

FACTFILE: GCE PROFESSIONAL BUSINESS SERVICES

UNIT A2 1: ROLE OF TECHNOLOGY IN BUSINESS



Learning Outcomes

Student should be able to:

Demonstrate knowledge and understanding of how businesses use technology in the following areas:

- communications;
- managing people;
- financial management; and
- business operations;



Introduction

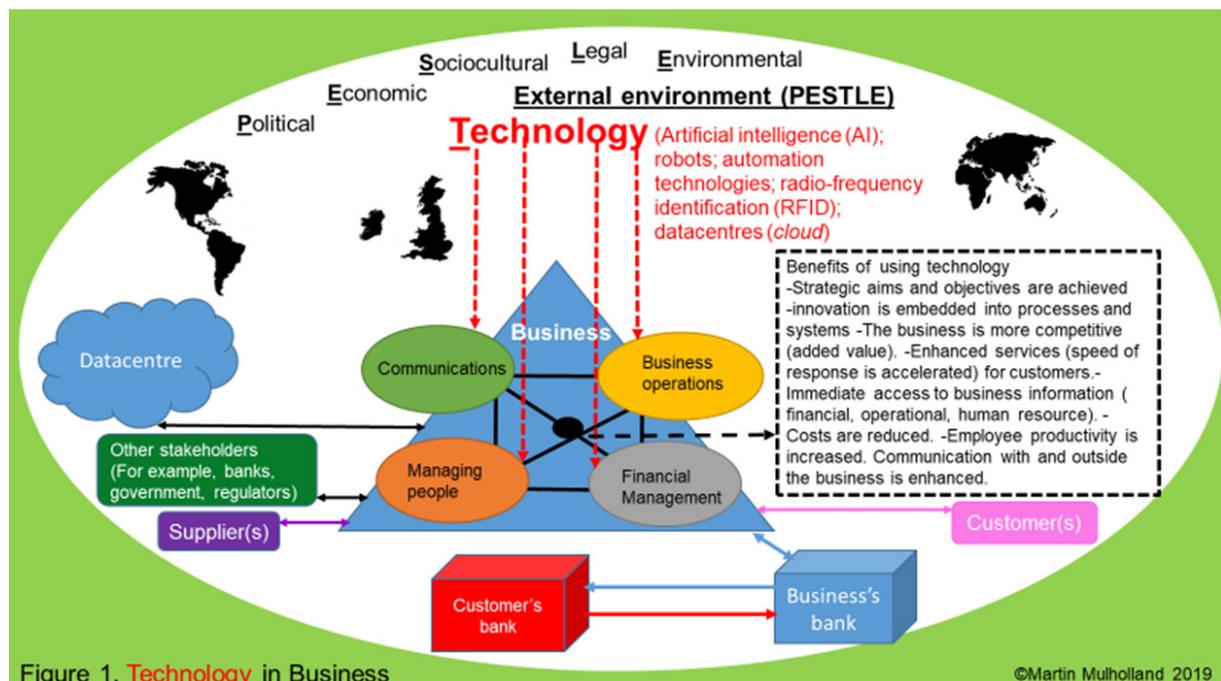
Technological developments can present threats and opportunities (Allstate, 2018; Deloitte, 2016) for businesses. The areas of a business that can be affected include: communications (Caicco, 2015; Rainer et al., 2015); managing people (Bain & Company, 2018; Hislop et al., 2017); financial Management (CGMA, 2019; EWC Finance Inc, 2019; Pratap, 2018; Rocha, 2018); and business operations (McKinsey, 2018; Netsuite, 2019). While specific areas are affected by technology, occasionally a 'knock-on' effect may cause more than one area to be affected proving how interrelated and interdependent technology used by a business can be. Business managers must consider the possibility, for example, that if technology is employed to manage the operations of the business, this may have a knock-on-effect on how people are managed and how financial management processes need to be adjusted. The use of technology in the business can result in benefits to the business including:

- being able to achieve its strategic aims and objectives
- having a competitive advantage in the market place
- offering the customer added-value
- providing new products and services
- responding faster to customer demands
- increasing productivity levels
- reducing costs and
- generating additional income.

Comin and Mestieri (2010,3) define technology as 'a group of production methods used to make an intermediate good or provide a service'. Technological developments (Accenture, 2019; Baller et al., 2016; Burke, 2018; Deloitte, 2011; McKinsey & Company, 2017) in artificial intelligence (AI), robots, automation technologies, radio frequency identification (RFID), and

data centres (cloud), all fit this definition and businesses certainly use these technologies to create goods and provide services. Figure 1 illustrates how communication, managing people, financial management and business operations are contained within the business and how they also interact with the external environment. The emphasis of this model is the link between technology and these four areas. Note: the technology includes AI, robots, automation technologies and RFID. The independent,

interrelated and interdependent aspects of the four areas are depicted by the links running from one area to another in the business. The two-way interaction between the business, suppliers, customers, the datacentre and other stakeholders indicates that these stakeholders may also be interacting with the four areas. The benefits of using technology include: immediate access to business information; enhanced communication; and the embedding of innovation.



Each business will employ technology to enhance their communication, management of people, financial management and business operations. For example, British Airways, 2019; EasyJet, 2019; Flybe, 2019; Ryanair, 2019 all decided to use technology to enhance business operations by enabling customers to book seats via the internet (online). These airlines were then able to deal with a higher volume of bookings and save money by avoiding recruiting, training and new employee costs. The online technology enables the customer to choose various options including: destinations, day and time of flight, priority boarding, luggage required, insurance, hire car, and hotels. At each 'touch point' the customer can see the cost of their options.

Business operations (BO) can use this online technology to substitute booking staff with technology. The benefits to BO are:

- customers have access to booking flights 24/7/365 from anywhere in the world.

- the management of airline logistics (airport slots booked, refuelling, cleaning plane, food and beverages) is enhanced as all flight bookings can be analysed by operations staff to ensure the right support and resources are available for each flight.
- reduced staff costs as customers input their details on-line and complete all transactions.

Financial management of the airline is also improved as online bookings result in monies being securely transferred from the customer's bank to the airlines bank. Foreign currency transactions i.e. flights booked using different currencies are converted (exchange rates) into a common currency. Airlines' cash flows and cash balances are enhanced through these transactions which are in advance of service delivery. Airlines may also be in a position to earn interest on income received from bookings that are well in advance of the customer's flight.

From a managing people perspective, the airline is able to identify the type and quantity of staff required for each flight. During peak periods the airline can calculate how many additional staff may be required and which countries they may need to be recruited from.

This online booking system is an effective mechanism which enhances communication between the airline and the customer. The customer receives real time information and can ascertain information about flights and additional services being offered. The customer is also able to avail of a language translation option which allows them to view text in their own language, adding value to the service(s) being offered by the airline.

This technology reduces the airline's cost of having to recruit and deploy employees who speak more than one language related to the international routes covered by the airline.

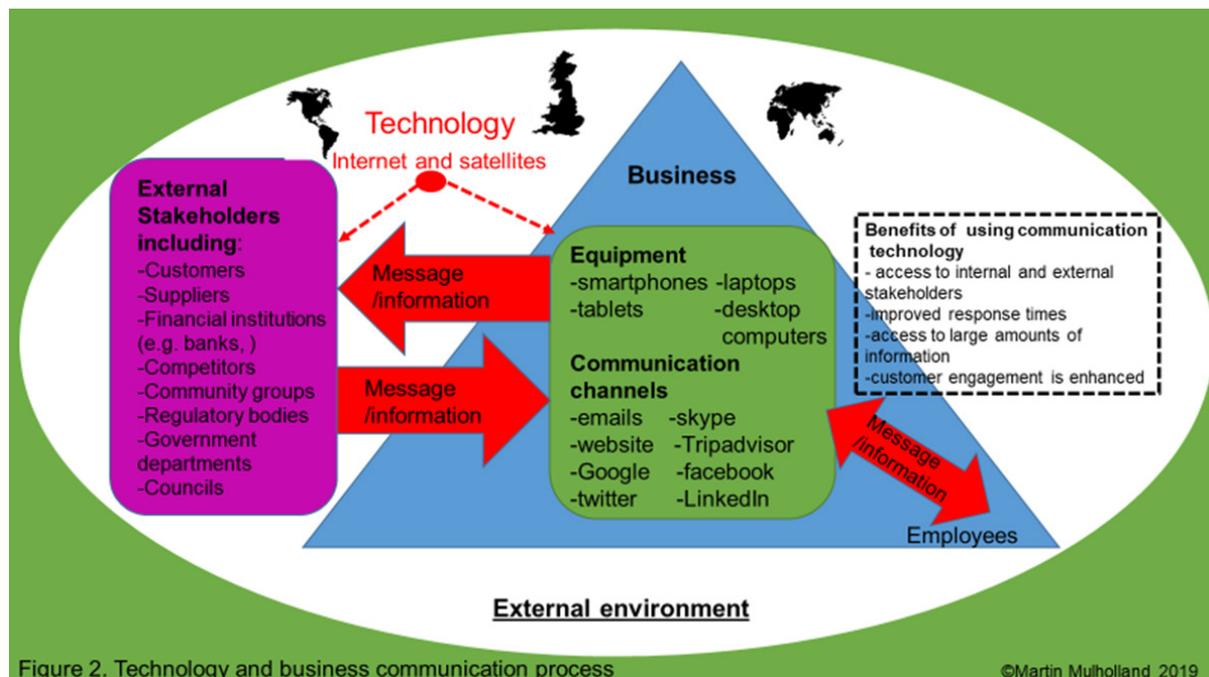
Communications

Businesses use technology to create multiple channels of communication to enable employees to send and receive messages to each other and external stakeholders e.g. customers, suppliers, regulatory bodies, and government bodies. The channels and scale of these communications will depend on the type of business and the target

audience. The technology gives the business immediate access to employees and their external audience and communications can be sent 24/07/365. For example, employees can have meetings with customers, suppliers or peers using skype or video conferencing. These 'virtual meetings' allow large amounts of information (text, graphics) to be shared and save on travel and venue costs.

Figure 2 illustrates how a business can utilise communication technology to communicate with internal and external stakeholders. They can use smartphones, laptops, tablets and desktop computers to send emails, contact stakeholders via skype, and interact with customers through their website and other social media platforms. The benefits of this communication technology include: immediate access to internal and external stakeholders; improved response times; access to large amounts of information; and enhanced customer engagement and all forms of social media offer a cost-effective means to contact large numbers of people.

The business has multiple communication channels where real time requests for information, advice, services and products can be received from stakeholders and the business has the capability to respond promptly to address stakeholder requests.



The business may undertake market research and access large amounts via Google. This information can be stored internally, analysed and ensure an informed decision is taken.

Customer engagement can be enhanced through a well-designed website that provides the customer with clearly signposted information points, content and appealing graphics. The use of social media also offers the business access to a global audience limited only by the number of followers the business is able to generate. Businesses such as airlines, rail networks and bus companies may provide travel apps and screens at departure and arrival points to keep the customer updated on their travel arrangements.

Chatbots offer the business a cost-effective mechanism to address customer requests on-line 24/07/365. Chatbots can answer a number of people at the same time unlike a human call centre which can only answer one person at a time. Additionally, the chatbot never tires of responding to the same questions. For example, Allstate (Adranio, 2019) and Prudential Singapore (Lin, 2018) use chatbots to offer real time responses to questions. At Prudential Singapore the chatbot service reduced the demand placed upon their Financial Consultants to answer routine questions. Call query volumes to Financial Consultants dropped by 30% in six months allowing these Consultants to focus on higher-value work.

Managing people

Businesses can use technology in various ways to manage people. The size and complexity of the business and the goods and services it creates will influence how technology is utilised. Apart from communicating with employees, business can also use technology to aid recruitment and selection of employees (Bain & Company, 2018); develop employees (CIPD, 2017); ensure compliancy with external regulations Bain & Company (2018); manage virtual teams (CIPD, 2017) and facilitate new ways of working (Chui et al., 2015).

Businesses can use technology to recruit and select employees through on-line recruitment portals. For example, businesses such as Tesco can advertise jobs (TESCO, 2019a) and provide a search facility where applicants can type in post codes to view available jobs in a nearby store. This technology reduces the need to employ people to answer vacancy queries and also allows Human Resource staff to focus on higher value work giving a better return to the business. This technology reduces the number of repetitive activities that staff would originally have undertaken and mitigates boredom within a human resource job.

Businesses such as restaurants, transport companies, and retail organisations Kushmaro (2016) use apps to help with the onboarding and learning and development needs of employees. As employees are constantly on the move these learning and development apps assist them in accessing learning and development training materials and processes via their mobile phone or laptop and engage in digital learning (CIPD, 2019). The content on these applications can be updated when required to ensure that employees are informed of work-related developments and practices. These applications help to ensure that employees are compliant with external regulations such as food safety, health and safety, and consumer rights. The benefits of this technology are:

- employees can access the applications to learn and be assessed at any time that suits.
- employees confirm they have completed a learning activity and the business retains records of the employees' learning. Essential where employees have to pass mandatory training to ensure that the business is compliant with external regulations such as employee safety.
- it is cost effective as employees engage in their learning at a time and place that suits them and the business does not have to book a venue or employ a trainer to deliver the training.

Businesses can use technology to manage virtual teams. Employees in different locations can be kept informed by managers via emails, telephone and conference calls, skype and video conferences. These forms of technology provide the employee with up to date information and keep them engaged with their work and colleagues. The benefits of this technology are:

- employee/business can contact each other immediately;
- travel costs for the manager and employees are reduced;
- the potential of the employee becoming isolated is reduced;

Technology can facilitate new ways of working to improve employee productivity and wellbeing e.g. using robotics in manufacturing has reduced the need for the employee to engage in heavy lifting. This allows the employee to focus on more complex activities with a higher add-on-value.

Financial management

Businesses employ a variety of technologies to assist with financial management activities. These activities will be dependent on the context and nature of the business. This technology is used

to: complete internal accounting requirements; analyse financial information; facilitate customer transactions; assist with pricing products / services; pay employees.

SAGETM accounting software can be employed within financial management to complete internal accounting tasks and requirements. This software enables the business to: manage income and expenses; invoice customers; produce annual, monthly and quarterly financial reports; generate cash flow statements, balance sheets, and income statements (Rainer et al., 2015); and automatically generate and securely submit VAT returns to HRMC.

The benefits of employing SAGE include:

- the streamlining of record keeping;
- the production of financial reports to aid forecasting;
- having immediate access to financial information which can aid decision-making.

Software can also be used to analyse the financial statements of the business. If financial data (Statement of Financial Position and Income Statement) over at least two years is entered into the software system, an assessment of the business' financial performance can be processed providing a report with a review of performance with accounting ratios, charts and graphs.

Technology can enable customers to make secure online payments for goods and services offered by the business. The online system accepts debit and credit cards and has fraud protection embedded in the software to ensure payments are secure. The customer's payment is transferred to the business' bank account in seconds.

The business can use Excel spreadsheets to provide other departments with financial information e.g. based on manufacturing costs, the finance department can run 'what if' scenarios to decide the most appropriate price to set for a product. This pricing information could then be conveyed to the marketing department.

Payroll software can ensure employees are paid accurately and on the stated date. The benefits of payroll software include:

- payroll calculations and deductions are completed more quickly;
- accurate payslips are produced;
- bonuses, holiday pay, and expenses are easily calculated;
- a reduced burden in dealing with compliance and tax legislation;

The overall benefits of technology for financial management activities are:

- centralisation of information
- more efficient decision-making
- employees in financial management can focus on higher added-value work
- more informed communications regarding financial information
- increased employee within the financial management department

Business operations

Organisations in every region of the world are automating at least some business processes. Advances in all types of technology are enabling businesses to enhance processes and workplace automation is expected to provide a significant opportunity for improvements in performance and efficiency

The type of technology that can be utilised by business operations will, to a large extent, be dependent on the nature of the business. Transportation, manufacturing, education, health and hospitality businesses will procure and integrate technology that fits with their business strategy and enhances their operational activities. The purchase and integration of software applications can affect operational activities including order management, invoicing, cash collection, customer support, and distribution. This integration enables a business to operate more efficiently and mitigate the need to hire additional employees. Automation of integrated systems can also allow more accurate information to be accessed and analysed resulting in better decisions. Additionally, automation may allow staff to be assigned to higher-value activities. Furthermore, a business that migrates to the cloud will benefit from having integrated software processes meaning they do not have to purchase, implement and run multiple information technology systems. This can lead to a reduction in operational costs e.g. administration, maintenance, manufacturing activities and distribution.

Manufacturing businesses employ computer aided manufacturing (CAM), robots, and radio frequency identification (RFID) to improve productivity, reduce costs and enhance speed of reaction to changing business requirements. Service businesses avail of artificial intelligence, for example, chatbots, to address customer queries.

CAM entails the employment of computerised systems to control the operations in a manufacturing business. CAM is used after Computer-aided Design (CAD). These systems

help the business in operational areas such as management, planning, storage and transportation.

The benefits of CAD-CAM in manufacturing are:

- machine capabilities are enhanced;
- improved communication process between the customer and manufacturing;
- reduced errors; increased productivity;
- reduced material wastage.

Robots can perform a number of functions in a manufacturing environment including heavy lifting, cutting, welding, and spray painting. Collaborative robots are able to work in conjunction with human workers. The benefits of employing robots are:

- reduced production costs;
- decreased cycle times;
- enhanced quality;

- effective floor space utilisation;
- decreased material wastage;
- improved safety.

RFID “is the technology that allows data to be transmitted via radio waves...with the purpose of automatically identifying and differentiating physical objects” (European automation, 2014, p.2). The benefits of RFID encompass: the automation of data collection; the reduction in human errors; readings can be undertaken with no line-of sight; simultaneous reading of multiple RFID tags resulting in efficiency savings; RFID tags being read and linked to the business’s database; assets and employees being tracked which enhances the business’ logistics.

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