

Topic:
SMEs

Views on the PDM market for SMEs from Enabled Systems Ltd

Dr Doug Brady and Neil Parker of Enabled Systems Ltd think that a new approach is needed to coax SMEs into the PDM market. iCT asked them to explain...

iCT is produced by Business Advantage, a B2B research, business development and marketing consulting practice operating in the global IT, Digital and Telecommunication sectors.

Good management of intellectual property resources (IPR) in the engineering sector is vital to maintaining productivity and growth. By automating the management of product data in the engineering change process, product data management (PDM) technology has enabled those businesses that have invested in it to reap great rewards. These include increased productivity, better quality management and better control of organisational processes.

[Enabled Systems Ltd.](#) provide software solutions to enable communication between Product Data Management (PDM) systems, and offer a variety of consultancy and services on CAD and PDM related matters.

The PDM Market – A Gateway Locked to SMEs

PDM technology was initially developed by and for the larger enterprises that had the greatest need to manage product data, particularly where it was necessary to share data across projects in large-scale collaborations. This initial focus on the needs of the larger enterprises has shaped the development of the PDM market. We are now however at a point in the development of the engineering industry where the management of product data is becoming a concern to SMEs.



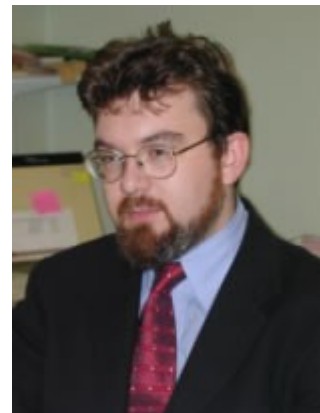
Dr Doug Brady

Naturally, a technology such as PDM that offers the potential to improve productivity and growth is attractive. However, when an SME investigates the PDM market they find that the option is not open to them. They discover that PDM products are packed with functionalities which are not relevant to them, and which force the prices way beyond their means. As a result, awareness among SMEs of the potential benefits that a PDM system can provide is low.

SMEs represent a vast proportion of European businesses. Yet this large market for PDM products remains largely unexplored. To find the reasons for this, a deeper examination of the nature of PDM products is required.

Implementation Costs – The Hidden Barrier

As PDM systems have developed over the years, vendors have added increasing functionality in order to gain a competitive edge. These extra functionalities are often focussed on enterprise-wide organisational capabilities. Examples of these include workflow management, project management and the integration of PDM technology with other information management systems such as ERP/MRP. These functionalities have advantages for large enterprises, for whom the ability to customise their information systems and harmonise them with all their business processes ranks highly.



Neil Parker

The problem with these complex PDM systems, however, is that complexity comes at a cost. The purchased software needs implementing within the enterprise. If there is a requirement to customise the software to conform to the enterprise's information systems, then this implementation will be time-consuming and costly.

The costs in a typical implementation of a complex PDM solution include direct and indirect ones. Among the direct costs we can include the need for consultancy, both prior to purchase and afterwards to advise on implementation, e.g. how to break down the enterprise's workflow processes into a form that can be represented by the PDM system. Other direct costs include training, running a pilot study and any extra IT resource requirements, such as a new database management system.

The indirect opportunity costs of a PDM implementation are often overlooked. They include the time taken by business critical staff such as engineers and designers to advise the external consultants, and to undergo training. There may be a decrease in productivity in the period immediately following the implementation of the system while staff become attuned to it.

A large enterprise has the resources to be able to invest in a PDM system, but even then their return on investment may not be visible for around 18 months.



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Why the Gates Remain Locked

By designing their products and services to meet the requirements of large enterprises, vendors and resellers have shaped the market in a way that makes it difficult to allow entry-level PDM systems to flourish. Rather than paring down their product to the core functionality, reducing both software and implementation costs, the PDM system vendors have increased the complexity of their systems, taking them further away from the reach of SMEs. Part of the reason for this is that many of the vendors also produce other information management software, such as ERP/MRP or CAD systems, which they wish to integrate into a PDM environment. In addition to this, the consultancy market created by increasing the complexity of PDM software is a lucrative one. In their sales strategies, both PDM vendors and resellers have tended to pursue the larger enterprises that are potential purchasers not only of a greater number of seats, but also of additional services.

A symbiotic relationship has evolved between the vendors and resellers on the one hand and the larger enterprise on the other. Vendors and resellers concentrate their efforts on courting larger enterprises because although the cost of sales is high, returns are also high.

Typically, a feasibility study and functional specification are produced prior to the conclusion of a sale that requires significant investment from both the vendor and the customer. Vendors will therefore concentrate on those customers who will provide the highest income from a single sale. This situation creates a real barrier to smaller enterprises utilising PDM and any other applications that require this significant up-front pre-sales analysis.

This software and services sector of the PDM market is predicted to increase rapidly over the next few years. Click here to view [CIMdata's figures](#).



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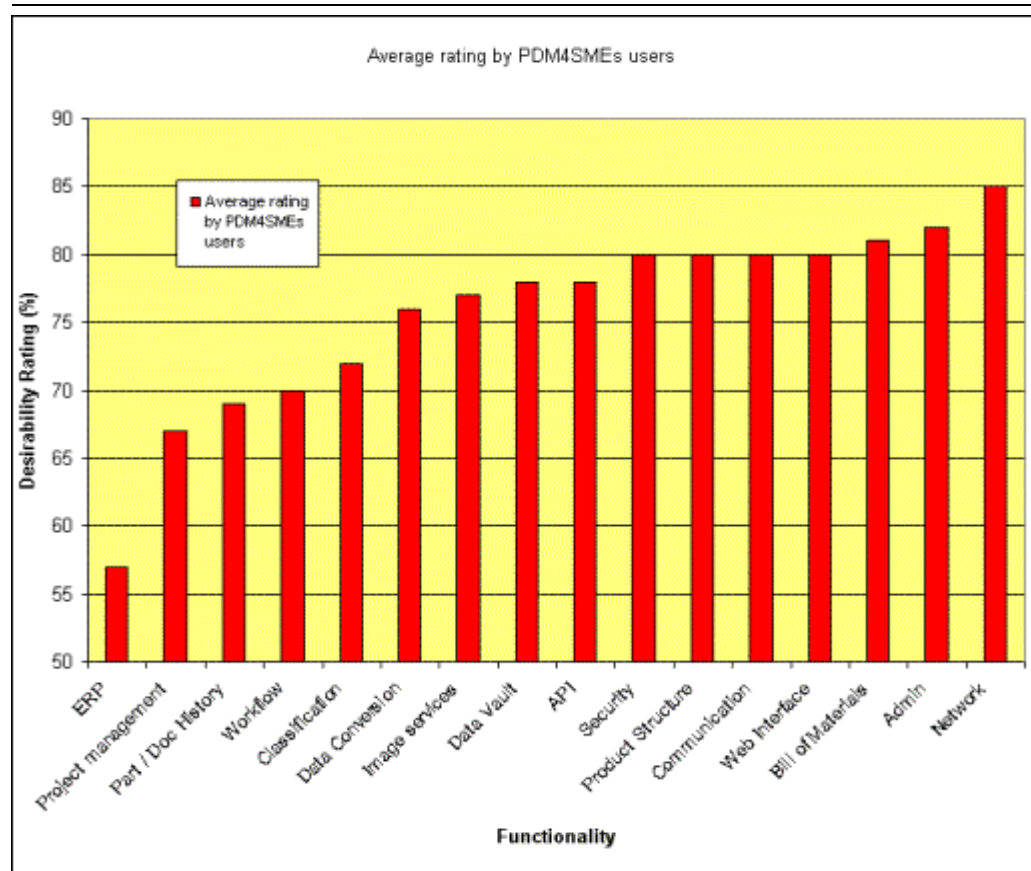
How the Gates Can Be Unlocked

It can therefore be said there is no market amongst SMEs for PDM systems. However if the situation were to change, and a low price, high volume end of the PDM market developed, some key questions arise. Would SMEs be interested? And if they were, what functions would they value?

Research conducted by the PDM4SMEs website, based on users' responses to the questionnaire in its online buyer's guide, has produced the following analysis of the preferences of SMEs for the different functionalities which commonly occur in a PDM system.

The PDM4SMEs.com website offers advice and information on PDM technologies aimed specifically at SMEs. It also hosts the PDM4SMEs.com Online Buyers Guide, which provides information on selecting and implementing PDM systems.

| PDM Functionality | Mean Rating For The Degree To Which Business Require That Functionality |
|---|---|
| Ability to integrate with a network | 85 |
| Standard administration functions | 82 |
| Bill of materials creation and editing | 81 |
| Communication facilities | 80 |
| Product structure | 80 |
| Security | 80 |
| Web interface | 80 |
| Data vault facilities – check in and check out of parts and documents | 78 |
| Programming interface with other applications such as Word or AutoCAD | 78 |
| Image services – image mark up and editing | 77 |
| Conversion between different CAD formats | 76 |
| Document or part classification management | 72 |
| Workflow management | 70 |
| The ability to view the history of a part or document | 69 |
| Project management | 67 |
| ERP/MRP integration | 57 |



[© PDM4SME.com 2001]

The figures show that those functionalities which require a great deal of consultancy to configure the PDM system to the enterprise's systems, such as workflow management, project management and ERP/MRP integration are ranked as being of lower desirability than the core PDM functions such as products structure management, and bill of materials (BOM) generation. The functionalities rated most highly were those that allow easy use and integration with the enterprise's current systems, such as easy to use administration and network compatibility.

The survey reveals that SMEs are interested in PDM systems, and that what they really require is the core of the PDM functionality - document and part management - in a form that is easier to implement. Their requirement is for a low budget, off-the-shelf PDM solution that can easily be installed and administered by a small business that may lack specialist IT personnel.



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Reducing the Cost of Consultancy

Another way in which the gateway to the PDM market can be opened up to SMEs is by reducing the costs of the consultancy and decision making process. Off-the-shelf software takes the accumulated experience of the needs of many different enterprises and provides solutions in one package. This same process can be applied to consultancy. Experienced consultants know what questions to ask of an enterprise to determine its needs. Using the right technological methodology, this questioning process can be automated, vastly reducing the costs of the consultancy. Once the consultant's time has been used in programming the automated system, this expensive resource can be re-used again and again at little cost. While an automated process may not adapt as subtly to the users' circumstances as real human interaction, it makes that expertise available to those who, for reasons of cost, would otherwise not be able to access it. A good example of this off-the-shelf approach to consultancy is the PDM4SMEs.com website, which is powered by the innovative technology of Smart-report.com.

Smart-Report.com – A Key to The Gate

Smart-report.com has been created as an attempt to reduce the cost of pre-sales analysis. It has three objectives:

1. Capture the business logic which drives the analysis
2. Write reports automatically based on the business logic
3. Provide a web interface for the information gathering.

The philosophy of the smart-report.com solution has two elements:

1. The knowledge elicitation process takes the business logic that represents the expert knowledge and methodology of specialist consultants and converts it into an Excel spreadsheet that embodies the business process. In the case of the PDM4SME.com website, the logic consists of a series of questions regarding user requirements for a PDM system, which are then mapped into PDM functional elements (such data vault, classification, workflow etc.).

From previous implementation experience we were also able to estimate the cost of each element in terms of the costs of both software and implementation.

2. This technology is implemented by a web server, which serves the questions. The questions are displayed on a web page form onto which the user can record their response. Once submitted, a server side service application collects the responses and processes the results through the business logic spreadsheet. A report is then written from the spreadsheet in Microsoft Word format. The report is then automatically e-mailed to the user.



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Applications of the smart-report.com philosophy include its employment in producing the PDM4SME.com buyer's guide. Other companies are using smart-report.com to generate dynamic reports for customers. Smart-report.com allows a company to identify the needs of its clients and promptly deliver personalised recommendations of their client's requirements and all the ramifications of their selection.

[Smart-report.com](#) is a partnership between [BrainSells](#) and [Enabled Systems Ltd](#). BrainSells provides the business consultancy to help companies identify and express the business logic for their processes. Enabled Systems provides the technology that creates and delivers the customised reports.

Conclusion

The focus in the PDM market on large enterprises has excluded SMEs who have neither the time nor the resources for the lengthy consultation involved in the decision-making and implementation process. SMEs are interested in PDM systems, but their requirement is for a low budget, off-the-shelf solution that can easily be installed and administered. The SME market for PDM solutions can also be opened up by automating the consultancy process in order to reduce these prohibitive costs.

Many thanks to Doug Brady and Neil Parker for producing this article for iCT.

If you would like to know more about the needs, attitudes and preferences of SMEs in your market, our [Market Research Services](#) can provide the solution.

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