

# ERP Systems for UK Manufacturing: Survey Results

This document provides you with an executive summary of the results from the survey you kindly contributed to at the end of 2009. It forms part of an ongoing research project being conducted by the Supply Chain Management and Modelling research group at Lancaster University Management School.

The research seeks to understand how effectively Enterprise Resource Planning (ERP) systems are able to meet the decision support requirements of manufacturing companies in the UK, with a particular interest in how the effectiveness of support differs based on production strategy. As a result, survey responses have been divided into Make-To-Order (MTO) and Make-To-Stock (MTS) companies. We have tried to identify the critical decision support requirements of firms following each manufacturing strategy. We have also considered both adopters and non-adopters of ERP software. For example, for ERP adopters we found a positive link between the intensity of use of ERP and improvements in company performance.

## Key points from the analysis are as follows:

- Just over half of the companies surveyed have adopted ERP;
- MTO companies can benefit from ERP adoption but the system selection process is critical;
- Many MTO companies that have not adopted ERP perceive ERP systems to be unsuitable or unfit for the needs of the company;

- MTS companies can benefit from ERP adoption and, in general, the systems appear more suited to the needs of MTS companies;
- The Customer Enquiry Management (CEM) module is a key module for MTO companies and can lead to improved customer enquiry management performance;
- Advanced Planning & Scheduling (APS) and Customer Relationship Management (CRM) are key add-ons for both MTO and MTS companies and can lead to improved production planning performance and better customer relationships;
- However, in general, few companies (either MTO or MTS) are very satisfied with ERP.

The remainder of this report is split into three parts: (1) An overview of the results, showing the company profiles of the respondents and their ERP environments; (2) Results of interest to firms where a Make-To-Order (MTO) strategy dominates; and, (3) Results of interest to firms where a Make-To-Stock (MTS) strategy dominates.

The project continues by studying individual cases of ERP adoption and non-adoption. If you have expressed an interest in the second stage of the work, we may be in touch. If you have not, but now wish to participate in the case studies, please do not hesitate to contact us using the details given below.

**Let us take this opportunity to thank you again for your contribution to the research**

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## Executive Summary: Respondent Overview

This section provides an overview of companies, individual respondents and ERP usage

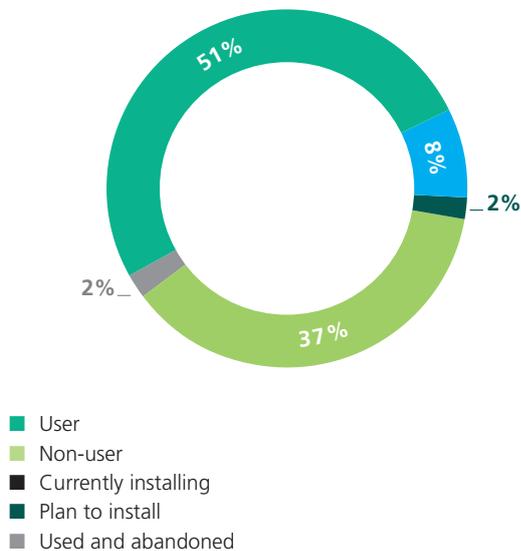
### Company Profiles

Most respondents were general or department managers or directors of their organisations. Most firms were small or medium sized enterprises while there were also a number of very large and micro companies.

Companies surveyed operate in a wide range of industries and tiers of the supply chain. The industries represented the most in the survey data were: industrial machinery and equipments, automotive, and aerospace & defence. Many of the automotive and aerospace & defence companies are Tier-2 suppliers. For the rest of the sample, Tier-1 and OEMs are highly represented; raw material providers are also included in the sample.

### ERP Environment

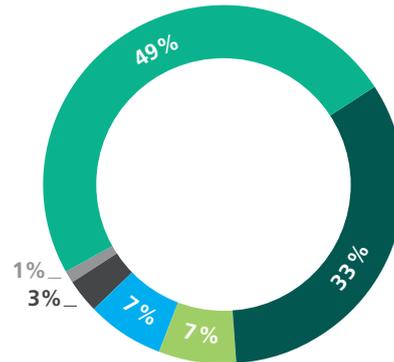
The figure below illustrated that 51% of the firms surveyed use ERP; 8% are currently installing ERP; 2% plan to install ERP; 37% of firms are non-users with no current plans to adopt; and, 2% have used but abandoned ERP.



49% of adopters use a single package developed by a single vendor. When users that have adopted minor add-ons to a single package are also included, this rises to 82%. While SAP is the market leading ERP provider, many firms have adopted local or lesser known global systems.

Users adopting SAP or "other" system tended to implement it as a single package, whereas almost all Sage users

installed their system with an extension. Overall as shown below, 40% of the users added some extensions on top of their ERP systems regardless of their implementation package.



- Single Package
- Single Package + add-ons
- Best-of-Breed + add-ons
- In-house
- Best-of-Breed
- Other

Order Entry, Purchasing & Logistics, Sales & Delivery, Materials Management, Financial Accounting and Financial Control are the most widely adopted modules, and Computer-aided Design (CAD), Customer Relationship Management (CRM) and Advanced Planning and Scheduling (APS) are the most popular add-ons.

#### The most common reasons given for choosing to adopt an ERP system were to:

- Simplify and standardise business processes;
- Integrate separate systems, operations and data;
- Replace legacy systems; and,
- Improve production planning effectiveness.

#### On the other hand, the least common reasons for adoption were to:

- Support a globalisation strategy;
- Improve e-commerce activities (e-procurement & marketing); and,
- Satisfy the wishes of key customers

By far the most common reason for non-adoption was that ERP was seen as unsuitable for the needs of the company.

## Executive Summary: Make-to-Order Companies

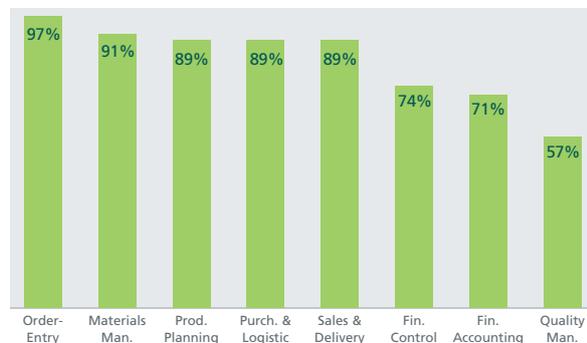
### Expected Characteristics

The results showed that MTO firms typically organise their shop floors as a job shop. MTO companies were typically smaller in size than MTS companies. The market sectors in which they mostly operate include: aerospace, ship building, railway & other transportation industries. There were no particular differences in terms of supply chain position between MTO and MTS firms in the sample.

### Return on ERP

Results suggest that MTO companies found it more difficult than MTS companies to identify the most appropriate ERP system for their needs. This suggests that the majority of ERP systems are designed towards the needs of MTS firms. ERP adoption and return on investment are still relevant to MTO companies, but to a lesser extent. MTO non-adopters surveyed argued that "ERP would not suit the needs of the company" more so than MTS non-adopters.

Regarding the ERP using MTO firms, the most highly adopted modules are shown below with adoption percentages. For instance, 97% of ERP using MTO firms have adopted Order Entry module.



The same modules were also preferred by MTS users but with a different order of importance. Only the Quality Management module was significantly more preferred by MTO ERP adopters (57% as shown) than MTS ERP adopters (32%).

The most highly adopted add-ons are shown in the graph at the top of the right hand column. The CAD extension is highly popular amongst MTO ERP users while preference for the Product Lifecycle Management (PLM) and Product Configurator (PC) add-ons is similar for MTO and MTS users.



The effectiveness of ERP in relation to five crucial decision stages was investigated for MTO adopters. These include three critical production planning stages (i.e., Customer Enquiry Management, Design & Engineering and Order Entry) plus two relational management concepts (i.e., Customer Relationship and Supply Chain Operations).

Core ERP modules, MRP, Available-to-Promise (ATP), Capable-To-Promise (CTP), Product Configurator tools, Product Lifecycle Management, Advanced Planning and Scheduling, Customer Relationship Management and Supply Chain Management add-ons were all considered.

Statistical analysis showed only some of the Customer Enquiry Management tools (ERP's provision of CEM automation, ATP and CTP) were found to effectively satisfy the decision support requirements of MTO companies.

In other words, MTO adopters of ERP with high decision support requirements for managing customer enquiries are able to use ERP tools to help manage the process. This leads to improved Customer Enquiry Management performance.

No other ERP extensions or core modules were found to help achieve significantly improved company performance in MTO companies. Other studies on the impact of ERP, CRM and SCM on performance have found similar results but without considering production strategy (i.e., MTO vs. MTS).

In summary, this study suggests that MTO companies are not particularly satisfied with their return from the currently available ERP systems and add-ons in terms of profitability and productivity.

## Executive Summary: Make-To-Stock Companies

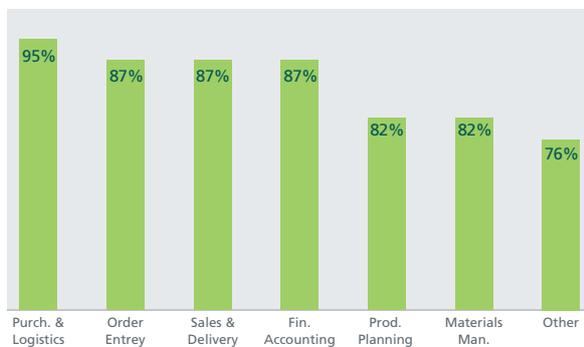
### Expected Characteristics

The results showed that MTS firms typically organise their shop floors as a flow shop (i.e., a dominant routing direction). MTS companies were generally larger in size than MTO companies. Typical industries that they operate in include consumer goods and raw material industries (e.g., metals, wood, plastics, etc.). There were no particular differences in terms of supply chain position between MTO and MTS firms in the sample.

### Return on ERP

Difficulties experienced in selecting an appropriate ERP system were much lower for MTS companies when compared to MTO companies. This may suggest that the majority of ERP systems are more suitable for the needs of MTS companies than MTO companies. In fact very few of the MTS non-adopters agreed that "ERP would not suit the needs of the company".

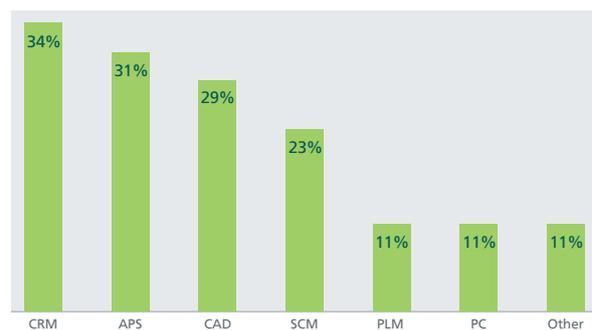
Regarding the ERP using MTS firms, the most highly adopted modules are shown below with adoption percentages. For instance, 97% of ERP using MTS firms have adopted the Purchase & Logistic module.



The most highly adopted add-ons are shown in the chart at the top of the right hand column. Customer Relationship Management (CRM) is highly popular amongst MTS ERP users.

Amongst the reasons to adopt ERP, MTS users agreed with the following statement more than MTO firms: "Linking to global activities/to support a globalisation strategy". Regarding add-ons; CRM, for example, was typically adopted for the following reason: "To maintain and develop

our relationships with customers, we need to use several means of communication". The data suggests that many of the MTS firms are involved in developing better and wider customer networks and see ERP and its CRM add-on as a means of doing this.



Amongst the MTS ERP adopters, the effectiveness of ERP for supporting five crucial decision stages was investigated. These include three critical production planning stages (i.e., Customer Enquiry Management, Design and Engineering and Order Entry) plus two relational management concepts (i.e., Customer Relationship and Supply Chain Operations).

Core ERP modules, MRP, Available-to-Promise (ATP), Capable-To-Promise (CTP), Product Configurator tools, Product Lifecycle Management, Advanced Planning and Scheduling (APS), Customer Relationship Management (CRM) and Supply Chain Management (SCM) add-ons were all considered in the analysis. Only the APS and SCM add-ons were found to be significantly effective in satisfying the decision support requirements of MTS companies while analyses of the remaining stages for MTS cases were inconclusive.

MTS companies which make intensive use of APS and CRM experienced improved production planning performance and improved customer relationships.

No other core ERP modules or add-ons were found to significantly help improve company performance for MTS companies.

In summary, as far as the conclusive results are concerned, this study suggests that MTS companies are generally satisfied with their return from the currently available ERP systems and add-ons in terms of profitability and productivity.