to more than one theme. For example, an article may address implementation issues but provide general information or trends on ERP. In such a case, more weighted theme is chosen to classify the article according to the author's judgment. Listing an article under more than one sub-theme was allowed.

Table 3 Themes and references

<i>Themes</i>	<i>References</i>
<i>Implementation</i>	
General	Siriginidi, 2000; Lee and Lee, 2000; Ross and Vitale, 2000; Teltumbde, 2000; Scott and Vessey, 2000; Parr and Shanks, 2000; Markus <i>et al.</i> , 2000c; Willcocks and Sykes, 2000; Adam and O'Doherty, 2000; Stensrud, 2001; Clemmons and Simon, 2001; Light, 2001; Weston, 2001; Huang and Palvia, 2001; Besson and Rowe, 2001; Dong, 2001; Al-Mudimigh <i>et al.</i> , 2001; Xu <i>et al.</i> , 2002; Rajagopal, 2002; Robey <i>et al.</i> , 2002; Gulla and Brasethvik, 2002; Motwani <i>et al.</i> , 2002; Siau and Messersmith, 2003; Voordijk <i>et al.</i> , 2003; Mabert <i>et al.</i> , 2003a; Soffer <i>et al.</i> , 2003; Bradford and Florin, 2003; Mabert <i>et al.</i> , 2003b; Haines and Goodhue, 2003; Kumar <i>et al.</i> , 2003; Mandal and Gunasekaran, 2003; Soh <i>et al.</i> , 2003; Scott and Wagner, 2003; Abdinnour-Helm <i>et al.</i> , 2003; Yen and Sheu, 2004; Thomas and Jajodia, 2004; Ho <i>et al.</i> , 2004a; Siau, 2004; Amoako-Gyampah, 2004; Huin, 2004; Jones and Price, 2004; Okrent and Vokurka, 2004; Fleisch <i>et al.</i> , 2004; Ho <i>et al.</i> , 2004b; Ioannou and Papadoyiannis, 2004; Gefen, 2004; Lee and Myers, 2004; Soffer <i>et al.</i> , 2005; Trimi <i>et al.</i> , 2005; Zafiroopoulos <i>et al.</i> , 2005; Buonanno <i>et al.</i> , 2005; Metaxiotis <i>et al.</i> , 2005; Light, 2005; Kim <i>et al.</i> , 2005; Worley <i>et al.</i> , 2005; Gosain <i>et al.</i> , 2005; Wei <i>et al.</i> , 2005b; Nandhakumar <i>et al.</i> , 2005; Ward <i>et al.</i> , 2005; Cadili and Whitley, 2005; Al-Mashari <i>et al.</i> , 2006; Bubak <i>et al.</i> , 2006
Case study	Bhattacharjee, 2000; Koh <i>et al.</i> , 2000; Al-Mashari and Zairi, 2000b; Brown and Vessey, 2001; Akkermans and van Helden, 2002; Kawalek and Wood-Harper, 2002; Barker and Frolick, 2003; Al-Mashari and Al-Mudimigh, 2003; Sarkis and Sundarraj, 2003; Cowan and Dder, 2003; Sarker and Lee, 2003; Yusuf <i>et al.</i> , 2004; Gupta <i>et al.</i> , 2004; Alshawi <i>et al.</i> , 2004; Gullede and Simon, 2005; Berchet and Habchi, 2005; Tchokogue <i>et al.</i> , 2005
Critical success factors	Sumner, 2000; Nah <i>et al.</i> , 2001b; Hong and Kim, 2002; Akkermans and van Helden, 2002; Trimmer <i>et al.</i> , 2002; Umble <i>et al.</i> , 2003; Nah <i>et al.</i> , 2003; Huang <i>et al.</i> , 2004b; Loh and Koh, 2004; Somers and Nelson, 2004; Sun <i>et al.</i> , 2005; Motwani <i>et al.</i> , 2005; Ehie and Madsen, 2005; Dowlatshahi, 2005; Gargeya and Brady, 2005
Change management	Al-Mashari and Zairi, 2000a; Aladwani, 2001; Sia <i>et al.</i> , 2002; Al-Mashari, 2003a; Amoako-Gyampah, 2004; Soh and Sia, 2004; McAdam and Galloway, 2005; Ettlie <i>et al.</i> , 2005; Loarne, 2005; Boersma and Kingma, 2005b; Benders <i>et al.</i> , 2006

Table 3 Themes and references (continued)

<i>Themes</i>	<i>References</i>
Focused stage	Bernroider and Koch, 2001; Stefanou, 2001; Verville, 2002a; Gefen, 2002; Verville, 2002b; Alvarez and Urla, 2002; Bryson and Sullivan, 2003; Arinze and Anandarajan, 2003; Verville, 2003a; 2003b; Wei and Wang, 2004; Bendoly and Jacobs, 2004; Luo and Strong, 2004; Wei <i>et al.</i> , 2005a; Baki and Cakar, 2005; Verville <i>et al.</i> , 2005
Cultural issues	Soh <i>et al.</i> , 2000; Krumbholz <i>et al.</i> , 2000; Adam and O'Doherty, 2000; Krumbholz and Maiden, 2001; Kumar, 2002; Kumar <i>et al.</i> , 2002; Sheu <i>et al.</i> , 2004; Baki <i>et al.</i> , 2004; Boersma and Kingma, 2005a; Xue <i>et al.</i> , 2005; Wang <i>et al.</i> , 2005; Zhang <i>et al.</i> , 2005; Tsai <i>et al.</i> , 2005; Baki and Cakar, 2005; Bendoly <i>et al.</i> , 2006; Jones <i>et al.</i> , 2006; Yusuf <i>et al.</i> , 2006
<i>Using ERP</i>	
General	Kremers and van Dissel, 2000; Koch, 2001b; Boykin, 2001; Vosburg and Kumar, 2001; Koh and Saad, 2002; Stratman and Roth, 2002; O'Leary, 2002; Stirling <i>et al.</i> , 2002; Somers and Nelson, 2003; Nah <i>et al.</i> , 2004; Calisir and Calisir, 2004; Martin and Cheung, 2005; Yu, 2005; Koh and Simpson, 2005; Botta-Genoulaz and Millet, 2005a; Park and Kusiak, 2005; Voordijk <i>et al.</i> , 2005; Brown and Nasuti, 2005; Brazel, 2005; El Sayed, 2006; Koh and Saad, 2006
Decision support	Holsapple and Sena, 2003; Bendoly, 2003; Chen <i>et al.</i> , 2003; Holsapple and Sena, 2005
Focused function	Rolland and Prakash, 2000; Palaniswamy and Tyler, 2000; Mandal and Gunasekaran, 2002; Gardiner <i>et al.</i> , 2002; Granlund and Malmi, 2002; Metaxiotis <i>et al.</i> , 2003; Mensching and Corbitt, 2004; Hsu and Chen, 2004; O'Leary, 2004; Gupta and Kohli, 2006; Rom and Rohde, 2006
Maintenance	Nah <i>et al.</i> , 2001a; Ng, 2001; Hirt and Swanson, 2001; Gable <i>et al.</i> , 2001; Light <i>et al.</i> , 2001; Kwon and Lee, 2001; Ng <i>et al.</i> , 2002; Nikolopoulos <i>et al.</i> , 2003
Extension	Scott and Kaindl, 2000; Zheng <i>et al.</i> , 2000; Tarn <i>et al.</i> , 2002; Willis and Willis-Brown, 2002; Choi and Kim, 2002; Sumi and Tsuruoka, 2002; Yen <i>et al.</i> , 2002; Lee <i>et al.</i> , 2003; Weston, 2003; Akkermans <i>et al.</i> , 2003; Rutner <i>et al.</i> , 2003; Newell <i>et al.</i> , 2003; Symeonidis <i>et al.</i> , 2003; Kovács and Paganelli, 2003; Ash and Burn, 2003; Ng and Ip, 2003; Gullede <i>et al.</i> , 2004a; 2004b; Frank, 2004; Bendoly and Kaefer, 2004; Davenport and Brooks, 2004; Koh and Saad, 2004; Barthorpe <i>et al.</i> , 2004; Ndede-Amadi, 2004; Cardoso <i>et al.</i> , 2004; Chou <i>et al.</i> , 2005; Burn and Ash, 2005; Moon and Phatak, 2005; Moller, 2005; Bendoly and Schoenherr, 2005; Lea <i>et al.</i> , 2005; Jaiswal and Kaushik, 2005; Kelle and Akbulut, 2005; Biehl, 2005; Burca <i>et al.</i> , 2005; Sammon and Adam, 2005; Sharma <i>et al.</i> , 2006

Table 3 Themes and references (continued)

<i>Themes</i>	<i>References</i>
Value	Kennerley and Neely, 2001; Mabert <i>et al.</i> , 2001; Poston and Grabski, 2001; Hayes <i>et al.</i> , 2001; Robinson and Wilson, 2001; Hitt <i>et al.</i> , 2002; Hunton <i>et al.</i> , 2002; Gattiker and Goodhue, 2002; Beretta, 2002; Hunton <i>et al.</i> , 2003; Somers <i>et al.</i> , 2003; Spathis and Constantinides, 2003; Stensrud and Myrtveit, 2003; Spathis and Constantinides, 2004; Hedman and Borell, 2004; Nicolaou, 2004; Gattiker and Goodhue, 2004; Huang <i>et al.</i> , 2004a; Spathis and Ananiadis, 2005; Chand <i>et al.</i> , 2005; Tsai <i>et al.</i> , 2006; Wieder <i>et al.</i> , 2006; Wu and Wang, 2006; Spathis, 2006
<i>Trends and perspectives</i>	
General	Markus <i>et al.</i> , 2000a; Sprott, 2000; Mabert <i>et al.</i> , 2000; Rao, 2000; Van Everdingen <i>et al.</i> , 2000; Chung and Snyder, 2000; Davenport, 2000; Gupta, 2000; Markus <i>et al.</i> , 2000b; Scheer and Habermann, 2000; Rosemann, 2000; Klaus <i>et al.</i> , 2000; Koch, 2001a; Hanseth <i>et al.</i> , 2001; Esteves and Pastor, 2001; Themistocleous <i>et al.</i> , 2001; Van Stijn and Wensley, 2001; Chen, 2001; Al-Mashari, 2001; Wood and Caldas, 2001; Ghoshal and Gratton, 2002; Al-Mashari, 2003b; Ohlager and Selldin, 2003; Kalling, 2003; Al-Mashari <i>et al.</i> , 2003; Stevens, 2003; Jacobs and Bendoly, 2003; Watanabe and Hobo, 2004; Kallinikos, 2004; Puschmann and Alt, 2004; Davenport <i>et al.</i> , 2004; Lengnick-Hall <i>et al.</i> , 2004; Wagner and Newell, 2004; Liang and Xue, 2004; Beard and Sumner, 2004; Marnewick and Labuschagne, 2005; Gulledge <i>et al.</i> , 2005; Botta-Genoulaz <i>et al.</i> , 2005; Newman and Westrup, 2005; Sharif <i>et al.</i> , 2005; Hwang, 2005; Lim <i>et al.</i> , 2005; Allen, 2005; Volkoff <i>et al.</i> , 2005; Lee <i>et al.</i> , 2006; Yeh <i>et al.</i> , 2006; Gulledge, 2006; Wang and Chen, 2006
In a particular sector	Gulledge and Sommer, 2003; Pollock and Cornford, 2004; Bertolini <i>et al.</i> , 2004; Bergstrom and Stehn, 2005; Stefanou and Revanoglou, 2006; Botta-Genoulaz and Millet, 2006; Yang <i>et al.</i> , 2006
Education	Becerra-Fernandez <i>et al.</i> , 2000; Shtub, 2001; Stewart and Rosemann, 2001; Hawking <i>et al.</i> , 2001; Joseph and George, 2002; Volkoff, 2003; LeRouge and Webb, 2004; Draijer and Schenk, 2004; Cannon <i>et al.</i> , 2004; Johnson <i>et al.</i> , 2004; Noguera and Watson, 2004; Davis and Comeau, 2004; Antonucci <i>et al.</i> , 2004; Hajnal and Riordan, 2004; Strong <i>et al.</i> , 2004; Boykin and Martz, 2004; Hawking <i>et al.</i> , 2004; Fedorowicz <i>et al.</i> , 2004; Greci and Hull, 2004; Peslak, 2005

3 Overview of the articles

In this section, a brief aggregate summary of the articles for each theme is provided. It is not intended to provide detail description of each article. Rather, an attempt to draw a collective summary is made in this section. For the articles reviewed for each theme, refer to Table 3 above.

3.1 Implementation

Implementing an ERP system is a major project requiring a significant level of resources, commitment and changes throughout the organisation. Often the ERP implementation project is the single biggest project that an organisation has ever launched. As a result, the issues surrounding the implementation process have been one of the major concerns in industry. And it further worsens because of numerous failed cases including a few fatal disasters which lead to the demise of some companies.

Reflecting such a level of importance, the largest number of articles belongs to this theme. It comprises more than 40% of the entire articles. Many of these articles share implementation experiences from various companies. Some articles attempt to explain why the ERP implementation is difficult and what needs to be done to achieve desirable results. Also, various models of implementation stages and different implementation methodologies are presented. Other topics handled under this theme include comparison between a single system approach and a best of breed system approach, comparison of the implementation practices between developing countries and developed countries, issues of hosted ERP systems, data quality issues, and project management issues.

A group of articles are classified under a sub-theme of 'Case Study'. These articles typically investigate the ERP implementation experiences at one or several companies and provide real data and observations. Unlike other articles which also use case studies, here extraction of general knowledge is more emphasised. Also, the articles belong to this sub-theme tend to focus on individual cases. Some generalisations are occasionally provided in these articles.

One of the popular topics in the ERP implementation is to identify or develop 'Critical Success Factors'. The idea is that some important factors determining the success or failure of an ERP implementation can be learned from prior implementation experiences. Some articles focus on generating the list of the critical success factors and others conduct data analysis regarding those factors.

Implementing an ERP system inevitably involves a large portion of the organisation and often accompanies with major business process reengineering efforts. Therefore, change management becomes a critical topic in the ERP implementation. A set of articles address the change management by explaining why it is important in the ERP implementation, how to do it effectively, the lessons learned, and the change management strategies.

The ERP implementation has a life cycle beginning with a company's decision to go for it to final go live stage. The articles belonging to a sub-theme of 'Focused Stage' address a particular stage of the ERP implementation life cycle. They are the ERP system selection process, the customisation of the ERP system, the configuration of the ERP system, the determination of a hosting service, *etc.*

Finally, a group of articles is interested in any differences between cultures and nations in implementing ERP systems. Comparative studies are conducted and analyses are provided in terms of differences and similarities. Explanations for such findings are also attempted.

3.2 *Using ERP*

Once the company successfully implements the ERP, the attention moves forward to the most efficient use of the system. Especially since considerable resources have been invested in the ERP implementation, the best possible utilisation of the system is anticipated. Indeed, the value of an ERP system draws from its effective and efficient usage and not so much from the system itself. The articles under this theme address various topics of using the ERP system during the post-implementation era, ranging from end user acceptance, to end user satisfaction, to business process reengineering after ERP implementation, to uncertainty management, to particular functions such as designing return material process and handling Sarbanes-Oxley requirements. Additional issues addressed by the articles include version upgrade/migration, managing dirty data, ERP usage by consulting firms, and political role of ERP system.

Majority companies focus on the transactional capability of the ERP system. Four articles particularly address the decision support functions of the ERP system, and these are classified under a sub-theme – ‘Decision Support’. The articles emphasising the efficient usage of ERP systems in a particular function are grouped under a sub-theme – ‘Focused Function’. The example functions are manufacturing, marketing, accounting, production, strategic management, operations, and data archiving. Eight articles address the ‘Maintenance’ issues in ERP systems.

3.3 *Extension*

The companies which have implemented ERP systems and are relatively satisfied with their operations are now considering the extension of the functionalities provided by the original ERP systems. Some companies implement ERP systems even though their ultimate objectives lie in further extended systems. Others implement ERP systems with some plans to extend later. The articles belong to this theme deal with the issues of extending ERP systems toward e-business, supply chain management, customer relationship management, supplier relationship management, business intelligence, manufacturing execution systems, *etc.*

Some articles attempt to understand the direction of the industry regarding the extensions. A few explain enabling technologies of further extensions and integrations. Some report research on how to expand the existing functionalities of the ERP system. As most of ERP vendors now developed a broader definition of Enterprise Integration, these articles may well provide a good picture on the trends.

3.4 *Value*

Since the investment and collective efforts required to implement and run ERP systems are significant to any organisation, the fundamental question of the ERP system’s value has been a key issue. The articles under this theme mainly address these fundamental questions: Is an ERP system of any value to an organisation? What values an ERP system brings to an organisation? How do we measure the value of an ERP system? These articles tend to investigate these issues in a more systematic and rigorous fashion backed with some statistical evidence, beyond simple enumerating commonly believed benefits.

The values that ERP systems may generate are multifaceted: operational benefits, financial benefits, benefits for investors, user satisfaction, *etc.* Sometimes, the value may be measured by observing market reactions to the mere announcement of the ERP project.

The value assessment methods can be numerous and complex. For example, the benefits may be measured by cost savings, return on investment, asset turnover, return on assets, perceptions by the market, *etc.* Some articles address relationships between different measurements while others focus on longitudinal study of the ERP system on company's performance.

As more companies have implemented ERP systems and more is known about the implementation processes and the questions on the value of ERP systems seem to be investigated more often and rigorously. This is an indication that the practices and understanding of the field have matured enough to warrant some serious reflections on its fundamental questions.

3.5 Trends and perspectives

The articles that belong to this theme provide introductions to ERP, definitions and issues of ERP, common misinformation on ERP, different viewpoints of ERP, survey studies on industry experiences, recent trends in ERP and surveys of the ERP literature. The introductory articles provide informative guides for managers and beginning researchers in ERP. The emphases seem to be on the intimate relation with Business Process Reengineering (BPR) and a wide range of organisational changes accompanying with the ERP implementation. Some articles attempt to clarify the basic meanings surrounding ERP to provide reflections on many years' of practices. Also, a number of survey studies are reported from the findings of current industry's experience with ERP. These survey studies can complement the general introductory articles supported by the real data. A number of articles provide different perspectives on ERP. For example, they are perspectives from managers, users, or vendors.

Several articles present various types of models for ERP. They range from a conceptual model that explains the ERP system, to the taxonomy of success factors of ERP implementation, to a model of ERP governance, and to a user acceptance model. And others try to challenge commonly held views or misconception on ERP by asking questions such as 'Is the ERP system valuable?' 'Are best business practices are good?', *etc.*

A common observation on the future trends in ERP is its further expansion in scope. New integration technology such as software componentisation, Enterprise Application Integration (EAI), service-oriented architecture, web services is introduced and their implications are discussed. A couple of articles attempt to provide a sense of direction in the ERP research community by analysing the ERP literature. They identify the gaps between industry and academia and within the academic research, thus point out the potential future trends in terms of further expansion.

A few articles provide a similar information, but on a particular sector. The example sectors include the public organisations, the educational organisations, the healthcare organisations, the fashion industry, the manufacturing industry, the service industry. These articles are interesting since common attributes across different sectors as well as unique features of a particular sector can be analysed.

3.6 Education

With the industry-wide acceptance of ERP, the subject became important and popular in many universities. A number of articles report what has been done in a course, a set of courses or a curriculum. Most of them provide justifications for inclusion of ERP contents in their curricula since the subject is not one of the traditional subjects. Furthermore, the ERP education demands multi-disciplinary approach involving various units or colleges in a university. The articles emphasise the natural role of the ERP systems in term of changing functionally oriented curricula to holistic curricula. Some share experiences with using industry-scale ERP systems, which was supported by leading ERP vendors. One article describes the experience of adopting an educational version of ERP system. A few of them also provide practical tips, guidelines and obstacles for those who want to begin the similar course of actions.

A few articles attempt to go further by applying theories in changing such a curriculum or by conducting experiments on the validity of using hands-on experiences. Despite of a significant level of activities going on in the universities (notably, the vendor-supported university alliance programmes), the number of journal articles on education seems to be relatively few. Only 18 articles (5%) out of 313 surveyed were written primarily for education. Perhaps this is an area which the university community needs to pay attention to in order to archive more relevant knowledge.

4 Analysis

The field of ERP has matured in a relatively short period of time. As Table 4 shows, the number of journal articles published from 2000 has steadily increased, but there is a sign of stabilising in recent years. Considering the fact that most of journal articles started appearing in late 1990s, this field certainly gained significant research interests from many researchers in a short period of time.

Table 4 Number of journal articles on ERP during 2000–2006 (as of 31 May 2006)

<i>Year</i>	<i>Number of ERP journal articles</i>
2000	34
2001	39
2002	35
2003	50
2004	67
2005	66
2006	22
<i>Total</i>	313

Table 5 shows the number of articles for each theme and each sub-theme. As mentioned earlier, the number of articles categorised as ‘Implementation’ is the most, over 40% of the total. However, the number of articles for each sub-theme under ‘Implementation’ seems to be well balanced. In ‘Using ERP’, the number of articles belonging to ‘Decision

Support' is the least. It is not surprising that the current ERP is not a major decision support tool. Another notable thing is that the number of articles for 'Education' is merely 18. And this may be an area where researchers want to investigate further.

Table 5 Number of published articles for each theme

<i>Themes</i>	<i>Number of articles</i>
<i>Implementation</i>	135
General	61
Case study	17
Critical success factors	15
Change management	11
Focused stage in the implementation process	16
Cultural (national) issues	17
<i>Using ERP</i>	44
General	21
Decision support	4
Focused function in ERP	11
Maintenance	8
<i>Extension</i>	37
<i>Value</i>	24
<i>Trends and perspectives</i>	55
General	48
In a particular sector	7
<i>Education</i>	18

Note: The total number of journal papers over sub-themes may be greater than the number for a corresponding theme due to the fact that certain articles may be designated for more than one sub-theme.

Top 13 journals in terms of the number of articles in ERP are listed in Table 6. These 13 journals have published a total of 179 articles or 57% of the total. In addition to their inherent interests in ERP, special issues may have contributed the increased number of publications. Five journals had one special issue dedicated to ERP. Two special issues were generated by one journal. It is notable that the other journals in this list have consistently published the articles in ERP even without special issues.

In early years, more articles were written to share the experiences of implementing ERP systems or based on opinion survey studies. As more experiences have been gained with the implementation process, different topics such as the importance of using ERP and the assessment of ERP values seem to be becoming of interests to the researchers. Also, the mature status of the field is evident in the rigor and thoroughness of the articles in recent years.

Table 6 Number of articles in each journal in each year (for journals with more than seven articles)

<i>Journal title</i>	<i>Total number of articles</i>	2000	2001	2002	2003	2004	2005	2006
Business Process Management Journal	30	1	<i>14</i>	2	2	4	7	0
Industrial Management & Data Systems	25	2	1	3	4	8	6	1
Journal of Enterprise Information Management	22	0	0	0	0	9	7	6
International Journal of Production Economics	13	0	0	2	0	2	7	2
Journal of Information Systems Education	12	0	0	1	1	9	1	0
Computers in Industry	12	0	1	0	1	0	<i>10</i>	0
Communications of the ACM	10	8	0	0	2	0	0	0
European Journal of Information Systems	10	0	2	1	0	0	7	0
European Journal of Operational Research	10	0	0	0	<i>10</i>	0	0	0
International Journal of Production Research	10	1	1	3	0	2	3	0
Information and Management	9	1	0	2	2	3	0	1
Journal of Strategic Information Systems	9	0	0	0	0	5	4	0
International Journal of Management and Enterprise Development	7	0	0	0	0	0	2	5
<i>Total</i>	179	13	19	14	22	42	54	15

Note: The italic numbers represent special issues.

5 Conclusion

Several areas for future research seem promising. One area is the education of ERP. After several years of active ERP education due to some vendor sponsored university programmes, a significant amount of experience must have been accumulated. It might be a time for teacher-scholar to reflect on their experiences and begin publishing for common good. Another interesting area is to assess the current status of ERP with international collaboration. Most articles that attempted to capture differences between different cultures or nations are limited to one or two of those. A large scale, simultaneous survey studies might generate useful insights on this subject. The concept of ERP seems to be growing and expanding. It will be useful to investigate topics such as how the companies using the ERP system perceive this trends, how they will cope with the changes, what tools, methodologies, models are useful in their expansion efforts, *etc.*

More literature review articles are expected as the field becomes more mature. Even though this article reports all the articles on ERP without any screening process, more selection criteria can be applied to reduce the number of articles for a different kind of review. For example, the number of citations or the experts' recommendation could be used to reduce the number of articles to be reviewed.

The ERP research community is diverse and comprehensive. The field is truly multi-disciplinary and inter-disciplinary. In a relatively short period of time, the researchers have contributed so much to the field that newer topics are now covered from various points of view. This article provides a snap shot status of the field as of 31 May 2006, which will certainly continue to mature.

References

- Abdinnour-Helm, S., Lengnick-Hall, M.L., *et al.* (2003) 'Pre-implementation attitudes and organizational readiness for implementing an Enterprise Resource Planning system', *European Journal of Operational Research*, Vol. 146, No. 2, pp.258–273.
- Adam, F. and O'Doherty, P. (2000) 'Lessons from enterprise resource planning implementation in Ireland – towards smaller and shorter ERP projects', *Journal of Information Technology*, Vol. 15, No. 4, pp.305–316.
- Akkermans, H. and van Helden, K. (2002) 'Vicious and virtuous cycles in ERP implementation: a case study of interrelations between critical success factors', *European Journal of Information Systems*, Vol. 11, pp.35–46.
- Akkermans, H.A., Bogerd, P., *et al.* (2003) 'The impact of ERP on supply chain management: exploratory findings from a European Delphi study', *European Journal of Operational Research*, Vol. 146, No. 2, pp.284–301.
- Al-Mashari, M. (2001) 'Process orientation through Enterprise Resource Planning (ERP): a review of critical issues', *Knowledge and Process Management*, Vol. 8, No. 3, pp.175–185.
- Al-Mashari, M. (2003a) 'A process change-oriented model for ERP application', *International Journal of Human-Computer Interaction*, Vol. 16, No. 1, pp.39–55.
- Al-Mashari, M. (2003b) 'Enterprise Resource Planning (ERP) systems: a research agenda', *Industrial Management & Data Systems*, Vol. 103, No. 1, pp.22–27.
- Al-Mashari, M. and Al-Mudimigh, A. (2003) 'ERP implementation: lessons from a case study', *Information Technology & People*, Vol. 16, No. 1, pp.21–33.
- Al-Mashari, M., Al-Mudimigh, A., *et al.* (2003) 'Enterprise resource planning: a taxonomy of critical factors', *European Journal of Operational Research*, Vol. 146, No. 2, pp.352–364.
- Al-Mashari, M. and Zairi, M. (2000a) 'Supply-chain re-engineering using Enterprise Resource Planning (ERP) systems: an analysis of a SAP R/3 implementation case', *International Journal of Physical Distribution and Logistics Management*, Vol. 30, Nos. 3–4, pp.296–313.
- Al-Mashari, M. and Zairi, M. (2000b) 'The effective application of SAP R/3: a proposed model of best practice', *Logistics Information Management*, Vol. 13, No. 3, pp.156–166.
- Al-Mashari, M., Zairi, M., *et al.* (2006) 'Enterprise Resource Planning (ERP) implementation: a useful road map', *International Journal of Management and Enterprise Development*, Vol. 3, Nos. 1–2, pp.169–180.
- Al-Mudimigh, A., Zairi, M., *et al.* (2001) 'ERP software implementation: an integrative framework', *European Journal of Information Systems*, Vol. 10, No. 4, pp.216–226.
- Aladwani, A.M. (2001) 'Change management strategies for successful ERP implementation', *Business Process Management Journal*, Vol. 7, No. 3, pp.266–275.
- Allen, J.P. (2005) 'Value conflicts in enterprise systems', *Information Technology & People*, Vol. 18, No. 1, pp.33–49.

- Alshawi, S., Themistocleous, M., *et al.* (2004) 'Integrating diverse ERP systems: a case study', *Journal of Enterprise Information Management*, Vol. 17, No. 6, pp.454–462.
- Alvarez, R. and Urla, J. (2002) 'Tell me a good story: using narrative analysis to examine information requirements interviews during an ERP implementation', *The Data Base for Advances in Information Systems*, Vol. 33, No. 1, pp.38–52.
- Amoako-Gyampah, K. (2004) 'ERP implementation factors: a comparison of managerial and end-user perspectives', *Business Process Management Journal*, Vol. 10, No. 2, pp.171–183.
- Amoako-Gyampah, K. and Salam, A.F. (2004) 'An extension of the technology acceptance model in an ERP implementation environment', *Information and Management*, Vol. 41, No. 6, pp.731–745.
- Antonucci, Y.L., Corbitt, G., *et al.* (2004) 'Enterprise systems education: where are we? Where are we going?', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.227–234.
- Arinze, B. and Anandarajan, M. (2003) 'A framework for using OO mapping methods to rapidly configure ERP systems', *Communications of the ACM*, Vol. 46, No. 2, pp.61–65.
- Ash, C.G. and Burn, J.M. (2003) 'A strategic framework for the management of ERP enabled e-business change', *European Journal of Operational Research*, Vol. 146, No. 2, pp.374–387.
- Baki, B. and Cakar, K. (2005) 'Determining the ERP package-selecting criteria: the case of Turkish manufacturing companies', *Business Process Management Journal*, Vol. 11, No. 1, pp.75–86.
- Baki, B., Dereli, T., *et al.* (2004) 'An investigation on the readiness of Turkish companies for enterprise resource management', *Journal of Manufacturing Technology Management*, Vol. 15, No. 1, pp.50–56.
- Barker, T. and Frolick, M.N. (2003) 'ERP implementation failure: a case study', *Information Systems Management*, Vol. 20, No. 4, pp.43–49.
- Barthorpe, S., Chien, H-J., *et al.* (2004) 'A survey of the potential for Enterprise Resource Planning (ERP) in improving the effectiveness of construction management in the UK construction industry', *International Journal of Computer Applications in Technology*, Vol. 20, Nos. 1–3, pp.120–128.
- Beard, J.W. and Sumner, M. (2004) 'Seeking strategic advantage in the post-net era: viewing ERP systems from the resource-based perspective', *Journal of Strategic Information Systems*, Vol. 13, No. 2, pp.129–150.
- Becerra-Fernandez, I., Murphy, K.E., *et al.* (2000) 'Integrating ERP in the business school curriculum', *Communications of the ACM*, Vol. 43, No. 4, pp.39–41.
- Benders, J., Batenburg, R., *et al.* (2006) 'Sticking to standards; technical and other isomorphic pressures in deploying ERP-systems', *Information and Management*, Vol. 43, No. 2, pp.194–203.
- Bendoly, E. (2003) 'Theory and support for process frameworks of knowledge discovery and data mining from ERP systems', *Information and Management*, Vol. 40, No. 7, pp.639–647.
- Bendoly, E. and Jacobs, F.R. (2004) 'ERP architectural/operational alignment for order-processing performance', *International Journal of Operations & Production Management*, Vol. 24, No. 1, pp.99–117.
- Bendoly, E. and Kaefer, F. (2004) 'Business technology complementarities: impacts of the presence and strategic timing of ERP on B2B e-commerce technology efficiencies', *Omega*, Vol. 32, No. 5, pp.395–405.
- Bendoly, E. and Schoenherr, T. (2005) 'ERP system and implementation-process benefits: implications for B2B e-procurement', *International Journal of Operations & Production Management*, Vol. 25, No. 4, pp.304–319.
- Bendoly, E., Bachrach, D.G., *et al.* (2006) 'ERP in the minds of supervisors: joint roles of task interdependence and cultural norms', *International Journal of Operations & Production Management*, Vol. 26, No. 5, pp.558–578.
- Berchet, C. and Habchi, G. (2005) 'The implementation and deployment of an ERP system: an industrial case study', *Computers in Industry*, Vol. 56, No. 6, pp.588–605.

- Beretta, S. (2002) 'Unleashing the integration potential of ERP systems: the role of process-based performance measurement systems', *Business Process Management Journal*, Vol. 8, No. 3, pp.254–277.
- Bergstrom, M. and Stehn, L. (2005) 'Matching industrialised timber frame housing needs and enterprise resource planning: a change process', *International Journal of Production Economics*, Vol. 97, No. 2, pp.172–184.
- Bernroider, E. and Koch, S. (2001) 'ERP selection process in midsize and large organizations', *Business Process Management Journal*, Vol. 7, No. 3, pp.251–257.
- Bertolini, M., Bevilacqua, M., *et al.* (2004) 'Requirements of an ERP enterprise modeller for optimally managing the fashion industry supply chain', *Journal of Enterprise Information Management*, Vol. 17, No. 3, pp.180–190.
- Besson, P. and Rowe, F. (2001) 'ERP project dynamics and enacted dialogue: perceived understanding, perceived leeway, and the nature of task-related conflicts', *The Data Base for Advances in Information Systems*, Vol. 34, No. 4, pp.47–66.
- Bhattacharjee, A. (2000) 'Beginning SAP R/3 implementation at Geneva pharmaceuticals', *Communications of the Association for Information Systems*, Vol. 4.
- Biehl, M. (2005) 'Selecting internal and external supply chain functionality: the case of ERP systems versus electronic marketplaces', *Journal of Enterprise Information Management*, Vol. 18, No. 4, pp.441–457.
- Boersma, K. and Kingma, S. (2005a) 'Developing a cultural perspective on ERP', *Business Process Management Journal*, Vol. 11, No. 2, pp.123–136.
- Boersma, K. and Kingma, S. (2005b) 'From means to ends: the transformation of ERP in a manufacturing company', *Journal of Strategic Information Systems*, Vol. 14, No. 2, pp.197–219.
- Botta-Genoulaz, V. and Millet, R-A. (2005) 'A classification for better use of ERP systems', *Computers in Industry*, Vol. 56, No. 6, pp.573–587.
- Botta-Genoulaz, V. and Millet, R-A. (2006) 'An investigation into the use of ERP systems in the service sector', *International Journal of Production Economics*, Vol. 99, Nos. 1–2, pp.202–221.
- Botta-Genoulaz, V., Millet, R-A., *et al.* (2005) 'A survey on the recent research literature on ERP systems', *Computers in Industry*, Vol. 56, No. 6, pp.510–522.
- Boykin, R.F. (2001) 'Enterprise resource planning software: a solution to the return material authorization problem', *Computers in Industry*, Vol. 45, No. 1, pp.99–109.
- Boykin, R.F. and Martz, J.W.B. (2004) 'The integration of ERP into a logistics curriculum: applying a systems approach', *Journal of Enterprise Information Management*, Vol. 17, No. 1, pp.45–55.
- Bradford, M. and Florin, J. (2003) 'Examining the role of innovation diffusion factors on the implementation success of enterprise resource planning systems', *International Journal of Accounting Information Systems*, Vol. 4, No. 3, pp.205–225.
- Brazel, J.F. (2005) 'A measure of perceived auditor ERP systems expertise: development, assessment, and uses', *Managerial Auditing Journal*, Vol. 20, No. 6, pp.619–631.
- Brown, C.V. and Vessey, I. (2001) 'NIBCO's "Big Bang"', *Communications of the Association for Information Systems*, Vol. 5, No. 1, pp.1–42.
- Brown, W. and Nasuti, F. (2005) 'What ERP systems can tell us about Sarbanes-Oxley', *Information Management & Computer Security*, Vol. 13, No. 4, pp.311–327.
- Bryson, K-M. and Sullivan, W.E. (2003) 'Designing effective incentive-oriented contracts for application service provider hosting of ERP systems', *Business Process Management Journal*, Vol. 9, No. 6, pp.705–721.
- Bubak, O., Farley, R.L., *et al.* (2006) 'Implementing SAP from end-to-end business process scenarios', *International Journal of Management and Enterprise Development*, Vol. 3, No. 5, pp.419–437.

- Buonanno, G., Faverio, P., *et al.* (2005) 'Factors affecting ERP system adoption: a comparative analysis between SMEs and large companies', *Journal of Enterprise Information Management*, Vol. 18, No. 4, pp.384–426.
- Burca, S., Fynes, B., *et al.* (2005) 'Strategic technology adoption: extending ERP across the supply chain', *Journal of Enterprise Information Management*, Vol. 18, No. 4, pp.427–440.
- Burn, J. and Ash, C. (2005) 'A dynamic model of e-business strategies for ERP enabled organisations', *Industrial Management & Data Systems*, Vol. 105, No. 8, pp.1084–1095.
- Cadili, S. and Whitley, E.A. (2005) 'On the interpretative flexibility of hosted ERP systems', *Journal of Strategic Information Systems*, Vol. 14, No. 2, pp.167–195.
- Calisir, F. and Calisir, F. (2004) 'The relation of interface usability characteristics, perceived usefulness, and perceived ease of use to end-user satisfaction with Enterprise Resource Planning (ERP) systems', *Computers in Human Behavior*, Vol. 20, No. 4, pp.505–515.
- Cannon, D.M., Klein, H.A., *et al.* (2004) 'Curriculum integration using enterprise resource planning: an integrative case approach', *Journal of Education for Business*, Vol. 80, No. 2, pp.93–101.
- Cardoso, J., Bostrom, R., *et al.* (2004) 'Workflow management systems and ERP systems: differences, commonalities, and applications', *Information Technology and Management*, Vol. 5, Nos. 3–4, pp.319–338.
- Chand, D., Hachey, G., *et al.* (2005) 'A balanced scorecard based framework for assessing the strategic impacts of ERP systems', *Computers in Industry*, Vol. 56, No. 6, pp.558–572.
- Chen, I.J. (2001) 'Planning for ERP systems: analysis and future trend', *Business Process Management Journal*, Vol. 7, No. 5, pp.374–386.
- Chen, R-S., Chen, C.C., *et al.* (2003) 'A web-based ERP data mining system for decision making', *International Journal of Computer Applications in Technology*, Vol. 17, No. 3, pp.156–169.
- Choi, B.K. and Kim, B.H. (2002) 'MES (Manufacturing Execution System) architecture for FMS compatible to ERP (Enterprise Planning System)', *International Journal of Computer Integrated Manufacturing*, Vol. 15, No. 3, pp.274–284.
- Chou, D.C., Tripuramallu, H.B., *et al.* (2005) 'BI and ERP integration', *Information Management & Computer Security*, Vol. 13, No. 5, pp.340–349.
- Chung, S.H. and Snyder, C.A. (2000) 'ERP adoption: a technological evolution approach', *International Journal of Agile Management Systems*, Vol. 2, No. 1, pp.24–32.
- Clemmons, S. and Simon, S.J. (2001) 'Control and coordination in global ERP configuration', *Business Process Management Journal*, Vol. 7, No. 3, pp.205–215.
- Cowan, E.J. and Dder, L.B. (2003) 'The transformation of AT&T's enterprise network systems group to Avaya: enabling the virtual corporation through reengineering and enterprise resource planning', *Journal of Information Systems Education*, Vol. 14, No. 3, pp.325–331.
- Davenport, T.H. (2000) 'The future of enterprise system-enabled organizations', *Information Systems Frontiers*, Vol. 2, No. 2, pp.163–180.
- Davenport, T.H. and Brooks, J.D. (2004) 'Enterprise systems and the supply chain', *Journal of Enterprise Information Management*, Vol. 17, No. 1, pp.8–19.
- Davenport, T.H., Harris, J.G., *et al.* (2004) 'Enterprise systems and ongoing process change', *Business Process Management Journal*, Vol. 10, No. 1, pp.16–26.
- Davis, C.H. and Comeau, J. (2004) 'Enterprise integration in business education: design and outcomes of a capstone ERP-based undergraduate e-business management course', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.287–299.
- Dong, L. (2001) 'Modeling top management influence on ES implementation', *Business Process Management Journal*, Vol. 7, No. 3, pp.243–250.
- Dowlatshahi, S. (2005) 'Strategic success factors in enterprise resource-planning design and implementation: a case-study approach', *International Journal of Production Research*, Vol. 43, No. 18, pp.3745–3771.

- Draijer, C. and Schenk, D.-J. (2004) 'Best practices of business simulation with SAP R/3', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.261–265.
- Ehie, I.C. and Madsen, M. (2005) 'Identifying critical issues in Enterprise Resource Planning (ERP) implementation', *Computers in Industry*, Vol. 56, No. 6, pp.545–557.
- El Sayed, H. (2006) 'ERPs and accountants' expertise: the construction of relevance', *Journal of Enterprise Information Management*, Vol. 19, No. 1, pp.83–96.
- Esteves, J. and Pastor, J. (2001) 'Enterprise resource planning systems research: an annotated bibliography', *Communications of the Association of Information Systems*, Vol. 7, pp.1–52.
- Ettlie, J.E., Perotti, V.J., et al. (2005) 'Strategic predictors of successful enterprise system deployment', *International Journal of Operations & Production Management*, Vol. 25, No. 10, pp.953–972.
- Fedorowicz, J., Gelinas, U.J., et al. (2004) 'Twelve tips for successfully integrating enterprise systems across the curriculum', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.235–244.
- Fleisch, E., Oersterle, H., et al. (2004) 'Rapid implementation of enterprise resource planning systems', *Journal of Organizational Computing and Electronic Commerce*, Vol. 14, No. 2, pp.107–126.
- Frank, L. (2004) 'Architecture for integration of distributed ERP systems and e-commerce systems', *Industrial Management & Data Systems*, Vol. 104, No. 5, pp.418–429.
- Gable, G.G., Chan, T., et al. (2001) 'Large packaged application software maintenance: a research framework', *Journal of Software Maintenance and Evolution: Research and Practice*, Vol. 13, No. 6, pp.351–371.
- Gardiner, S.C., Hanna, J.B., et al. (2002) 'ERP and the reengineering of industrial marketing processes: a prescriptive overview for the new-age marketing manager', *Industrial Marketing Management*, Vol. 31, No. 4, pp.357–365.
- Gargeya, V.B. and Brady, C. (2005) 'Success and failure factors of adopting SAP in ERP system implementation', *Business Process Management Journal*, Vol. 11, No. 5, pp.501–516.
- Gattiker, T.F. and Goodhue, D.L. (2002) 'Software-driven changes to business processes: an empirical study of impacts of Enterprise Resource Planning (ERP) systems at the local level', *International Journal of Production Research*, Vol. 40, No. 18, pp.4799–4814.
- Gattiker, T.F. and Goodhue, D.L. (2004) 'Understanding the local-level costs and benefits of ERP through organizational information processing theory', *Information and Management*, Vol. 41, No. 4, pp.431–443.
- Gefen, D. (2002) 'Nurturing clients' trust to encourage engagement success during the customization of ERP systems', *Omega*, Vol. 30, No. 4, pp.287–299.
- Gefen, D. (2004) 'What makes an ERP implementation relationship worthwhile: linking trust mechanisms and ERP usefulness', *Journal of Management Information Systems*, Vol. 21, No. 1, pp.263–288.
- Ghoshal, S. and Gratton, L. (2002) 'Integrating the enterprise', *Sloan Management Review*, Vol. 44, No. 1, pp.31–38.
- Gosain, S., Lee, Z., et al. (2005) 'The management of cross-functional inter-dependencies in ERP implementations: emergent coordination patterns', *European Journal of Information Systems*, Vol. 14, No. 4, pp.371–387.
- Granlund, M. and Malmi, T. (2002) 'Moderate impact of ERPs on management accounting: a lag or permanent outcome?', *Management Accounting Research*, Vol. 13, No. 3, pp.299–321.
- Grenci, R.T. and Hull, B.Z. (2004) 'New dog, old tricks: ERP and the systems development life cycle', *Journal of Information Systems Education*, Vol. 13, No. 3, pp.277–286.
- Gulla, J.A. and Brasethvik, T. (2002) 'A model-driven ERP environment with search facilities', *Data & Knowledge Engineering*, Vol. 42, No. 3, pp.327–341.
- Gulledge, T. (2006) 'What is integration?', *Industrial Management & Data Systems*, Vol. 106, No. 1, pp.5–20.

- Gulledge, T. and Simon, G. (2005) 'The evolution of SAP implementation environments: a case study from a complex public sector project', *Industrial Management & Data Systems*, Vol. 105, No. 6, pp.714–736.
- Gulledge, T.R. and Sommer, R.A. (2003) 'Public sector enterprise resource planning', *Industrial Management & Data Systems*, Vol. 103, No. 7, pp.471–483.
- Gulledge, T., Sommer, R.A., et al. (2005) 'An introduction to basic enterprise resource planning concepts', *International Journal of Management and Enterprise Development*, Vol. 2, No. 2, pp.204–218.
- Gulledge, T.R., Hayes, P., et al. (2004a) 'Aligning mySAP.com with the future logistics enterprise', *Journal of Enterprise Information Management*, Vol. 17, No. 1, pp.31–44.
- Gulledge, T.R., Sommer, R.A., et al. (2004b) 'Analyzing convergence alternatives across existing SAP solutions', *Industrial Management & Data Systems*, Vol. 104, No. 9, pp.722–734.
- Gupta, A. (2000) 'Enterprise resource planning: the emerging organizational value systems', *Industrial Management & Data Systems*, Vol. 100, No. 3, pp.114–118.
- Gupta, M.C. and Kohli, A. (2006) 'Enterprise resource planning systems and its implications for operations function', *Technovation*, Vol. 26, Nos. 5–6, pp.687–696.
- Gupta, O., Priyadarshini, K., et al. (2004) 'Enterprise resource planning: a case of a blood bank', *Industrial Management & Data Systems*, Vol. 104, No. 7, pp.589–603.
- Haines, M.N. and Goodhue, D.L. (2003) 'Implementation partner involvement and knowledge transfer in the context of ERP implementation', *International Journal of Human-Computer Interaction*, Vol. 16, No. 1, pp.23–38.
- Hajnal, C.A. and Riordan, R. (2004) 'Exploring process, enterprise integration and e-business concepts in the classroom: the case of petPRO', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.267–275.
- Hanseth, O., Ciborra, C.U., et al. (2001) 'The control devolution: ERP and the side effects of globalization', *The Data Base for Advances in Information Systems*, Vol. 32, No. 4, pp.34–46.
- Hawking, P., McCarthy, B., et al. (2004) 'Second wave ERP education', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.327–332.
- Hawking, P., Ramp, A., et al. (2001) 'IS'97 model curriculum and enterprise resource planning systems', *Business Process Management Journal*, Vol. 7, No. 3, pp.225–233.
- Hayes, D.C., Hunton, J.E., et al. (2001) 'Market reactions to ERP implementation announcements', *Journal of Information Systems*, Vol. 15, No. 1, pp.3–18.
- Hedman, J. and Borell, A. (2004) 'Narratives in ERP systems evaluation', *Journal of Enterprise Information Management*, Vol. 17, No. 4, pp.283–290.
- Hirt, S.G. and Swanson, E.B. (2001) 'Emergent maintenance of ERP: new roles and relationships', *Journal of Software Maintenance and Evolution: Research and Practice*, Vol. 13, No. 6, pp.373–397.
- Hitt, L.M., Wu, D.J., et al. (2002) 'Investment in enterprise resource planning: business impact and productivity measures', *Journal of Management Information Systems*, Vol. 19, No. 1, pp.71–98.
- Ho, C-F., Wu, W.H., et al. (2004a) 'Strategies for the adaptation of ERP systems', *Industrial Management & Data Systems*, Vol. 104, No. 3, pp.234–251.
- Ho, C-T., Chen, Y-M., et al. (2004b) 'Developing a distributed knowledge model for knowledge management in collaborative development and implementation of an enterprise system', *Robotics and Computer-Integrated Manufacturing*, Vol. 20, pp.439–456.
- Holsapple, C.W. and Sena, M.P. (2003) 'The decision support characteristics of ERP systems', *International Journal of Human-Computer Interaction*, Vol. 16, No. 1, pp.101–123.
- Holsapple, C.W. and Sena, M.P. (2005) 'ERP plans and decision-support benefits', *Decision Support Systems*, Vol. 38, No. 4, pp.575–590.
- Hong, K-K. and Kim, Y-G. (2002) 'The critical success factors for ERP implementation: an organizational fit perspective', *Information and Management*, Vol. 40, No. 1, pp.25–40.

- Hsu, L.-L. and Chen, M. (2004) 'Impacts of ERP systems on the integrated-interaction performance of manufacturing and marketing', *Industrial Management & Data Systems*, Vol. 104, No. 1, pp.42–55.
- Huang, M.-H., Wang, F.-C., *et al.* (2004a) 'Value-added ERP information into information goods: an economic analysis', *Industrial Management & Data Systems*, Vol. 104, No. 8, pp.689–697.
- Huang, S.-M., Chang, I.-C., *et al.* (2004b) 'Assessing risk in ERP projects: identify and prioritize the factors', *Industrial Management & Data Systems*, Vol. 104, No. 8, pp.681–688.
- Huang, Z. and Palvia, P. (2001) 'ERP implementation issues in advanced and developing countries', *Business Process Management Journal*, Vol. 7, No. 3, pp.276–284.
- Huin, S.F. (2004) 'Managing deployment of ERP systems in SMEs using multi-agents', *International Journal of Project Management*, Vol. 22, No. 6, pp.511–517.
- Hunton, J.E., Lippincott, B., *et al.* (2003) 'Enterprise resource planning systems: comparing firm performance of adopters and nonadopters', *International Journal of Accounting Information Systems*, Vol. 4, No. 3, pp.165–184.
- Hunton, J.E., McEwen, R.A., *et al.* (2002) 'The reaction of financial analysts to Enterprise Resource Planning (ERP) implementation plans', *Journal of Information Systems*, Vol. 16, No. 1, pp.31–40.
- Hwang, Y. (2005) 'Investigating enterprise systems adoption: uncertainty avoidance, intrinsic motivation, and the technology acceptance model', *European Journal of Information Systems*, Vol. 14, No. 2, pp.150–161.
- Ioannou, G. and Papadoyiannis, C. (2004) 'Theory of constraints-based methodology for effective ERP implementations', *International Journal of Production Research*, Vol. 42, No. 23, pp.4927–4954.
- Jacobs, F.R. and Bendoly, E. (2003) 'Enterprise resource planning: developments and directions for operations management research', *European Journal of Operational Research*, Vol. 146, No. 2, pp.233–240.
- Jaiswal, M.P. and Kaushik, A. (2005) 'Realising enhanced value due to business network redesign through extended ERP systems: case study of HLLNet', *Business Process Management Journal*, Vol. 11, No. 2, pp.171–184.
- Johnson, T., Lorents, A.C., *et al.* (2004) 'A customized ERP/SAP model for business curriculum integration', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.245–253.
- Jones, M.C. and Price, R.L. (2004) 'Organizational knowledge sharing in ERP implementation: lessons from industry', *Journal of Organizational and End User Computing*, Vol. 16, No. 1, pp.21–40.
- Jones, M.C., Cline, M., *et al.* (2006) 'Exploring knowledge sharing in ERP implementation: an organizational culture framework', *Decision Support Systems*, Vol. 41, No. 2, pp.411–434.
- Joseph, G. and George, A. (2002) 'ERP, learning communities, and curriculum integration', *Journal of Information Systems Education*, Vol. 13, No. 1, pp.51–58.
- Kalling, T. (2003) 'ERP systems and the strategic management processes that lead to competitive advantage', *Information Resources Management Journal*, Vol. 16, No. 4, pp.46–67.
- Kallinikos, J. (2004) 'Deconstructing information packages: organizational and behavioral implications of ERP systems', *Information Technology & People*, Vol. 17, No. 1, pp.8–30.
- Kawalek, P. and Wood-Harper, T. (2002) 'The finding of thorns: user participation in enterprise system implementation', *The Data Base for Advances in Information Systems*, Vol. 33, No. 1, pp.13–22.
- Kelle, P. and Akbulut, A. (2005) 'The role of ERP tools in supply chain information sharing, cooperation, and cost optimization', *International Journal of Production Economics*, Vols. 93–94, No. 8, pp.41–52.
- Kennerley, M. and Neely, A. (2001) 'Enterprise resource planning: analyzing the impact', *Integrated Manufacturing Systems*, Vol. 12, No. 2, pp.103–113.

- Kim, Y., Lee, Z., et al. (2005) 'Impediments to successful ERP implementation process', *Business Process Management Journal*, Vol. 11, No. 2, pp.158–170.
- Klaus, H., Rosemann, M., et al. (2000) 'What is ERP?', *Information Systems Frontiers*, Vol. 2, No. 2, pp.141–162.
- Koch, C. (2001a) 'BPR and ERP: realising a vision of process with IT', *Business Process Management Journal*, Vol. 7, No. 3, pp.258–265.
- Koch, C. (2001b) 'Enterprise resource planning information technology as a steamroller for management politics?', *Journal of Organizational Change Management*, Vol. 14, No. 1, pp.64–78.
- Koh, C., Soh, C., et al. (2000) 'A process theory approach to analyzing ERP implementation and impacts: the case of Revel Asia', *Journal of Information Technology Cases and Applications*, Vol. 2, No. 1, pp.4–23.
- Koh, S.C.L. and Saad, S.M. (2002) 'Development of a business model for diagnosing uncertainty in ERP environments', *International Journal of Production Research*, Vol. 40, No. 13, pp.3015–3039.
- Koh, S.C.L. and Saad, S. (2004) 'Modelling uncertainty under a multi-echelon ERP-controlled manufacturing system', *Journal of Manufacturing Technology Management*, Vol. 15, No. 3, pp.239–253.
- Koh, S.C.L. and Saad, S.M. (2006) 'Managing uncertainty in ERP-controlled manufacturing environments in SMEs', *International Journal of Production Economics*, Vol. 101, No. 1, pp.109–127.
- Koh, S.C.L. and Simpson, M. (2005) 'Change and uncertainty in SME manufacturing environments using ERP', *Journal of Manufacturing Technology Management*, Vol. 16, No. 6, pp.629–653.
- Kovács, G.L. and Paganelli, P. (2003) 'A planning and management infrastructure for large, complex, distributed projects – beyond ERP and SCM', *Computers in Industry*, Vol. 51, No. 2, pp.165–183.
- Kremers, M. and van Dissel, H. (2000) 'ERP system migrations', *Communications of the ACM*, Vol. 43, No. 4, pp.53–56.
- Krumbholz, M., Galliers, J., et al. (2000) 'Implementing enterprise resource planning packages in different corporate and national cultures', *Journal of Information Technology*, Vol. 15, No. 4, pp.267–279.
- Krumbholz, M. and Maiden, N. (2001) 'The implementation of enterprise resource planning packages in different organizational and national cultures', *Information Systems*, Vol. 26, No. 3, pp.185–204.
- Kumar, V. (2002) 'ERP systems implementation: best practices in Canadian government organizations', *Government Information Quarterly*, Vol. 19, No. 2, pp.147–172.
- Kumar, V., Maheshwari, B., et al. (2002) 'Enterprise resource planning systems adoption process: a survey of Canadian organizations', *International Journal of Production Research*, Vol. 40, No. 3, pp.509–523.
- Kumar, V., Maheshwari, B., et al. (2003) 'An investigation of critical management issues in ERP implementation: empirical evidence from Canadian organizations', *Technovation*, Vol. 23, No. 10, pp.793–807.
- Kwon, O.B. and Lee, J.J. (2001) 'A multi-agent intelligent system for efficient ERP maintenance', *Expert Systems with Applications*, Vol. 21, No. 4, pp.191–202.
- Lea, B-R., Gupta, M.C., et al. (2005) 'A prototype multi-agent ERP system: an integrated architecture and a conceptual framework', *Technovation*, Vol. 25, No. 4, pp.433–441.
- Lee, J., Siau, K., et al. (2003) 'Enterprise integration with ERP and EAI', *Communications of the ACM*, Vol. 46, No. 2, pp.54–60.
- Lee, J.C. and Myers, M.D. (2004) 'Dominant actors, political agendas, and strategic shifts over time: a critical ethnography of an enterprise systems implementation', *Journal of Strategic Information Systems*, Vol. 13, No. 4, pp.355–374.

- Lee, T., Moon, Y.B., *et al.* (2006) 'Enterprise Resource Planning survey of Korean manufacturing firms', *International Journal of Management and Enterprise Development*, Vol. 3, No. 6, pp.521–533.
- Lee, Z. and Lee, J. (2000) 'An ERP implementation case study from a knowledge transfer perspective', *Journal of Information Technology*, Vol. 15, No. 4, pp.281–288.
- Lengnick-Hall, C.A., Lengnick-Hall, M-L., *et al.* (2004) 'The role of social and intellectual capital in achieving competitive advantage through Enterprise Resource Planning (ERP) systems', *Journal of Engineering and Technology Management*, Vol. 21, No. 4, pp.307–330.
- LeRouge, C. and Webb, H.W. (2004) 'Appropriating enterprise resource planning systems in colleges of business: extending adaptive structuration theory for testability', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.315–326.
- Liang, H. and Xue, Y. (2004) 'Coping with ERP-related contextual issues in SMEs: a vendor's perspective', *Journal of Strategic Information Systems*, Vol. 13, No. 4, pp.399–415.
- Light, B. (2001) 'The maintenance implications of the customization of ERP software', *Journal of Software Maintenance and Evolution: Research and Practice*, Vol. 13, No. 6, pp.415–429.
- Light, B. (2005) 'Going beyond misfit as a reason for ERP package customisation', *Computers in Industry*, Vol. 56, No. 6, pp.606–619.
- Light, B., Holland, C.P., *et al.* (2001) 'ERP and best of breed: a comparative analysis', *Business Process Management Journal*, Vol. 7, No. 3, pp.216–224.
- Lim, E.T.K., Pan, S.L., *et al.* (2005) 'Managing user acceptance towards Enterprise Resource Planning (ERP) systems – understanding the dissonance between user expectations and managerial policies', *European Journal of Information Systems*, Vol. 14, No. 2, pp.135–149.
- Loarne, S.L. (2005) 'Working with ERP systems – is big brother back?', *Computers in Industry*, Vol. 56, No. 6, pp.523–528.
- Loh, T.C. and Koh, S.C.L. (2004) 'Critical elements for a successful enterprise resource planning implementation in small-and medium-sized enterprises', *International Journal of Production Research*, Vol. 42, No. 17, pp.3433–3455.
- Luo, W. and Strong, D.M. (2004) 'A framework for evaluating ERP implementation choices', *IEEE Transactions of Engineering Management*, Vol. 51, No. 3, pp.322–333.
- Mabert, V.A., Soni, A., *et al.* (2000) 'Enterprise resource planning survey of U.S. manufacturing firms', *Production and Inventory Management Journal*, Vol. 41, No. 2, pp.52–58.
- Mabert, V.A., Soni, A., *et al.* (2001) 'Enterprise resource planning: measuring value', *Production and Inventory Management Journal*, Vol. 42, Nos. 3–4, pp.46–51.
- Mabert, V.A., Soni, A., *et al.* (2003a) 'Enterprise resource planning: managing the implementation process', *European Journal of Operational Research*, Vol. 146, No. 2, pp.302–314.
- Mabert, V.A., Soni, A., *et al.* (2003b) 'The impact of organization size on Enterprise Resource Planning (ERP) implementations in the US manufacturing sector', *Omega*, Vol. 31, No. 3, pp.235–246.
- Mandal, P. and Gunasekaran, A. (2002) 'Application of SAP R/3 in on-line inventory control', *International Journal of Production Economics*, Vol. 75, Nos. 1–2, pp.47–55.
- Mandal, P. and Gunasekaran, A. (2003) 'Issues in implementing ERP: a case study', *European Journal of Operational Research*, Vol. 146, No. 2, pp.274–283.
- Markus, M.L., Axline, S., *et al.* (2000a) 'Learning from adopters' experiences with ERP: problems encountered and success achieved', *Journal of Information Technology*, Vol. 15, No. 4, pp.245–265.
- Markus, M.L., Petrie, D., *et al.* (2000b) 'Bucking the trends: what the future may hold for ERP packages', *Information Systems Frontiers*, Vol. 2, No. 2, pp.181–193.
- Markus, M.L., Tanis, C., *et al.* (2000c) 'Multisite ERP implementations', *Communications of the ACM*, Vol. 43, No. 4, pp.42–46.

- Marnewick, C. and Labuschagne, L. (2005) 'A conceptual model for Enterprise Resource Planning (ERP)', *Information Management & Computer Security*, Vol. 13, No. 2, pp.144–155.
- Martin, I. and Cheung, Y. (2005) 'Business process re-engineering pays after enterprise resource planning', *Business Process Management Journal*, Vol. 11, No. 2, pp.185–197.
- McAdam, R. and Galloway, A. (2005) 'Enterprise resource planning and organisational innovation: a management perspective', *Industrial Management & Data Systems*, Vol. 105, No. 3, pp.280–290.
- Mensingh, J. and Corbitt, G. (2004) 'ERP data archiving – a critical analysis', *Journal of Enterprise Information Management*, Vol. 17, No. 2, pp.131–141.
- Metaxiotis, K., Psarras, J., *et al.* (2003) 'Production scheduling in ERP systems: an AI-based approach to face the gap', *Business Process Management Journal*, Vol. 9, No. 2, pp.221–247.
- Metaxiotis, K., Zafiroopoulos, I., *et al.* (2005) 'Goal directed project management methodology for the support of ERP implementation and optimal adaptation procedure', *Information Management & Computer Security*, Vol. 13, No. 1, pp.55–71.
- Moller, C. (2005) 'ERP II: a conceptual framework for next-generation enterprise systems?', *Journal of Enterprise Information Management*, Vol. 18, No. 4, pp.483–497.
- Moon, Y.B. and Phatak, D. (2005) 'Enhancing ERP system's functionality with discrete event simulation', *Industrial Management & Data Systems*, Vol. 105, No. 9, pp.1206–1224.
- Motwani, J., Mirchandani, D., *et al.* (2002) 'Successful Implementation of ERP projects: evidence from two case studies', *International Journal of Production Economics*, Vol. 75, No. 1, pp.83–96.
- Motwani, J., Subramanian, R., *et al.* (2005) 'Critical factors for successful ERP implementation: exploratory findings from four case studies', *Computers in Industry*, Vol. 56, No. 6, pp.529–544.
- Nah, F.F.-H., Faja, S., *et al.* (2001a) 'Characteristics of ERP software maintenance: a multiple case study', *Journal of Software Maintenance and Evolution: Research and Practice*, Vol. 13, No. 6, pp.399–414.
- Nah, F.F.-H., Lau, J.L.-S., *et al.* (2001b) 'Critical factors for successful implementation of enterprise systems', *Business Process Management Journal*, Vol. 7, No. 3, pp.285–296.
- Nah, F.F.-H., Tan, X., *et al.* (2004) 'An empirical investigation on end-users' acceptance of enterprise systems', *Information Resources Management Journal*, Vol. 17, No. 3, pp.32–53.
- Nah, F.F.-H., Zuckweiler, K.M., *et al.* (2003) 'ERP implementation: chief information officers' perceptions of critical success factors', *International Journal of Human-Computer Interaction*, Vol. 16, No. 1, pp.5–22.
- Nandhakumar, J., Rossi, M., *et al.* (2005) 'The dynamics of contextual forces of ERP implementation', *Journal of Strategic Information Systems*, Vol. 14, No. 2, pp.221–242.
- Ndede-Amadi, A.A. (2004) 'What strategic alignment, process redesign, enterprise resource planning, and e-commerce have in common: enterprise-wide computing', *Business Process Management Journal*, Vol. 10, No. 2, pp.184–199.
- Newell, S., Huang, J.C., *et al.* (2003) 'Implementing enterprise resource planning and knowledge management systems in tandem: fostering efficiency and innovation complementarity', *Information and Organization*, Vol. 13, No. 1, pp.25–52.
- Newman, M. and Westrup, C. (2005) 'Making ERPs work: accountants and the introduction of ERP systems', *European Journal of Information Systems*, Vol. 14, No. 3, pp.258–272.
- Ng, C.S.P. (2001) 'A decision framework for enterprise resource planning maintenance and upgrade: a client perspective', *Journal of Software Maintenance and Evolution: Research and Practice*, Vol. 13, No. 6, pp.431–468.
- Ng, C.S.P., Gable, G.G., *et al.* (2002) 'An ERP-client benefit-oriented maintenance taxonomy', *Journal of Systems and Software*, Vol. 64, No. 2, pp.87–109.
- Ng, J.K.C. and Ip, W.H. (2003) 'Web-ERP: the new generation of enterprise resources planning', *Journal of Materials Processing Technology*, Vol. 138, Nos. 1–3, pp.590–593.

- Nicolaou, A. (2004) 'Quality of postimplementation review of enterprise resource planning systems', *International Journal of Accounting Information Systems*, Vol. 5, No. 1, pp.25–49.
- Nikolopoulos, K., Metaxiotis, K., *et al.* (2003) 'Integrating industrial maintenance strategy into ERP', *Industrial Management & Data Systems*, Vol. 103, No. 3, pp.184–191.
- Noguera, J.H. and Watson, E.F. (2004) 'Effectiveness of using an enterprise system to teach process-centered concepts in business education', *Journal of Enterprise Information Management*, Vol. 17, No. 1, pp.56–74.
- O'Leary, D.E. (2002) 'Knowledge management across the enterprise resource planning systems life cycle', *International Journal of Accounting Information Systems*, Vol. 3, No. 2, pp.99–110.
- O'Leary, D.E. (2004) 'On the relationship between REA and SAP', *International Journal of Accounting Information Systems*, Vol. 5, No. 1, pp.65–81.
- Okrent, M.D. and Vokurka, R.J. (2004) 'Process mapping in successful ERP implementations', *Industrial Management & Data Systems*, Vol. 104, No. 8, pp.637–643.
- Olhager, J. and Selldin, E. (2003) 'Enterprise resource planning survey of Swedish manufacturing firms', *European Journal of Operational Research*, Vol. 146, No. 2, pp.365–373.
- Palaniswamy, R. and Tyler, F. (2000) 'Enhancing manufacturing performance with ERP systems', *Information Systems Management*, Vol. 17, No. 3, pp.43–55.
- Park, K. and Kusiak, A. (2005) 'Enterprise Resource Planning (ERP) operations support system for maintaining process integration', *International Journal of Production Research*, Vol. 43, No. 19, pp.3959–3982.
- Parr, A. and Shanks, G. (2000) 'A model of ERP project implementation', *Journal of Information Technology*, Vol. 15, No. 4, pp.289–304.
- Peslak, A.R. (2005) 'A twelve-step, multiple course approach to teaching enterprise resource planning', *Journal of Information Systems Education*, Vol. 16, No. 2, pp.147–155.
- Pollock, N. and Cornford, J. (2004) 'ERP systems and the university as a "unique" organisation', *Information Technology & People*, Vol. 17, No. 1, pp.31–52.
- Poston, R. and Grabski, S. (2001) 'Financial impacts of enterprise resource planning implementations', *International Journal of Accounting Information Systems*, Vol. 2, pp.271–294.
- Puschmann, T. and Alt, R. (2004) 'Enterprise application integration systems and architecture – the case of the Robert Bosch Group', *Journal of Enterprise Information Management*, Vol. 17, No. 2, pp.105–116.
- Rajagopal, P. (2002) 'An innovation – diffusion view of implementation of Enterprise Resource Planning (ERP) systems and development of a research model', *Information and Management*, Vol. 40, No. 2, pp.87–114.
- Rao, S.S. (2000) 'Enterprise resource planning: business needs and technologies', *Industrial Management & Data Systems*, Vol. 100, No. 2, pp.81–88.
- Robey, D., Ross, J.W., *et al.* (2002) 'Learning to implement enterprise systems: an exploratory study of the dialectics of change', *Journal of Management Information Systems*, Vol. 19, No. 1, pp.17–46.
- Robinson, B. and Wilson, F. (2001) 'Planning for the market? Enterprise resource planning systems and the contradictions of capital', *The Data Base for Advances in Information Systems*, Vol. 32, No. 4, pp.21–33.
- Rolland, C. and Prakash, N. (2000) 'Bridging the gap between organisational needs and ERP functionality', *Requirements Engineering*, Vol. 5, No. 3, pp.180–193.
- Rom, A. and Rohde, C. (2006) 'Enterprise resource planning systems, strategic enterprise management systems and management accounting: a Danish study', *Journal of Enterprise Information Management*, Vol. 19, No. 1, pp.50–66.
- Rosemann, M. (2000) 'Using reference models within the enterprise resource planning lifecycle', *Australian Accounting Review*, Vol. 10, No. 3, pp.17–30.

- Ross, J.W. and Vitale, M.R. (2000) 'The ERP revolution: surviving vs. thriving', *Information Systems Frontiers*, Vol. 2, No. 2, pp.233–241.
- Rutner, S.M., Gibson, B.J., *et al.* (2003) 'The impacts of the integrated logistics systems on electronic commerce and enterprise resource planning systems', *Transportation Research Part E: Logistics and Transportation Review*, Vol. 39, No. 2, pp.83–93.
- Sammon, D. and Adam, F. (2005) 'Towards a model of organisational prerequisites for enterprise-wide systems integration: examining ERP and data warehousing', *Journal of Enterprise Information Management*, Vol. 18, No. 4, pp.458–470.
- Sarker, S. and Lee, A.S. (2003) 'Using a case study to test the role of three key social enablers in ERP implementation', *Information and Management*, Vol. 40, No. 8, pp.813–829.
- Sarkis, J. and Sundarraj, R.P. (2003) 'Managing large-scale global enterprise resource planning systems: a case study at Texas Instruments', *International Journal of Information Management*, Vol. 23, No. 5, pp.431–442.
- Scheer, A-W. and Habermann, F. (2000) 'Making ERP a success – using business process models to achieve positive results', *Communications of the ACM*, Vol. 43, No. 4, pp.57–61.
- Scott, J. and Kaindl, L. (2000) 'Enhancing functionality in an enterprise software package', *Information and Management*, Vol. 37, No. 3, pp.111–122.
- Scott, J.E. and Vessey, I. (2000) 'Implementing enterprise resource planning systems: the role of learning from failure', *Information Systems Frontiers*, Vol. 2, No. 2, pp.213–232.
- Scott, S.V. and Wagner, E.L. (2003) 'Networks, negotiations, and new times: the implementation of enterprise resource planning into an academic administration', *Information and Organization*, Vol. 13, No. 4, pp.285–313.
- Sharif, A.M., Irani, Z., *et al.* (2005) 'Integrating ERP using EAI: a model for post hoc evaluation', *European Journal of Information Systems*, Vol. 14, No. 2, pp.162–174.
- Sharma, S.K., Chen, C., *et al.* (2006) 'Implementation problems with ERP systems in virtual enterprises/virtual organisations', *International Journal of Management and Enterprise Development*, Vol. 3, No. 5, pp.491–509.
- Sheu, C., Chae, B., *et al.* (2004) 'National difference and ERP implementation: issues and challenges', *Omega*, Vol. 32, No. 5, pp.361–371.
- Shtub, A. (2001) 'A framework for teaching and training in the Enterprise Resource Planning (ERP) era', *International Journal of Production Research*, Vol. 39, No. 3, pp.567–576.
- Sia, S.K., Tang, M., *et al.* (2002) 'Enterprise Resource Planning (ERP) systems as a technology of power: empowerment or panoptic control?', *The Data Base for Advances in Information Systems*, Vol. 33, No. 1, pp.23–37.
- Siau, K. (2004) 'Enterprise Resource Planning (ERP) implementation methodologies', *Journal of Database Management*, Vol. 15, No. 1, pp.1–6.
- Siau, K. and Messersmith, J. (2003) 'Analyzing ERP implementation at a public university using the innovation strategy model', *International Journal of Human-Computer Interaction*, Vol. 16, No. 1, pp.57–80.
- Siriginidi, S.R. (2000) 'Enterprise resource planning in re-engineering business', *Business Process Management Journal*, Vol. 6, No. 5, pp.376–391.
- Soffer, P., Golany, B., *et al.* (2003) 'ERP modeling: a comprehensive approach', *Information Systems*, Vol. 28, No. 6, pp.673–690.
- Soffer, P., Golany, B., *et al.* (2005) 'Aligning an ERP system with enterprise requirements: an object-process based approach', *Computers in Industry*, Vol. 56, No. 6, pp.639–662.
- Soh, C. and Sia, S.K. (2004) 'An institutional perspective on sources of ERP package – organisation misalignments', *Journal of Strategic Information Systems*, Vol. 13, No. 4, pp.375–397.
- Soh, C., Kien, S.S., *et al.* (2000) 'Cultural fits and misfits: is ERP a universal solution?', *Communications of the ACM*, Vol. 43, No. 4, pp.47–51.

- Soh, C., Sia, S.K., *et al.* (2003) 'Misalignments in ERP implementation: a dialectic perspective', *International Journal of Human-Computer Interaction*, Vol. 16, No. 1, pp.81–100.
- Somers, T.M. and Nelson, K.G. (2003) 'The impact of strategy and integration mechanisms on enterprise system value: empirical evidence from manufacturing firms', *European Journal of Operational Research*, Vol. 146, No. 2, pp.315–338.
- Somers, T.M. and Nelson, K.G. (2004) 'A taxonomy of players and activities across the ERP project life cycle', *Information and Management*, Vol. 41, No. 3, pp.257–278.
- Somers, T.M., Nelson, K., *et al.* (2003) 'Confirmatory factor analysis of the end-user computing satisfaction instrument: replication within an ERP domain', *Decision Sciences*, Vol. 34, No. 3, pp.595–621.
- Spathis, C. (2006) 'Enterprise systems implementation and accounting benefits', *Journal of Enterprise Information Management*, Vol. 19, No. 1, pp.67–82.
- Spathis, C. and Ananiadis, J. (2005) 'Assessing the benefits of using an enterprise system in accounting information and management', *Journal of Enterprise Information Management*, Vol. 18, No. 2, pp.195–210.
- Spathis, C. and Constantinides, S. (2003) 'The usefulness of ERP systems for effective management', *Industrial Management & Data Systems*, Vol. 103, No. 9, pp.677–685.
- Spathis, C. and Constantinides, S. (2004) 'Enterprise Resource Planning systems' impact on accounting processes', *Business Process Management Journal*, Vol. 10, No. 2, pp.234–247.
- Sprott, D. (2000) 'Componentizing the enterprise application packages', *Communications of the ACM*, Vol. 43, No. 4, pp.63–69.
- Stefanou, C.J. (2001) 'A framework for the ex-ante evaluation of ERP software', *European Journal of Information Systems*, Vol. 10, No. 4, pp.204–215.
- Stefanou, C.J. and Revanoglou, A. (2006) 'ERP integration in a healthcare environment: a case study', *Journal of Enterprise Information Management*, Vol. 19, No. 1, pp.115–130.
- Stensrud, E. (2001) 'Alternative approaches to effort prediction of ERP projects', *Information and Software Technology*, Vol. 43, No. 7, pp.413–423.
- Stensrud, E. and Myrtveit, I. (2003) 'Identifying high performance ERP projects', *IEEE Transactions on Software Engineering*, Vol. 29, No. 5, pp.398–416.
- Stevens, C.P. (2003) 'Enterprise resource planning: a trio of resources', *Information Systems Management*, Vol. 20, No. 3, pp.61–67.
- Stewart, G. and Rosemann, M. (2001) 'Industry-oriented design of ERP-related curriculum – an Australian initiative', *Business Process Management Journal*, Vol. 7, No. 3, pp.234–242.
- Stirling, M., Petty, D., *et al.* (2002) 'A methodology for developing integrated information systems based on ERP packages', *Business Process Management Journal*, Vol. 8, No. 5, pp.430–446.
- Stratman, J.K. and Roth, A.V. (2002) 'Enterprise Resource Planning (ERP) competence constructs: two-stage multi-item scale development and validation', *Decision Sciences*, Vol. 33, No. 4, pp.601–628.
- Strong, D.M., Johnson, S.A., *et al.* (2004) 'Integrating enterprise decision-making modules into undergraduate management and industrial engineering curricula', *Journal of Information Systems Education*, Vol. 15, No. 3, pp.301–313.
- Sumi, T. and Tsuruoka, M. (2002) 'Ramp new enterprise information systems in a merger and acquisition environment: a case study', *Journal of Engineering and Technology Management*, Vol. 19, No. 1, pp.93–104.
- Sumner, M. (2000) 'Risk factors in enterprise-wide/ERP projects', *Journal of Information Technology*, Vol. 15, No. 4, pp.317–327.
- Sun, A.Y.T., Yazdani, A., *et al.* (2005) 'Achievement assessment for Enterprise Resource Planning (ERP) system implementations based on Critical Success Factors (CSFs)', *International Journal of Production Economics*, Vol. 98, No. 2, pp.189–203.

- Symeonidis, A.L., Kehagias, D.D., *et al.* (2003) 'Intelligent policy recommendations on enterprise resource planning by the use of agent technology and data mining techniques', *Expert Systems with Applications*, Vol. 25, No. 4, pp.589–602.
- Tarn, J.M., Yen, D.C., *et al.* (2002) 'Exploring the rationales for ERP and SCM integration', *Industrial Management & Data Systems*, Vol. 102, No. 1, pp.26–34.
- Tchokogue, A., Bareil, C., *et al.* (2005) 'Key lessons from the implementation of an ERP at Pratt & Whitney Canada', *International Journal of Production Economics*, Vol. 95, No. 2, pp.151–163.
- Teltumbde, A. (2000) 'A framework for evaluating ERP projects', *International Journal of Production Research*, Vol. 38, No. 17, pp.4507–4520.
- Themistocleous, M., Irani, Z., *et al.* (2001) 'ERP and application integration: exploratory survey', *Business Process Management Journal*, Vol. 7, No. 3, pp.195–204.
- Thomas, G.A. and Jajodia, S. (2004) 'Commercial-off-the-shelf enterprise resource planning software implementations in the public sector: practical approaches for improving project success', *Journal of Government Financial Management*, Vol. 53, No. 2, pp.12–19.
- Trimi, S., Lee, S.M., *et al.* (2005) 'Alternative means to implement ERP: internal and ASP', *Industrial Management & Data Systems*, Vol. 105, No. 2, pp.184–192.
- Trimmer, K.J., Pumphrey, L.D., *et al.* (2002) 'ERP implementation in rural health care', *Journal of Management in Medicine*, Vol. 16, No. 2, pp.113–132.
- Tsai, W-H., Chien, S-W., *et al.* (2005) 'Identification of critical failure factors in the implementation of Enterprise Resource Planning (ERP) system in Taiwan's industries', *International Journal of Management and Enterprise Development*, Vol. 2, No. 2, pp.219–239.
- Tsai, W-H., Hsu, P-Y., *et al.* (2006) 'An AHP approach to assessing the relative importance weights of ERP performance measures', *International Journal of Management and Enterprise Development*, Vol. 3, No. 4, pp.351–375.
- Umble, E.J., Haft, R.R., *et al.* (2003) 'Enterprise resource planning: implementation procedures and critical success factors', *European Journal of Operational Research*, Vol. 146, No. 2, pp.241–257.
- Van Everdingen, Y., Van Hillegersberg, J., *et al.* (2000) 'ERP adoption by European midsize companies', *Communications of the ACM*, Vol. 43, No. 4, pp.27–31.
- Van Stijn, E. and Wensley, A. (2001) 'Organizational memory and the completeness of process modeling in ERP systems: some concerns, methods and directions for future research', *Business Process Management Journal*, Vol. 7, No. 3, pp.181–194.
- Verville, J., Bernadas, C., *et al.* (2005) 'So you're thinking of buying an ERP? Ten critical factors for successful acquisitions', *Journal of Enterprise Information Management*, Vol. 18, No. 6, pp.665–677.
- Verville, J. and Halington, A. (2002a) 'A qualitative study of the influencing factors on the decision process for acquiring ERP software', *Qualitative Market Research: An International Journal*, Vol. 5, No. 3, pp.188–198.
- Verville, J. and Halington, A. (2002b) 'An investigation of the decision process for selecting an ERP software: the case of ESC', *Management Decision*, Vol. 40, No. 3, pp.206–216.
- Verville, J. and Halington, A. (2003a) 'A six-stage model of the buying process for ERP software', *Industrial Marketing Management*, Vol. 32, No. 7, pp.585–594.
- Verville, J. and Halington, A. (2003b) 'Information searches: a two-dimensional approach for ERP acquisition decision', *Journal of Information Science*, Vol. 29, No. 3, pp.203–209.
- Volkoff, O. (2003) 'Configuring an ERP system: introducing best practices or hampering flexibility?', *Journal of Information Systems Education*, Vol. 14, No. 3, pp.319–324.
- Volkoff, O., Strong, D.M., *et al.* (2005) 'Understanding enterprise systems-enabled integration', *European Journal of Information Systems*, Vol. 14, No. 2, pp.110–120.

- Voordijk, H., Stegwee, R., *et al.* (2005) 'ERP and the changing role of IT in engineering consultancy firms', *Business Process Management Journal*, Vol. 11, No. 4, pp.418–430.
- Voordijk, H., Van Leuven, A., *et al.* (2003) 'Enterprise Resource Planning in a large construction firm: implementation analysis', *Construction Management and Economics*, Vol. 21, No. 5, pp.511–521.
- Vosburg, J. and Kumar, A. (2001) 'Managing dirty data in organizations using ERP: lessons from a case study', *Industrial Management & Data Systems*, Vol. 101, No. 1, pp.21–31.
- Wagner, E.L. and Newell, S. (2004) "'Best" for whom? The tension between "best practice" ERP packages and diverse epistemic cultures in a university context', *Journal of Strategic Information Systems*, Vol. 13, No. 4, pp.305–328.
- Wang, C., Xu, L., *et al.* (2005) 'ERP research, development and implementation in China: an overview', *International Journal of Production Research*, Vol. 43, No. 18, pp.3915–3932.
- Wang, E.T.G. and Chen, J.H.F. (2006) 'The influence of governance equilibrium on ERP project success', *Decision Support Systems*, Vol. 41, No. 4, pp.708–727.
- Ward, J., Hemingway, C., *et al.* (2005) 'A framework for addressing the organisational issues of enterprise systems implementation', *Journal of Strategic Information Systems*, Vol. 14, No. 2, pp.97–119.
- Watanabe, C. and Hobo, M. (2004) 'Creating a firm self-propagating function for advanced innovation-oriented projects: lessons from ERP', *Technovation*, Vol. 24, No. 6, pp.467–481.
- Wei, C-C. and Wang, M.J.J. (2004) 'A comprehensive framework for selecting an ERP system', *International Journal of Project Management*, Vol. 22, No. 2, pp.161–169.
- Wei, C-C., Chien, C-F., *et al.* (2005a) 'An AHP-based approach to ERP system selection', *International Journal of Production Economics*, Vol. 96, No. 1, pp.47–62.
- Wei, H-L., Wang, E.T.G., *et al.* (2005b) 'Understanding misalignment and cascading change of ERP implementation: a stage view of process analysis', *European Journal of Information Systems*, Vol. 14, No. 4, pp.324–334.
- Weston, Jr., F.D.T. (2001) 'ERP implementation and project management', *Production and Inventory Management Journal*, Vol. 42, Nos. 3–4, pp.75–80.
- Weston Jr., F.D.T. (2003) 'ERP II: the extended enterprise system', *Business Horizons*, Vol. 46, No. 6, pp.49–55.
- Wieder, B., Booth, P., *et al.* (2006) 'The impact of ERP systems on firm and business process performance', *Journal of Enterprise Information Management*, Vol. 19, No. 1, pp.13–29.
- Willcocks, L.P. and Sykes, R. (2000) 'The role of the CIO and IT function in ERP', *Communications of the ACM*, Vol. 43, No. 4, pp.32–38.
- Willis, T.H. and Willis-Brown, A.H. (2002) 'Extending the value of ERP', *Industrial Management & Data Systems*, Vol. 102, No. 1, pp.35–38.
- Wood, T. and Caldas, M.P. (2001) 'Reductionism and complex during ERP implementations', *Business Process Management Journal*, Vol. 7, No. 5, pp.387–393.
- Worley, J.H., Chatha, K.A., *et al.* (2005) 'Implementation and optimisation of ERP systems: a better integration of processes, roles, knowledge and user competencies', *Computers in Industry*, Vol. 56, No. 6, pp.620–638.
- Wu, J-H. and Wang, Y-M. (2006) 'Measuring ERP success: the key-users viewpoint of the ERP to produce a viable IS in the organization', *Computers in Human Behavior*.
- Xu, H., Nord, J.H., *et al.* (2002) 'Data quality issues in implementing an ERP', *Industrial Management & Data Systems*, Vol. 102, Nos. 1–2, pp.47–58.
- Xue, Y., Liang, H., *et al.* (2005) 'ERP implementation failures in China: case studies with implications for ERP vendors', *International Journal of Production Economics*, Vol. 97, No. 3, pp.279–295.

- Yang, C.-C., Lin, W.-T., *et al.* (2006) 'A study on applying FMEA to improving ERP introduction: an example of semiconductor related industries in Taiwan', *International Journal of Quality & Reliability Management*, Vol. 23, No. 3, pp.298–322.
- Yeh, C.-T., Miozzo, M., *et al.* (2006) 'The importance of being local? Learning among Taiwan's enterprise solutions providers', *Journal of Enterprise Information Management*, Vol. 19, No. 1, pp.30–49.
- Yen, D.C., Chou, D.C., *et al.* (2002) 'A synergic analysis for web-based enterprise resources planning systems', *Computer Standards & Interfaces*, Vol. 24, No. 4, pp.337–346.
- Yen, H.R. and Sheu, C. (2004) 'Aligning ERP implementation with competitive priorities of manufacturing firms: an exploratory study', *International Journal of Production Economics*, Vol. 92, No. 3, pp.207–220.
- Yu, C.-S. (2005) 'Causes influencing the effectiveness of the post-implementation ERP system', *Industrial Management & Data Systems*, Vol. 105, No. 1, pp.115–132.
- Yusuf, Y., Gunasekaran, A., *et al.* (2004) 'Enterprise information systems project implementation: a case study of ERP in Rolls-Royce', *International Journal of Production Economics*, Vol. 87, No. 3, pp.251–266.
- Yusuf, Y., Gunasekaran, A., *et al.* (2006) 'Implementation of enterprise resource planning in China', *Technovation*.
- Zafiroopoulos, I., Metaxiotis, K., *et al.* (2005) 'Dynamic risk management system for the modeling, optimal adaptation and implementation of an ERP system', *Information Management & Computer Security*, Vol. 13, No. 3, pp.212–234.
- Zhang, Z., Lee, M.K.O., *et al.* (2005) 'A framework of ERP systems implementation success in China: an empirical study', *International Journal of Production Economics*, Vol. 98, No. 1, pp.56–80.
- Zheng, S., Yen, D.C., *et al.* (2000) 'The new spectrum of the cross-enterprise solution: the integration of supply chain management and enterprise resource planning systems', *Journal of Computer Information Systems*, Vol. 41, No. 1, pp.84–93.