

Thriving in challenging market conditions

COMPUTERISATION and automation have helped businesses in many ways – achieving leaner operations, increasing productivity, automating repetitive parts of the operations and increasing the efficiency of administrative and financial functions.

These elements have become the foundation for survival in today's business environment.

Unfortunately, market dynamics are becoming more complex. Market protection is a thing of the past and home ground advantage is rapidly diminishing.

Market globalisation is blurring the border that segregates domestic markets from international markets.

The rapid advancement of online channels has also enabled individual consumers to deal directly with manufacturers across the globe, increasingly rendering traditional market borders irrelevant.

These factors have brought drastic changes to the market landscape such as global competition, rapid market movements and a shorter shelf-life for products and services.

The pressure of competition is certainly mounting, especially for small- and medium-scale enterprises (SMEs).

With limited resources, it is difficult for a business to overcome all its challenges. Not only will it be costly, it may also disrupt day-to-day business operations.

In Malaysia's case, these challenges can affect the national economy as SMEs are the backbone of the economy.

Statistics from SME Corporation in 2012 showed that SMEs contributed 32.5% to the gross domestic product (GDP) and provided 57.4% of employment, with growing numbers.

Under the SME Master Plan 2012-2020, the contribution of SMEs to the GDP is expected to exceed 40% in 2020.

In a highly competitive and fast-changing environment, time and accuracy are of essence. Business owners and managers need to access information from



Amiruddin Jaafar Sidek is Custommedia's chief operating officer and the architect of IoT-middleware.

all parts of the operation quickly and accurately to make informed decisions.

It is no longer good enough to just have various parts of the business computerised or automated. These systems must work in tandem and align to business objectives and strategies.

The advent of Internet of Things (IoT) technologies has opened up new and more effective ways of interconnecting these disparate systems.

The connectivity can also extend beyond computerised devices and through the use of the wireless communication technologies such as radio-frequency identification, even stock items can be part of the network.

Malaysia software engineering company Custommedia Sdn Bhd, for example, has developed IoT-middleware to enable the implementation of IoT.

Through IoT-middleware, the company is offering a platform for effective interconnection of disparate systems, applications, equipment, devices and services.

Instead of integration, the IoT-middleware technology employs an inter-operability approach where individual systems or applications can run as usual without any changes required.

Basically, the technology of



IoT-middleware promotion at Japan's TRONShow last year.

the IoT-middleware enables communication between systems.

The IoT-middleware can also actuate pre-set actions based on business rules.

Through this set-up, the management will be able to have a full view of the state of the business through a dashboard at any point of time, which will help in making informed business decisions within a timely manner.

Another big advantage for users is that they can prolong most of their existing IT investments and at the same time, have greater flexibility in making future technology investments.

They can also be assured that the IoT-middleware will help the assimilation of any new technology in the setup.

Software platform for smart connectivity

IoT-middleware serves as an enabler for smart connectivity and inter-operability between IT systems, business applications, devices, sensors and services, all of which can be internal or external to

the organisation.

Through IoT-middleware, users are able to enhance their current automated business processes by extending functionality through interconnectivity with various objects, including those with and without their own computerised processing capabilities.

IoT-middleware also allows users to retain most of their existing systems and applications.

Over time, this reduces the total cost of ownership and increases return on investments.

"This machine-to-machine (M2M) inter-operability can be implemented over any connection type, including local area network or wide area network, Internet and cloud computing infrastructure.

In addition, the IoT-middleware is also able to activate relevant instructions or commands based on pre-set business rules and triggers.

"Through such connectivity and automated actions, business managers and owners will have a real-time view of their operations and daily activities, which would facilitate informed decision-making," says Amiruddin Jaafar Sidek, the chief operating officer of Custommedia.

All these can be done without the need to replace or re-programme most of the existing systems and applications.

Businesses will be able to streamline their processes, thus enhancing operational efficiency and productivity, says Amiruddin, who is also the architect of IoT-middleware.

IoT-middleware is built on a new technology developed locally by Custommedia.

As reflected by its name, IoT-middleware has been designed as an enabler for implementation of the Internet of Things – the phrase coined to encapsulate the forthcoming trend of our highly connected world.

Stepping into the IoT frontier

Custommedia Sdn Bhd is well established as Malaysia's leading software engineering powerhouse as seen with their numerous successes in domestic and overseas projects over a period of more than two decades.

Backed by the breadth of accumulated expertise and experience in developing and delivering industry-leading software engineering solutions using multiple tools, system platforms and methodologies, the company has taken a bold step to expand into the uncharted territories of IoT.

The company got involved in IoT in 2010 as it embarked on a research and development project to develop a technology that would enable the implementation of IoT.

This was a pioneering effort during that time as not many companies were pursuing such technologies.

The research and development project received a grant at the Technofund from the Ministry of Science, Technology and Innovation.

The company became recognised internationally and was subsequently invited to be an international partner in the Casagras 2 project, an IoT initiative backed by the European Union. There were only eight International Partners in Casagras 2.

Established in 1991, Custommedia is ISO 9001-certified and was among the first companies to obtain the MSC Malaysia status endorsement.

The company offers a wide range of services, including business solution development, system engineering services, business process consulting and improvement, software testing consultancy, and independent verification and validation services.

■ For more information, visit www.custommedia.my



The IoT-middleware was used to power a conference registration and delegate tracking application for an event organised by the Malaysian Software Testing Board held last year.