

ASK THE SMU PROF



SPREAD THE WORD

Q: How should SMEs exploit the use of spreadsheets to improve operational efficiency and make better decisions?

A: The natural, approachable tabular format and rich mathematical functions of spreadsheets have resulted in it being one of the most widely used

computer tools in the workplace. Today, you will find abundant use of spreadsheets (eg Microsoft Excel) for accounting purposes in nearly every organisation. However, most spreadsheet users fail to recognise the untapped potential of spreadsheets for other applications beyond crunching numbers.

Many SMEs lack business application tools that keep track of their daily business transactions. Most start with a paper-based system. However, as the volume of transactions increases, the paper-based system struggles to keep up. In addition, there are costs incurred for the storage of these documents. Such practical problems result in SMEs spending more money, time and manpower than they originally envisaged.

The tabulated design of spreadsheets makes it an ideal platform for storing, organising, sorting and filtering information. In other words, spreadsheets can operate like a database. Since the release of the 2007 version of Excel, each worksheet can sort up to more than one million rows of data across 16,000 columns, which is sufficient for many SMEs applications.

Excel has a built-in Visual Basic for Applications (VBA) programming language that greatly enhances its application beyond the normal usage of spreadsheets, but most users do not find the need nor know how to venture into writing programming codes so as to exploit the use of spreadsheets.

Experienced Excel users can learn how to use the macro function to automate tasks that are frequently performed by recording the steps taken to execute a series of commands. With some effort, small-scale applications for inventory management, order

management and distribution management can be constructed.

Demand forecasting is an area where SMEs can harness the power of spreadsheets. Simple time series forecasting methods, utilising regression or smoothing algorithm (eg linear function, moving average or exponential smoothing) to establish demand trends and forecast future demands, can be easily accomplished by using spreadsheets.

More complex forecasting algorithms that can identify cyclical patterns and seasonality effects can be implemented to explore "what-if" scenarios, albeit fundamental statistical knowledge is required. With some training, managers will be able to build relatively complex models that could offer deeper insight into business-related issues and assist them in decision-making without the need to learn a programming language.

Therefore, using spreadsheets would be a cost-effective way of helping SMEs better manage their business operations, strategic planning and decision-making processes.

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