Norfolk County Council

Increasing productivity in Norfolk businesses

The impact of digital technology adoption on business productivity and how to increase this in Norfolk

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TECH EAST

Executive Summary

It is widely acknowledged and well evidenced in the UK that further action needs to be taken to support businesses to become more productive[1]. Productivity at a national level is declining,[2] however it is broadly recognised that increasing the adoption and embedding of digital technology within businesses is a key driver to realising productivity growth.[3]

National research highlights that digital transformation can make every business in every sector more productive, wherever they are located.[4] The adoption of a range of basic technologies is associated with a productivity improvement of between 7% and 18% depending on the technology. The use of two or more technologies is associated with productivity gains of up to 25%.[5] By increasing the digital capability of businesses nationwide, there is the potential to unlock £84.5bn in turnover[6].

In Norfolk, there is a significant lack in productivity growth with only an 0.04%.[7] annual increase since 2009. Whilst we have a thriving and growing Digital Creative and ICT sector, the uptake of digital technology by the majority of companies based in other sectors has been lacking and as a result there is a growing productivity gap. Furthermore, there is a need for more targeted local business support programmes to resolve this issue (see Section 9.)

There is a clear opportunity in Norfolk to increase productivity through the delivery of specific, targeted interventions that encourage the adoption of digital technology. This report brings together national and local research to show where most impact can be had and builds an evidence base for action going forward. It also provides a clear line as to how the provision of such business support links to both UK Government, Norfolk County Council and New Anglia LEP strategy specifically in the priority areas of sector development and business support.

Key recommendations:

1. Deliver sector specific events in partnership with Tech East, to raise awareness of different types of digital technology (DT) available and its benefits.
2. Deliver follow up events to encourage businesses along the business change cycle in order to adopt and embed new DT products into their business
3. Digital Enterprise East: To design, develop and oversee the delivery of a comprehensive programme of targeted business support based on findings from this report and projects in development by local partners

[1] Gearing up for digital transformation (2019) Kings College London
[2] https://www.theguardian.com/business/2019/oct/08/uk-productivity-brexit-boris-johnson-labour
[3] Business productivity review (2019) HM Government
[4] https://www.gov.uk/government/publications/uk-digital-strategy/uk-digital-strategy
[5] Business productivity review (2019) HM Government
[6] UK Business and Charity Digital Index 2018, Lloyds Bank
[7] New Anglia Economic Strategy Brochure

1. Introduction

Together, Tech East and the Business Development team at Norfolk County Council (NCC) have identified a need to support businesses in Norfolk to become more productive, specifically through the adoption of digital technology.

To evidence this need, Tech East has conducted a 'digital immersion programme scoping' exercise which reviews national research on digital transformation and adoption within businesses and provides recommendations for local interventions. Specifically, Tech East has undertaken interviews with Visit East Anglia and businesses within the Tourism sector to build local case studies which have informed their work and this report.

In support of this work, the Business Development Team at NCC has conducted further analysis of national research and policy and spoken to a range of cross sector local businesses first hand. These businesses are those that have either adopted digital technology to deliver productivity improvement or who are enabling new innovative products, services and solutions.

The result of this study and the learning gained is outlined in the following report which aims to provide a solid evidence base that can be used to accelerate the productivity of Norfolk businesses.

Specifically, Tech East will use this study to inform its work going forward in 2020. It is also recognised that there is a potential role for other partners, including the County Council and New Anglia LEP, in taking forward some of these recommendations.

2. Definitions

Digital technology (DT), is wide ranging and covers a myriad of different tools, systems and devices, all of which generate, store or process data[8]. Examples range from, but are not limited to, apps, social media, client relationship management (CRM), cloud services, to Internet of Things (IoT), Artificial Intelligence (AI), Virtual Reality (VR), Machine Learning (ML) big data analytics, and robotics.

Research conducted by Kings College London (KCL) identifies that some of these technologies are advanced and therefore play more of a 'pivotal role in improving productivity growth'. Such technologies are identified as 'advanced digital technologies (ADT's)[9].

Digital technology transfer, digital adoption and digital immersion are also terms used in this report. These terms are used interchangeably and refer to the process undertaken when a business begins to use and then embeds one (or more) DT's into its daily operations.

Digital transformation refers to the changes a business undergoes to integrate DT into all areas of a business, fundamentally changing how that business operates. Whilst the adoption of one or two new DT's will have an impact on a business, it is likely to be lesser than the impact created by digital transformation.

3. The value of DT to the UK economy

Productivity at a national level is declining with data from the Office for National Statistics (ONS) showing that labour productivity, (a measure of economic output per hour of work) decreased by 0.5% in the first quarter of 2019 compared with the same period a year ago, following two

[8] https://www.education.vic.gov.au/school/teachers/teachingresources/digital/Pages/teach.aspx
[9] Gearing up for digital transformation (2019) Kings College London

consecutive periods of zero growth[10]. Additionally, the ONS stated that 'productivity since the downturn in 2008 has been growing more slowly than during the long period prior to the downturn'[11].

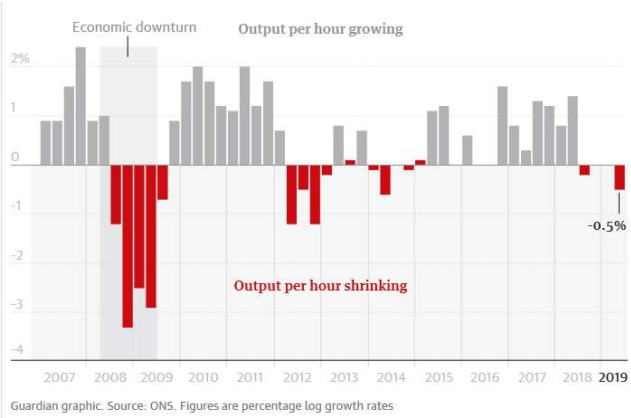


Figure 1 – UK productivity growth

Whilst various reasons are attributed to this slow productivity growth such as the uncertainty of Brexit, it has become widely known as the 'productivity puzzle' due to the lack of any significant growth after the economic downturn in 2008. As a result, UK Government is designing policy including the UK's Industrial Strategy to tackle this with some of the main solutions centred on the impact that DT adoption has on business productivity.

The UK Digital Strategy 2017 identifies that 'digital transformation can make every business in every sector more productive, wherever they are located'[12]. The Government's Industrial Strategy White Paper goes on to say that 'DTs have an important role to play in boosting productivity growth.[13]

HM Governments' Business Productivity Review highlights that the adoption of a range of basic technologies is associated with a productivity improvement of between 7% and 18% depending on the technology. The use of two or more technologies is associated with productivity gains of up to 25%.[14]

Indeed, this is a common view shared across the board by academics, government and businesses alike; that is for businesses to remain competitive, productive, to maximise their potential and to achieve higher turnover, DT must be embraced.

4. The value of DT to the Norfolk economy

Clearly, by increasing the rate of DT adoption there is a major opportunity for UK plc, and indeed Norfolk is part of this picture. However, to demonstrate the case for intervention here it is necessary to clearly define the ambitions for Norfolk for the next 6 years.

The 'Together for Norfolk', 2019 plan, developed by Norfolk County Council, identifies 'economic growth' as one of three main aims for the County up until 2025 with a key outcome being that 'more

[10] https://www.theguardian.com/business/2019/oct/08/uk-productivity-brexit-boris-johnson-labour
[11] https://www.bbc.co.uk/news/business-49971853
[12] UK Digital Strategy, 2017, HM Government
[13] Industrial Strategy; building a Britain fit for the future
[14] Business productivity review (2019) HM Government

businesses start, grow and invest in Norfolk.[15] Whilst this is a broad ambition the strategy recognises that 'supporting the growth of key business sectors and the development of business support programmes with the New Anglia LEP'[16] is integral to achieving this. Good digital connectivity is also highlighted as a key driver for growth along with taking advantage of the opportunities that DT brings by 'being innovative and deploying new technologies.'[17]

Additionally, The Norfolk and Suffolk Economic Strategy, 2017, led by New Anglia LEP, and developed by a range of public and private stakeholders including local authorities, identifies the priorities for the local economy going forward. It recognises the importance of new technologies, techniques and collaborations across sectors in driving growth, and amongst its ambitions states that it wants Norfolk and Suffolk to be a 'high performing productive economy'.[18]

Contrary to this however, is that the average annual improvement in productivity since 2009 is almost static at 0.04%, compared with 2.2% from the previous 20 years, mirroring the national picture of stagnant productivity growth. The Economic Strategy Evidence Report identifies that if the average Norfolk and Suffolk worker had followed their expected trend rate of productivity growth, GVA would be almost 19% higher than what it is now, equivalent to an additional £6.7 bn to the economy. [19]

It is also important to note the strategic direction for the region identified within the Local Industrial Strategy. Whilst this is yet to be finalised by Government, it outlines a key ambition as being to have a 'globally recognised, technology driven…economy' and highlights the use of technology as a major factor in problem solving some of the economy's greatest challenges. It also highlights the importance of the Digital Creative ICT sector in helping to increase economic growth.[20]

In summary, local and regional strategy identifies improving productivity as a key driver for economic growth and the clear role that DT plays within this.

5. Review of national research

This section provides an overview of the key findings from national research regarding the adoption of DT.

The Lloyds Bank Business and Charity Digital Index pinpoints the potential monetary gain to UK plc if more businesses were to adopt digital technology in the UK. By increasing the digital capability, that is the quantity and level of DT used, of low scoring companies to more frequent usage of DT and a greater embedded digital culture, there is the potential to unlock £84.5bn in turnover[21]. This is further explained by Figure 1 which is a segmentation model developed by Lloyds Bank showing an increasing scale of digital capabilities. By moving businesses along this scale and increasing usage of different types of DT and skill level, further growth can be unlocked.[22]

[15] Together for Norfolk (2019) Norfolk County Council
[16] ibid
[17] Together for Norfolk (2019) Norfolk County Council
[18] The Norfolk and Suffolk Economic Strategy, 2017
[19] Economic Strategy Evidence Report, New Anglia Local Enterprise Partnership
[20] Draft Norfolk and Suffolk Local Industrial Strategy
[21] UK Business and Charity Digital Index 2018, Lloyds Bank
[22] Ibid

Figure 1. **Digital capability segment definitions for organisations**

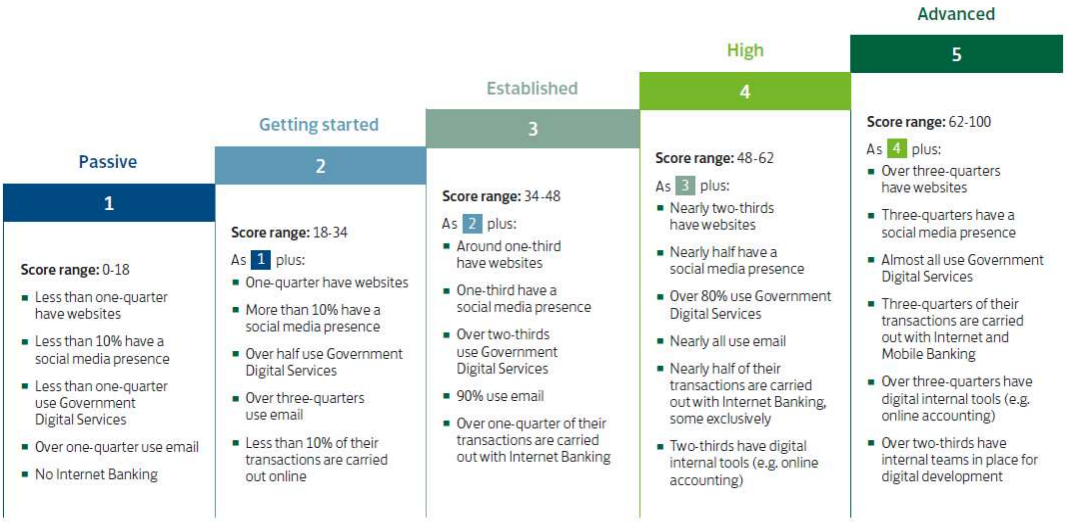


Figure 2 Digital capability segment definitions, Lloyds Bank Business Digital Index

The Index also highlights that whilst, compared with 2014, there are now 50% fewer SME's in the group with lowest digital capability, there are still 655,000 SME's in this category. Specifically, this research recommends that there should be a focus on targeting sole traders as 41% of these have low digital capability and this is where most impact could be had. If these sole traders were to develop high digital capability, they could each generate up to an extra £24k turnover per year.

It also identifies a specific monetary return on investment for those businesses using DT. Small businesses who use cloud based IT systems, online accounting software and digital training tools have an average £262k higher annual turnover than those using none. Such businesses are also significantly more likely to have leaders with clear digital strategies. The report goes on to identify 5 distinct company behaviours that help to ensure businesses thrive through the use of DT:

Small business behaviours that help to increase productivity:

1. Use data to make decisions on how to improve their online presence
2. Use Cloud based IT systems
3. Allow customers to view products and services on their website
4. Plan to grow their marketing capabilities
5. Use or intend to use 'smart' devices in the next two years.

Some of the main benefits arising from the use of such DT, identified by small businesses within the report, include data driven marketing and attracting more customers. Others include increased feedback and interaction with customers, saving time, cost efficiencies and being able to do business on the move.

The Index, published by Lloyds Bank, 2018, is a significant piece of research in understanding the digital capabilities of UK businesses. First published in 2014, this annual report uses transactional data as well as qualitative customer data to benchmark the ability of businesses to use digital technology within their operations. The report is widely used for example by national and local governments to inform policy, peers and businesses themselves for strategic purposes.

Findings from other research identifies that there is a significant gap in knowledge and

understanding amongst businesses of the opportunities available to them. It recommends that industry and government work together to make the market simpler to navigate and provide greater support to organisations.[23]

Alongside this, and a crucial component of increasing DT adoption is the collaboration between digital service or product providers with companies adopting the DT. There is a need for products to be developed that ensures ongoing support for the client, as well as products that are designed to be accessible. Businesses need to be engaged in a way that is relevant to them so that they are encouraged to take that first step on the digital transformation journey.

6. The role of the Digital Creative and ICT Sector

The UK has a flourishing and world leading digital sector. Research conducted by Kings College London (KCL) shows that the turnover of the digital sector increased by 4.5% in 2017 compared with a 1.7% rise in GDP.[24] Indeed, the New Anglia area of Norfolk and Suffolk is also recognised as being at the forefront of digital innovation, with strengths in cyber security, quantum technology, Internet of Things, UX design and fintech.[25] The Local Industrial Strategy identifies that this sector is both fast-growing and high value and that it also plays a crucial role in increasing technology adoption across other sectors. It makes a 1.4bn contribution to the UK economy.[26]

However, although this sector is booming, Kings College London research highlights that the benefits being gained are not being realised fast enough across other sectors, risking widening the productivity gap. It identifies those sector businesses who have the capacity to design and develop new DT's as having '*technology creation capacity',* compared to business from other sectors who have the capacity to integrate the technology in the operations of each company as having '*technology adoption capacity*'.[27]

Evidence gathered through both the KCL report and additional research points to a high level of technology creation capacity but the need for policy and support to those businesses needing to increase their technology adoption capacity in order to realise more of the UK's productivity.

The 'Gearing up for digital transformation' report, 2019, was developed by Kings College London to build on the legacy of the Government's UK Digital Strategy, 2017. In addition to the key findings already noted, it identifies that the Digital Strategy has not done enough to reduce the productivity gap and proposes further recommendations for support to the UK business sector to resolve this.

7. The Business Productivity Review

Such recommendations are like those identified in the recently released Business Productivity Review, UK Government, November 2019[28]. It acknowledges that the UK has some of the most productive businesses in the world but also many low productivity businesses. Specifically, it recognises that the low uptake of DTs such as accountancy software, CRM, supply chain management and enterprise resource planning software are one of the reasons for the UK's relatively poor productivity performance when compared globally.

In depth research with business leaders, sector trade bodies and membership organisations has resulted in the identification of a four stage business change cycle which provides the framework for

[23] Evidence Review; The adoption of digital technology in the arts, Nesta and Golant Media Ventures, 2017
[24] Gearing up for digital transformation (2019) Kings College London
[25] https://newanglia.co.uk/project/digital-creative-and-ict/
[26] Draft Norfolk and Suffolk Local Industrial Strategy, (2019) New Anglia LEP
[27] Gearing up for digital transformation (2019) Kings College London
[28] Business productivity review (2019) HM Government

affecting change and improving productivity. The research states that developing policy to targeted areas on this framework could bring about a step change in business performance.

The four stages of the Business Change Cycle are;

1. Realisation that a change is needed;
2. Assessment of the costs of change and associated outcomes, quality and value of change, and of the business support available to help identify solutions;
3. Navigation of the business support environment to find advice, or new services and products, to deliver the desired change;
4. Embedding the change in the business to realise the benefits, which may require strong leadership and staff training.

With stage 1, encouraging business managers to realise how they could do something differently is the first step to embarking on change. This can be done by upskilling managers, so they have a better awareness of new opportunities, being inspired by colleagues or peers, or external awareness campaigns for example.

For both Stage 2 and 3, research provides robust evidence that, again, learning from peers and other managers from within the same sector is a critical component of being able to assess the DT offer and to navigate implementation.

Finally, when it comes to embedding the technology within the business (stage 4), leadership and management capabilities are essential in ensuring this is a success. Research also suggests that this stage is often overlooked. Having secured the right DT for the company, it can be easy for the business owner to rush this stage but doing so can lead to disengagement of staff and a decline in benefits received. This is likely to hamper confidence in using DT and future DT projects. Ensuring staff have the right skills and long term relationships with DT providers is key in helping tech adoption be a success.

To add to this, the way in which a company is structured plays a significant part in how it embraces change. To unleash the full potential of digital transformation, it is critical that companies foster a culture inclined to shake up the status quo. Removing the traditional top down decision making process with regards to DT, involving every employee, and encouraging a risk and experimentation culture would see a higher uptake of DT and increase in productivity. [29]

It should also be noted that there has been considerable research into how to increase digital skills within both the UK and Norfolk economy. The Skills team at Norfolk County Council has produced a comprehensive report into digital skills needs and gaps within the local economy and provided recommendations to resolve this. This report identifies that "many SMEs are simply unaware of the digital agenda and its potential to help them develop their business. Consequently, they won't highlight a skill shortage or gap in their workforce, when in fact the potential to exploit digital solutions is present, but not on the radar of business owners / senior managers"[30]. There are two sector skills plans to support this work which can be found at https://newanglia.co.uk/sector-skills-plans/ : *Digital Tech* (2017) and *Cross Cutting* (2018) which references digitalisation as a major drive of skills change.

[29] Gearing up for digital transformation (2019) Kings College London
[30] Digitech Analysis, (2019) Norfolk County Council

Businesses also require access to support to adopt DTs that is clear and relatable. Evidence shows that business owners are often confused by the private and public sector offer and don't know where to turn to get help. However, those seeking support are more likely to increase turnover. Providing advice from peers within the same industry and leading by example is shown to be highly effective in helping businesses to change.

The review notes that many business managers don't think in terms of productivity when operating their business or measuring performance. Instead, measures such as growth, employment and profit gains are more relatable terms and therefore are more effective when speaking to businesses.[31]

The national picture provides a strong rationale for designing policy interventions to assist the take up of DT but what is happening locally? East of England specific data highlights that the gap in DT uptake is equally prevalent in this region and in some cases behind the national average.

Source Lloyds Bank Business Digital Index East of England Factsheet

44% of the region's leaders do not see digital as relevant to their business. With only 35% of businesses able to store digital information on their suppliers and just 39% setting up their online content there is much scope for improvement.[32] These statistics, alongside national research demonstrates a clear need for targeted interventions to increase DT uptake.

8. Where to direct resources

To understand where best to target resource to increase DT adoption, it is worth noting that some businesses only want to grow to a limited extent and that there is not always an ambition to adopt DT. Such businesses are often known as lifestyle businesses which is a business set up and run with the aim of sustaining a particular level of income and no more from which to enjoy a particular lifestyle'.[33] Encouraging this group of businesses to adopt DT may be helpful to them but is unlikely to bring about a step change in economic growth. Instead, targeting such businesses with a growth mindset, that have ambition to develop beyond the owner's capabilities, and which are scalable, is more likely to have a positive impact on the overall economy.

The impact that targeted support could have on pre start and start-ups should also be considered. There is currently some pre start and start-up provision in Norfolk providing generic support and advice but this doesn't include targeted advice on how to use DT to make a business thrive. Providing such support from the very start could not only increase resilience and likely success but also enable engagement with a wider pool of start- ups because of the different type of support being offered.

[31] Business productivity review (2019) HM Government,
[32] UK Business and Charity Digital Index 2018, Lloyds Bank
[33] https://en.wikipedia.org › wiki › Lifestyle_business

Again, when considering where best to direct resources it is worth considering the business change cycle, as identified by the Business Productivity Review[34]. This cycle identifies the journey a business transitions through to achieve change and provides a useful model from which to see where targeting resources could be most effective.

Whilst the cycle identifies a 4 stage process, the findings from this report suggest that an additional stage should also be recognised, which is that of the *adoption* of DT. This is because there is a difference between adopting and embedding with the former focusing on the introduction of it to the business and its implementation. Whereas embedding focuses on the process of that DT becoming daily practice, of it increasing the organisations' productivity and of it changing the business culture. There is often a gap between the two where businesses adopt the DT but then don't always know how to embed it effectively.

As the Lloyds Bank Digital Index reports too many companies have undertaken the difficult process of introducing technology to their business only for them to fail to fully realise the benefits because their teams weren't prepared for the change. Even with the most advanced business technologies, people remain the key to success.[35]

An alternative model for the business change cycle is suggested below:

	Stage	**Characteristics**
1	Realisation of need	Realisation that a change or different approach is needed but not necessarily aware of DT as a solution.
2	Exploration of options	Exploring solutions including DT. Assessment of the costs of change and associated outcomes, quality and value of change, and of the business support available to help identify solutions
3	Navigation of options	Navigation of the business support environment to find advice, or new services and products, including DT, to deliver the desired change.
4	Adoption	Adopting the DT, ensuring management and employees are fully bought in and have had the right training to help them implement and indeed benefit from the technology should be at the core of the digital adoption process.
5	Embedding	Embedding the change in the business to realise the benefits, which may require strong leadership and staff training.

The above model also has synergy with the digital capability segment definitions produced by Lloyds Bank (Figure 2). By providing targeted support at different stages of the business change cycle businesses also increase their digital capabilities which is recognised as integral in improving productivity. Research also suggests that encouraging businesses with no or low existing DT to adopt certain types of DT will also help them to thrive.[36] (see 'Small business behaviours that help to increase productivity')

[34] Business productivity review (2019) HM Government
[35] UK Business and Charity Digital Index 2018, Lloyds Bank
[36] Business Digital Index 2019 interactive version, 2018, Lloyds Bank

8. Summary of findings from national research

The findings listed below are a summary of where national research identifies that focusing resources could have most impact on increasing DT adoption:

1	Target businesses who have no or low DT usage and low digital capabilities
2	Target businesses who have ambitions to grow rather than lifestyle businesses
3	Target start up as well as existing businesses
4	Raise awareness and understanding of the opportunities created through adopting DT to multi sector businesses
5	Industry and government to work together to make the market simpler to navigate and provide greater support to organisations
6	DT providers to offer long term relationships to ensure ongoing support
7	Focus resource on increasing the uptake of DT such as CRM, data management, cloud based IT systems, digital marketing and smart devices
8	Inspire leaders and managers through colleagues or peers or external awareness campaigns
9	Encourage learning from same sector peers
10	Upskill managers to ensure that DT is embedded effectively within an organisation
11	Ensure leaders and managers have support from the start of their digital adoption journey right through to the embedding stage and beyond to ensure long term commitment and success
12	Have a clear private and public business support offer so that businesses know where to turn to for help

9. National and local best practice

The following is a description of initiatives being implemented both nationally and locally to help speed up the adoption of DT. It aims to give a picture of best practice.

National

Be The Business – An online resource set up in response to the UK Productivity Review. It brings peers, sector and business leaders together with UK industry to help them find ways to be more productive. The New Anglia LEP plan to develop a collaborative relationship with Be The Business in 2020.

Digital Enterprise – An ERDF project being delivered in the Leeds city region by the LEP and 9 Local Authorities. It is an £8.5m programme which provides digital growth vouchers to local SME's to help them invest in digital technology and achieve business growth and digital transformation. It also delivers workshops and business advise to help businesses find the right DT for them. The programme has run since 2017 with over 1,100 businesses accessing help to date.

Digital Growth Programme, East Midlands Chamber – A locally run programme which supports businesses in Leicestershire to identify and embed new DT's. Through awareness raising seminars, workshops and grant funding this is a £10m programme which, due to its success, has now been extended until March 2022.

Digital KnowHow Workshops, Lloyds Bank – these workshops have been set up in response to the findings by the Lloyds Bank Digital Index report that 1.7m SME's lack basic digital skills. The free workshops, delivered in partnership with Google, provide face to face skills training to help businesses market themselves, buy and sell, bank, stay safe and deal with reviews, all online, more effectively. Over 40 events have been delivered nationwide, but none have been delivered in Norfolk.

Digital Manufacturing on a Shoestring - Researchers at the University of Cambridge and University of Nottingham are collaborating with SME manufacturers to explore and develop low-cost digital manufacturing solutions to meet small scale manufacturing needs. Will Bridgman, Warren Services is involved and champions the need for the programme.

Made Smarter – The government led Made Smarter review, conducted in 2017, provided recommendations as to how the UK's industrial sector could use DT more effectively. One of the recommendations was to set up a pilot business support programme, with delivery focused in the North West. Launched in November 2018 and backed by world renowned businesses, Made Smarter aims to connect 3,000 North West SMEs with the digital tools that will transform the way they work.

Manufacturing made smarter: round 1 – This is an Industry Strategy Challenge Fund issued by UK Government with up to £30m available for projects that focus on the use of industrial digital technologies to transform the productivity and agility of UK manufacturing. The competition had just a one month call window in the Summer 2019.

Local

Digital Connectivity – Norfolk and Suffolk County Councils are creating an Internet of Things (IoT) network across Norfolk and Suffolk to accelerate IoT innovation. Working with the New Anglia LEP they are installing a free network for businesses and the public sector to use to sense, monitor, manage and report data. Examples of application include highway sensors that dim or brighten lights, tracking of herds of cattle via a sensor that is swallowed. Specifically, the Council has used the technology to monitor road temperature to inform more efficient and cost-effective winter gritting of roads.

Innovative Projects Fund - Norfolk County Council has applied to the Innovative Projects Fund for funding to deliver a business monitoring and bid writing service for the Norfolk and Suffolk SME community. The aim of this service is to increase numbers and success rates of applications to the Innovate UK family of grants to improve productivity. Decisions will be announced in March 2020, and if successful will support New Anglia LEP's aims to support productivity growth within the business community

Institute of Productivity – Delivered by the UEA with New Anglia LEP funding, the Institute will be a regional hub for engineering, technology and management to enable productivity and growth.

Menta – provides advice and support to businesses and is working regionally and nationally to develop programmes that provide specialist support on DT adoption. They also offer digital learning products through their website and are working with local and national policy makers to influence the provision of digital training.

New Anglia Growth Hub – The New Anglia Growth provides free advice and support to businesses including access to training events and workshops on how best to use DT such as Google Analytics and Social Media and understanding broadband options.

Norfolk Chamber of Commerce – The Chamber hold an annual conference called 'Talking Tech' which brings together local and national speakers on topics related to using DT. The event is aimed at businesses who are looking to improve the ways they use technology or who want to introduce new DT to their business.

Clearly, there are several programmes nationwide and based within other regions that are addressing the issue of DT adoption. There are also local programmes and projects taking place here in Norfolk that aim to improve digital infrastructure as well as provide specific support to certain sectors. However, whilst this support is much needed, more can be done. Securing our share of new and existing initiatives taking place elsewhere and building on and adding to projects in development is key to increasing productivity in Norfolk.

10. Local research methodology

To gain a comprehensive view of the Norfolk picture of digital adoption, local business owners and managers were asked to provide their perspective on adopting DT. Businesses from a range of sectors, as well as DT providers, were spoken to. Furthermore, leaders from business support organisations were engaged to ensure a broad and informed local evidence base.

Around 13 businesses and business support organisations were interviewed and developed into case studies that have fed this research.

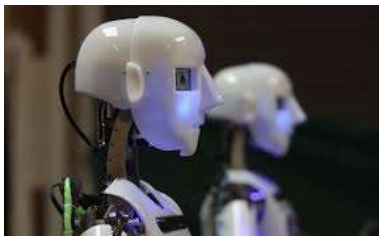
11. Case study findings

The challenges

Key trends have emerged from the challenges that local businesses face in adopting DT, which have significant similarities to those identified nationally.

One of the main barriers identified is that of culture change. More traditional organisations tend to be less innovative due to the need for all decisions to go through senior management. This creates time delays in decision making and leads to employees not being free to experiment with different approaches or to make independent decisions. A risk averse culture can act as a major barrier to DT adoption.

Some can take the view that 'if it's not broke then why fix it'. There can be an aversion to finding or adopting new forms of DT to help them because they are fearful of the unknown. They also don't have the time to step back and see how DT could help them.



It can be difficult to implement change due to staff being resistant to this. Getting buy in from staff can be challenging but they are integral to the successful implementation of DT. It was also highlighted that the digital adoption journey can take a long time. Businesses don't always have this time or understand that the investment is worth it in the long run.

Another interesting trend to emerge, which builds on the 'fear of the unknown' is that businesses just don't realise the extent of DT products, solutions or services that are available. There is also the issue of not knowing where to go to get help in order to appreciate what specific products can do, how they might improve business performance and how they might be adopted by and tailored to the needs of the business. Being able to understand and be convinced about the monetary value of adoption is also key. It was also reported that there is a need to demystify the technical jargon to make it more understandable.

Cost can be a major barrier for both the business and the DT provider. Often DT is developed so it is bespoke to a particular client. Knowing how long it will take to build or adapt can be difficult to quantify. Often what happens is that the provider will quote a high cost to cover for all eventualities and this in turn puts the client off wanting to proceed with the contract.

Some of those interviewed identified that the challenge DT presented to them was not one of fear but instead how to best capitalise on the opportunity it presented.

One business quoted a risk of involvement of being "sold" something inappropriate by a sales hungry digital provider. The comment was made that a generic learning event hosted or delivered or owned by the County Council might actually be welcomed by very small SMEs, as local authorities are seen as non-commercial, with no "sales" outcome to achieve – and therefore trustworthy.

The solutions

All the businesses spoken to offer a wide range of potential solutions to resolve these issues. Many of the DT providers were keen to highlight the importance of building long term relationships with clients to ensure that they had the support they needed to use the new DT.

Most DT providers sees this as a key part of their business strategy. One DT provider has pushed the boundaries of the normal client, provider relationship by becoming an equity partner in his clients' business. Both parties saw an opportunity to take the software developed by the DT provider and deploy it elsewhere in the country. By taking out an equity stake in the business they were not only able to commit to working on the project long term but also secure the funding the DT provider needed to do so.

Breaking down the cost barrier is important for both client and provider. Providing subscription based DT products helps to minimise the cost as it is spread over a much longer term rather than a one off purchase. Another advantage of using subscription based models in that it also offers the DT provider the opportunity to offer support and hand holding to the client. This is a critical part in ensuring that the client embeds and maintains the DT as it helps them to iron out issues going forward rather than then making a one off purchase for a system that they then don't know how to use.

Bringing business together from the same sector to identify common problems can also really help to bring development costs down. The DT provider is then able to develop a base product with slight tweaks for each client if necessary, which can then be sold back to each client on a subscription basis.

The importance of networking amongst businesses was also acknowledged including the sharing of knowledge to help break down the fear around DT adoption. Getting businesses talking to each other and sharing common problems and successes is critical in increasing adoption. Indeed, this also helps to demystify technical jargon. Taking a well-known product e.g. Alexa and then showing how this can be directly applied to a business could be effective.

Other views echoed include the need for the business to take a step back from its daily operations to see where benefit can be gained. Looking at and focusing on the bigger picture is helpful in overcoming the initial, seemingly long, development phase. This can need facilitation by a 3rd party with an objective view.

Easing businesses in to using DT who have not used it before is the best approach. For example, encouraging them to use a DT product that is not overly disruptive to their business can work well in helping them to become adopters, with their increased confidence helping them to move on to bigger, more disrupting technologies. Indeed, this is what one manufacturing business did; by starting small they are now at the point where they employ staff specifically to assist with the digital transformation of the business. This has been helped by taking it one step at a time.

Seeing DT adoption as an opportunity rather than something a business must do is also critical. For one business, applying this mentality has meant that they have become leaders in their field as well as pioneers.

The Benefits

All the businesses interviewed shared the view that using DT increases the ability of that business to become more productive and efficient. For example, one business noted a 30% increase in efficiency as a result of adopting DT.

Businesses also commented that they have much happier staff because they perform fewer menial tasks. Where as previously staff were lower skilled, the introduction of DT has enabled them to increase their skills' level and perform higher value tasks. As a result, businesses report that staff are now much happier in their roles and that management spend less time on firefighting staff issues and are freed up to work on the bigger aspects of the business.

Another advantage of DT adoption is that businesses are forced to re-think their business model or the way they do things. This in turn leads to more efficient operations and a clearer direction. This can also lead to increased innovation and open doors to new opportunities that had not been previously considered.

12. Summary of case study findings

1	Target businesses who have no or low DT usage.
2	Inspire businesses by bringing them together with sector peers, leaders and well respected business representatives
3	Bring together same sector businesses with DT providers to solve common issues
4	To widely share and promote the benefits of DT adoption so that it is clearer for businesses to see how it can help them
5	Ensure that DT solutions and the way they are costed are right for the customer. For example, a business buying into a subscription-based model can spread the cost of the purchase of new technology over a longer period.
6	Build long term relationships between DT provider and business client to ensure continued support is in place
7	Encourage networking amongst businesses to share ideas, success stories, and how pitfalls are overcome
8	Demystify the technical jargon around DT and make it relevant to businesses. Use language that businesses understand.
9	Encourage businesses to take a step back and look at the bigger picture to see where and how the adoption of DT could make a difference.
10	To have a clear vision of where they want to be and to look at the adoption of DT as an integral part of their business strategy
11	Encourage those businesses taking the first step into using DT to do so slowly at first and with technology that causes minimal disruption to build confidence and increase the success rate
12	To view the adoption of DT as an opportunity rather than something that must be done for the sake of it
13	To view the adoption of DT as a long term strategy which requires time and investment but one that will ultimately pay off
14	Increase collaboration between DT providers and the broader business base, rather than DT providers just meeting up with DT providers

13. Recommendations

The following recommendations translate the key findings from this report into tangible actions that can be taken to increase productivity, growth and innovation within Norfolk businesses. It includes the findings from national research, current programmes being delivered elsewhere and from the local case studies developed.

The recommendations are split into two sections reflecting firstly the existing partnership between Norfolk County Council and Tech East and secondly recommendations that can be developed with other partners.

Tech East

The following recommendations will be delivered by Tech East as part of its 2020 delivery plan, part funded by Norfolk County Council.

	Recommendations – in partnership with Tech East
1	**Awareness event: Deliver a sector specific (tourism) event targeted at micro and small businesses to raise awareness of the different types of DT available and its benefits.** 1. To support businesses to transition from stage 1 of the business change cycle to stage 2. 2. Focus on the tourism sector due to the research already undertaken in this area 3. Ensure a mix of micro and small businesses and target businesses that have no or low usage of DT. 4. To include in this offer access to standardised business support 5. To film the above event to capture learning for sharing with wider business community through social media and with partner agencies 6. To develop a simple baseline so that the success of the Tech East interventions can be monitored. For example, recording where participants are on the business change cycle at present, or by establishing whey they think their digital capabilities are (see figure 2), then monitoring against this for progress at future events.
2	**Event review: Stakeholder follow up meeting held within one month of the awareness event to review results.** 1. Consider effectiveness of awareness event and learning gained to develop best practice 2. Plan for follow up event to support businesses to take next steps 3. Review baseline for capturing change
3	**Deep dive: Deliver a follow up deep dive session to participants from awareness event to convert learning into action** 1. To support businesses to transition from stage 1 of the business change cycle to the following stages and the development of digital capabilities. 2. Capture results and monitor against baseline. 3. To implement learning gained from awareness raising event 4. To include in this offer access to standardised business support

	5. Capture participants evaluation of change so that we compare this to their baseline and evaluate impact of events
4	**Final event: To be decided based on learning from above events** 1. To consider what type of further support could be effective in moving the business through the business change cycle and the development of digital capabilities. 2. Capture results and monitor against baseline. 3. To use learning and best practice gained from previous events

Other partners

The remaining recommendations are for consideration with other partners and pull together the multiple opportunities that exist to grow Norfolk's economy through increasing the adoption of DT.

	Recommendations – to be considered with partners
1.	**Go Digital:East Design, develop and oversee the delivery of a comprehensive programme of business support based on findings from this report and projects in development by local partners.** Aim of the programme 1. To move pre starts, start ups and existing businesses along the business change cycle whilst increasing their digital capabilities to bring about a step change in productivity and growth. Programme structure 1. Design a tailored business support programme with partners. Secure external funding for delivery. 2. Consider multiple delivery partners to take advantage of the different areas of expertise available and to increase the number of opportunities for local businesses to bid for work. Programme content 3. Promotional offer to raise awareness of DT adoption and its benefits. Aim to inspire potential beneficiaries. 4. Provide tailored packages of support to suit different business needs and to ensure maximum response and impact 5. Different packages could include: a. 'How to' workshops such as how best to use Alexa or Microsoft 365 or specific apps. b. Event which brings together same sector businesses with DT providers to pose and solve a common problem and benefit from economies of scale c. Workshops for start ups and the different DT options to consider at this stage to ensure they maximise their chance of success. d. 1-2-1s support and advice to existing businesses who have ambitions to grow but need help using DT to do this e. Sector specific events like the Tech East events proposed in recommendation 1, 2 & 3.

	6. Vouchers or grants to help businesses purchase DT equipment 7. Equipping business advisors and support agencies with the tools and knowledge they need to help clients use DT. 8. Networking events between DT providers and cross sector businesses to encourage collaboration and innovation 9. Creation of specific online content that refers to national online resources and opportunities relevant to the adoption of DT. e.g. Be The Business
2.	Work with national providers to bring their offer to Norfolk e.g. Lloyds Bank Digital KnowHow workshops
3.	Work with partners to promote the existing local offer for increasing productivity e.g. the Institute of Productivity and the Internet of Things network

Conclusion

This study provides an evidence base that justifies the case for interventions that increase the uptake of DT within Norfolk businesses. It analyses the national and local picture, including UK Government strategy and local policy, reviews best practice and provides an insight into valuable local expertise, culminating in recommendations for action.

The main findings of this study are that increasing DT adoption within Norfolk businesses, be it start-ups or existing is likely to lead to increased productivity and business growth. Targeting businesses who have no or low uptake can have the most impact. There is a gap in business support needed to fully realise this impact.

The recommendations above provide a road map for how to achieve these productivity gains including sector specific events to be delivered by Tech East and a proposal for a comprehensive business support programme to be developed with partners.

Both help Norfolk County Council to achieve the key objectives set out in local and regional strategies and have fit with priority areas of focus namely sector development and business support. It should also be recognised that a potential additional outcome of the interventions proposed is that businesses will be more resilient, innovative and ambitious and will be in a stronger position to enter new markets and in product development, therefore helping Norfolk's economy to grow.

Acknowledgements

Thanks to all the contributors to this report including Tech East and the businesses and organisations who have given us their invaluable help and expertise. Information about the contributors is given below.

Due to the commercially sensitive nature of some of the information provided the case studies are not included as an Appendix, however general findings are discussed in section 11.

Barclays Eagle Labs

Barclays Eagle Labs is a national network of 25 incubators based across the UK from Edinburgh to Jersey. They incubate tech start-ups and provide space for them to collaborate, grow, network, connect with potential funders and access talks and workshops.

Bed Down LLP

Bed Down is a pet bedding company based in Harleston, Norfolk. They produce high quality bedding for horse, poultry and pets. They recently modernised the manufacturing facilities at the farm to include robotics to facilitate higher efficiency and productivity.

Coderus

Coderus is an international software development company based in Ipswich and Cambridge. They provide bespoke mobile and embedded software solutions for international blue-chip companies. They are also active sponsors and supporters of their local community through clubs and engagement with schools and young people.

Engage Health Systems Ltd

Engage Health Systems is a technology company specialising in healthcare and is based in North Walsham, Norfolk. They provide a range of patient facing services to the NHS which benefits both patients and clinicians.

Hut FortyTwo

Hut Forty Two is a software development studio based in King's Lynn, Norfolk. Specifically, they offer mobile and web app development, bespoke software design & development and customer relationship management (CRM) services

Menta

Menta provide business support, training and skills for both start up and existing businesses across the East of England. They also offer business events and networking opportunities.

New Anglia Growth Hub

The New Anglia Growth Hub is managed by Suffolk Chamber of Commerce on behalf of the New Anglia Local Enterprise Partnership and is supported by the Department for Business, Energy and Industrial Strategy and the European Regional Development Fund (ERDF).

New Anglia Local Enterprise Partnership

New Anglia Local Enterprise Partnership works with businesses, local authority partners and education institutions to drive growth and enterprise in Norfolk and Suffolk.

Sidekick Digital

Sidekick Digital is a digital product studio based in Kings Lynn, Norfolk. They help founders, start-ups and established businesses to launch digital products. They design and build mobile apps and custom business software which helps to improve the business and make a measurable impact on its future.

Tech East

Tech East is a not for profit membership organisation for East of England tech businesses who want to succeed on a global stage. They provide events and networking opportunities to bring the tech community together and to act as a catalyst for growth.

The User Story

The User Story is based in Norwich. They use evidence led design, behavioural research and knowledge to create and improve digital experiences for their clients' customers. They research, design and test in an evidence based, user centred process.

Ubisend

Ubisend is based in Norwich and is a leading Artificial Intelligence (AI) development company. Specifically, they use AI to design and create bespoke chatbot solutions to help automate routine interactions between customer and business within HR, Sales or Customer Service departments.

Warren Services

Warren Services is based in Thetford, Norfolk. They manufacture high quality components and offer turn key solutions in engineering and design at its two factory sites in Thetford. The company has a strong focus on upskilling its workforce including offering apprenticeships to young people in the local area.