



Technology in a Transforming Ireland

shaping tomorrow with you



Contents

Foreward 4

Chapter 1

Technological and Societal Change:
wanting progress, fearing change 6

Chapter 2

An Island built on Technology 10

Chapter 3

What does the future hold? 14

UK Study: Technology in a Transforming Britain,
and its effect on Ireland 18

Conclusion 20

Methodology 22



Foreword

In a world where technology moves so quickly, it will be the businesses and consumers of Ireland that are willing and able to take advantage of the latest technological innovations that will reap the benefits of revenue, innovation, generation and productivity enhancement.

It is an exciting time to be a part of the technology industry, in an era where technology is becoming both prevalent and accessible with every passing day.

From smart phones to instant messages, online shopping to electronic payments, technology plays a leading role in our everyday lives. Young or old, we can hardly recall a time when we couldn't search online for an answer in an instant, transfer funds, check account balances or research and book our own holidays without the need for any expert assistance.

While all of these developments allow us to lead a more convenient and fast paced lifestyle, it is easy to be fascinated by the latest, glittering pieces of technology. At Fujitsu Ireland our focus is on identifying how technology can add the most value for people.

Devoting time and expertise into developing the very latest, most innovative technology is at the heart of everything we do. There is no time to stand still in this industry, and we are committed to seeking opportunities to learn about our existing and potential customers, what they want and how we can meet their ever-growing and rapidly changing needs.

Every day is different at Fujitsu Ireland, posing new challenges and opportunities. I love the innovative nature of this industry, how new ideas are embraced, how the fundamentals of science and engineering can be applied in new ways to build solutions that revolutionise industries.

All stakeholders, from business leaders, general public and to government, need to work together and make the kind of proactive, decisive decisions that will ensure Ireland transforms in a way that secures a prosperous future for all.

Technology can lead the way through this period of change but to achieve that, we first need to understand exactly how the world and Ireland's place within it is evolving, the part that technology is playing in all of this and what people really want Ireland to look like in the coming years.

That is why we surveyed over 900 members of the public and senior business decision makers across Ireland, we wanted to hear what excites them about the changes happening in the country - but also their fears and concerns - so that we can help shape a better future that's fit for purpose.

Tony O'Malley
CEO, Fujitsu Ireland



Chapter 1

Technological and Societal Change: wanting progress, fearing change

For as long as humans have been inventing new tools and technologies we've been worrying about what our creations might do to us. In the 18th century the invention of the telephone caused concerns that the eerie disembodied voices it spawned would tear apart the fabric of society by removing the need for people to meet face-to-face. Telephones would make people lazy or deaf or simply send them mad, contemporary commentators feared.

When commercial radio and TV broadcasting came along in the 20th century, people hadn't learnt to stop worrying - now they feared this new technology would brainwash everyone.

Fast-forward a few decades and technology is built into every facet of our lives, from internet-connected cars and TVs, to laptops and tablets, to smartphones and smart meters. Yet despite its abundance, we continue to fear it.

While change is somewhat inevitable, how often are people asked whether they actually want it or not?

Whether it's technological, societal, political or otherwise, the Irish citizen often feels like a bystander to change. It is something that happens to us rather than a result of any conscious decisions.

In short; we're presented with a solution before we even know we need it, and not everyone is completely comfortable with that.

Having said that, as a generation that is more technology savvy and uses technology more than ever before, whether we need it or not, it has become an integral part of our everyday lives.

Societal Change

When we asked Irish citizens how they feel about the changes occurring in Irish society and the impact of these changes on the Irish economy, 46% believe that the current changes are having a negative impact on the Irish Economy and 67% believe these changes are having a negative impact on the quality and cost of living in Ireland. Only 23% of Irish business leaders are unconcerned about the impact changes in Irish society are having on their organisation.

So, what specifically are the public and business leaders of Ireland most worried about when it comes to change? And what do they feel more positive about?

Let's start with the latter; 54% of business leaders feel positively about the change technology is driving within their organisation, a further 28% believe multiculturalism is driving positive change and 19% think a multi-generational workforce will drive positive change in Ireland's future.

Global uncertainty appears to be driving the most negative change in Ireland with 22% of business leaders stating that it will impact negatively on their company's future, while 60% of consumers believe that global economic uncertainty will have a negative impact on Ireland's future.

Despite all the changes currently occurring in Ireland, 54% of business leaders feel confident about their business's future, this confidence is at its highest in Dublin at 59%, compared to 49% in Munster and 57% in Connaught and Ulster.

Brexit and Political Impact

In the context of societal change, one factor that we all know is at the forefront of people's minds is Brexit and as one would expect, this study confirmed that.

When asked to name the biggest challenge facing Ireland's economic future 38% of business leaders cited Brexit, while 20% think it is the biggest challenge to their business's future success. 35% of business leaders surveyed said it is impacting their decision-making, with 11% stating it has already slowed their business growth.

This is in line with views of consumers with 59% thinking that Brexit will bring about a negative change in Irish society.

Until negotiations are complete, business leaders and the public are, according to the results of the study, likely to remain concerned about the future impact of Brexit on Ireland. Indeed, looking at other commonly reported business challenges, it's noticeable that other factors like skills (12%) and cybercrime (7%) something which threatens their very existence are cited by far fewer business leaders as being the primary challenge they face. However, it should be said that concerns around skills and cybercrime do become more prevalent when it comes to specific operational worries later on in the study.

54%

**of business leaders feel confident
about their business's future**

Evolving Role of Technology Companies

A key insight of this study is the evolving role of technology companies in society. While some societal changes are viewed negatively, technology is outlined by both business leaders and the public as the answer to many of the challenges the country faces. Given the key role technology is seen by many to be playing in addressing the Irish productivity challenge and improving efficiency across sectors, this may not come as a huge surprise. What is really interesting though, is the impact that role is having on how technology companies are viewed and the expectations that come with that.

With technology companies playing an increasing role in shaping the way we live and work, people believe that these companies have a responsibility to do more than just make a profit. In fact, aside from the current government, the organisations deemed to have the biggest influence over Ireland's future are Google, Amazon and Facebook, according to this research. Google rises to the top with 62% of consumers believing that it is the organisation that will have the most positive influence on Irish society.

This is huge. No longer should major technology brands merely call themselves a business, their role, in the eyes of their customers, is much bigger than that.

It's clear the majority of people in this country believe technology firms and other organisations can play a key role in what happens next, more than that, it's expected of them.

Business leaders are aware of this sentiment - 42% agree that consumers are increasingly looking to private companies for leadership and 59% feel that businesses must work more closely in partnership with the public sector to address societal challenges.

59%

of business leaders believe that their sector has a responsibility to come together to help challenge socio-economic issues and address them

52%

of business leaders believe that the ability to drive change and innovation in Ireland is crucial to their organisations future

49%

of business leaders think that technology will enable us to overcome many of the socio-economic issues we are facing today



...technology firms and other organisations can play a key role in what happens next

Chapter 2

An Island built on Technology

A lot has happened in Ireland in recent years, and even more has happened in the world of information technology from cloud computing platforms, social media platforms to drones, and everything in between. Going back just a decade or two we've seen many breakthroughs, discoveries, some unexpected successes – some failures as well as key insights for businesses in the future.

In the space of just a decade, we've witnessed the stellar growth of companies who are finding new ways to 'do things better' – companies like Amazon and MyTaxi are just a couple of examples of brands who, through the use of technology have disrupted old markets, and progressed an Ireland which is built on technology more than ever before.

According to our research, consumers for the most part are on board with technology driving these changes and they see technology as having the most positive impact on the development of skills and improving the convenience and ease at which they can access products and services.

Business leaders too feel that technology will continue to play a significant role in overcoming many of the socio-economic issues they are facing today. 51% of business leaders are positive about the changes technology is bringing to their business because it has allowed them to improve operational efficiency and for 40% it has made their employees more productive. 49% agree that technology will enable them to overcome many of the socio-economic issues they are facing today.

In fact:

54% of business leaders feel that technology developments are driving positive change in their company's future

In comparison:

41% of consumers feel that technological developments are bringing positive change to Ireland's future

Clearly then, it's not an exaggeration to suggest that technology is playing a fundamental role in shaping what Ireland looks like now, and what it will look like in the future.

But is there any sector specifically that will be most influenced?

Looking at how certain technology will impact various sectors, consumers and business leaders, not surprisingly referenced developments such as Augmented Reality, Virtual Reality, Robotics and Artificial Intelligence as areas that will have the greatest impact.

Business leaders anticipate that these technologies will have the greatest impact on areas such as customer service, supply chain and R&D.

For example, business leaders think:

- **Augmented Reality will have the most impact on customer service**



- **They believe Robotics will have the most positive impact on supply chain and logistics**



- **In terms of Artificial Intelligence (AI), they believe it will have the most positive impact on R&D and product development.**



New Technology

For business leaders, we know that the majority are aware and broadly comfortable with the increasing role technology is and will play in their businesses. But what technologies are being implemented the most:

- **The most popular technology that respondents have implemented in their business is Cloud**



- **26% plan to implement a 5G mobile network in the future – 10% within the next 12 months and 16% after more than 12 months**



- **20% plan to implement the Internet of Things (IoT) in the future.**



Education and Technology

We know how much has changed over the past decade, and both business and consumers alike, believe that equally significant developments are also on the horizon, across a number of key sectors including retail, transport and education.

The theme of education and skills was one that stood out in this research as one that technology could potentially have an enormous impact on in Ireland. Many believe, this is a knock-on effect of the way IT is revolutionising a lot of business sectors and the changing skills that are needed to carry out specific roles within business.

For example, 67% of Irish consumers surveyed believe that technology enables access to new ways of learning and 54% think that this technology has a positive impact on skills and allows for the development of new skills.

From a business perspective, while consumers believe that technology developments are providing new skills, 12% of business leaders feel that one of the biggest challenges their company faces is the skills gap. As workplaces become more technology driven, education in technology will play an increasing role in addressing this gap.

What's clear is that technology allows for the development of new skills. This research demonstrates that people view technology as a route to solving the world's problem, or at least the challenges they're facing in their own world.

However, while we all know and understand this, how comfortable are we with this change, and what does the future hold?

49%

of business leaders think that technology will enable us to overcome many of the socio-economic issues

68%

Two-thirds of Irish consumers believe that technology enables access to new ways of learning

92%

of Irish consumers believe that technology is a contributing factor to change occurring in Ireland

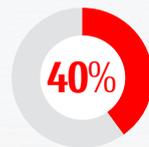
39%

of business leaders feel that a lack of skilled employees has the potential to impact growth and revenue the most

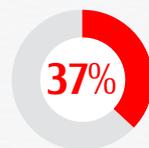
The biggest concerns Irish consumers have about technology are:



Cybersecurity Threats



Social Anxiety



Social Skills and Extremism



...technology enables access
to new ways of learning

Chapter 3

What does the future hold?

In today's world, where just about everything is more convenient and accessible due to advances in technology it comes as no surprise that 73% of business leaders believe that technology is driving a positive change in their business.

For companies, progress is saving time and therefore money, exchanges are faster, sales and purchases are now facilitated and possible worldwide. This allows businesses to buy raw materials with discounts or at reduced prices. Similarly, global tourism has grown. Technology has also increased the productivity of almost every industry in the world. When observed more closely, new developments are discovered daily by the business leaders and organisations at the heart of this research.

A positive trend coming through the research is that companies across the board feel responsible for driving innovation and change in both their organisations and in Irish Society.

38% of business leaders felt that as a company leader they feel responsible for helping society through the ongoing changes facing the country with 43% acknowledging that they should be doing more to drive innovations in Ireland.

Technology will no doubt play a central role in driving our economy and society forward with 49% of business leaders admitting that technology will enable them to overcome many of the socio-economic issues they are facing today, and that the ability to drive change and innovation in Ireland is crucial to an organisations future (52%).

+73% of business leaders believe that technology is driving a **positive change** in their business

Different comfort zones

While it's clear the Irish public are generally comfortable with the way technology is advancing, we thought it would be interesting to find out which areas of innovation they're particularly happy with and which ones they feel less enthusiastic about.

Of course, we asked the same of the business leaders we surveyed.

The Public

41% of consumers are excited by the way technology is changing life in Ireland, however only 31% of consumers say that they feel fully prepared for technological changes to come and have the necessary skills to take full advantage of new technology.

The majority (60%) of consumers would not be happy to have their work or CV judged by a robot and 40% wouldn't like to talk to their family using VR equipment, suggesting many are still wary about some of the potential day-to-day uses of this technology that could help it reach the mainstream.

While in the media 3D printing is an exciting innovation, the public is somewhat sceptical about its practical use, with 48% stating they wouldn't want to live in a 3D-printed house.

That said, 3D printing is something that could have a hugely positive impact on society if it can get to the stage where the general public accepts it.

Driverless cars are still viewed with some scepticism too, 51% are uncomfortable with the idea of being picked up by one, and only 14% would put their child in one.

There are mixed views when it comes to technology in healthcare. While 62% of the public wouldn't want to be diagnosed by an

AI doctor and only 16% would like the same from a mobile app, 40% said they'd be happy to speak to their GP through an online service like Skype.

It seems then, that while people are comfortable with technology playing a supporting role in healthcare, they're not yet ready for it to replace human contact completely.

The public are however becoming more comfortable with the use of smart technologies, with 61% of the public stating that they are happy with the use of smart technology to monitor their energy use within the home.

The weekly shop has split opinion too, while most (38%) would happily be served by a robot in the supermarket. 51% of consumers believe that augmented reality will have the biggest positive impact on the retail sector.

Elsewhere in retail attitudes are similarly advanced, with 30% saying they'd like to get their delivery from an automated machine.

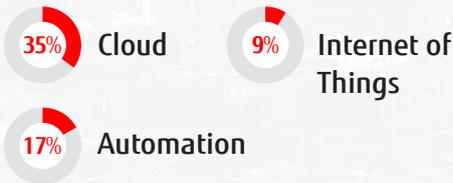
43% of the Irish public would be happy to deal with an automated tax return system, this implies that where automation can save them time and effort, people are generally in favour, provided it's not for something as personal as a health diagnosis.

But what about the data that underpins these technologies?

Opinion seems to be divided on that front. While 29% of the public are happy to share personal data with companies and the Government if it benefits them and society, 47% are not. In the shadow of GDPR, which comes into force in May 2018, this could have interesting implications.

Business Leaders

When we asked business leaders about technology their organisation has already implemented, the top three answers were:



The above list suggests that businesses have been working to put a solid, cloud based infrastructure in place that will allow them to make the most of the data and increased connectivity now available to them.

When we asked about the technology they plan to implement in the future, the top three answers were:



So, which technologies are business leaders not so comfortable with? While you'd naturally expect them to be more advanced in their acceptance of new technology than the average member of the public, even the most-savvy have a limit.

A staggering 83% have no plans to introduce Robotics in their workplace mirrored by a similar 83% that have no plans to embrace Virtual Reality. While some amazing uses for VR and Robotics have come to light in recent years, clearly businesses aren't yet sold on their ability to provide a worthy return. We do expect this technology to be more widely adopted in the future however.

Surprisingly, biometric technology is not quite yet on the agenda for 80% of business leaders surveyed. Given the security and productivity benefits we've seen it create, we would have expected this figure to be higher. That said it remains an innovative technology which may come into its own in the medium term.

As for which departments are most impacted by technology:

Customer facing solutions is affected most by...



Management and Operations is affected most by...



Finance is affected most by...



Customer Services is affected most by...



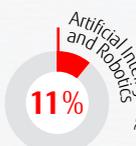
Supply Chain and Logistics is affected most by...



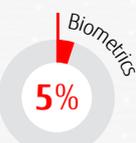
Marketing and Communications, affected most by...



R&D and Product Development is affected most by...



HR is affected most by...



Impact on Jobs

What about the impact on jobs? It's often the elephant in the room when anyone is talking about workplace technology, but we wanted to hear straight from the source where businesses believe human roles could change the most.

When we asked the public which jobs most likely won't exist in their current form 10 years from now, their top three answers were:



Interestingly the above list almost exactly reflects the views of employers. When we asked business leaders the same question, their top three answers were:



It appears that those working in retail have the most to be concerned about. Although it's worth reiterating that the question was around which jobs would not be the same, not which ones would be gone altogether. Where some tasks will be taken on by technology, there's the potential for others to be created.

73%

of business leaders think that technology is driving a positive change in their business

48%

of consumers are excited by the way technology is changing life in Ireland...

...however only **31%** feel that they are fully prepared for the technological changes and have the necessary skills to take full advantage of new technology

Top 3 positive changes that technology is bringing to their business are:

- 1 Improved operational efficiency
- 2 Employees are more productive
- 3 Implementing new technologies is allowing cost cutting

UK Study: Technology in a Transforming Britain, and its effect on Ireland

It is widely accepted that the UK is going through a period of unprecedented change at a level unparalleled in the last 50 plus years. From UK politics to the rise of social media and the digitalisation of various industries, the country is changing and with it, so too is society.

As Ireland's closest neighbour and business partner, how exactly will these changes in the UK reflect on Ireland, and how can we take advantage of lessons learned and the implementation of change by our counterparts across the channel?

We recently surveyed UK business leaders, in a similar body of research, whereby we wanted to ask their senior business leaders if they felt businesses in the Republic of Ireland are likely to benefit from the UK's upcoming political changes such as Brexit, and 55% stated that we would. A positive belief considering 38% of our own business leaders here in Ireland cite Brexit as the biggest challenge facing our economic future.

For business leaders in the UK, the impact of Brexit is so great that over a third (37%) of UK businesses admit they will either wholly or partly relocate due to its impact. A further 47% will reconsider office location and regional investment and 46% say Brexit has already slowed their business growth.

For 61% of consumer respondents, Brexit is also the biggest challenge facing the UK today – this comes out above the threat of terrorism (57%) and global political turbulence (29%).

Business' concerns around political uncertainty are mirrored in UK consumers. Assessing areas that will negatively impact the UK's future, political turbulence was cited by 59% of respondents while the threat of terrorism was selected by 53% and global economic uncertainty by 51%.

In 2017, just 10% of business leaders believe the UK sits outside of the top 10 most influential and powerful business nations. By 2027, 21% of them admit they fear that the UK will sit outside this core group of nations.

To truly address the various socio-economic issues the country faces, 56% of leaders believe they have a responsibility to come together to help challenge these issues, a similar feeling is felt here in Ireland with 59% also agreeing that they must work more closely in partnership with the public sector to address societal challenges.

The results of the research in the UK, not unlike the results in Ireland has seen business leaders and consumers alike acknowledging the need for everyone, from technology innovators to educators and government departments to co-create and collaborate to build a better future for all, either side of the channel.



Conclusion

Reviewing this research in full, we reached the following three conclusions:



Technology is the most important positive driver of change in Ireland

There can be no doubt that technology is changing life in Ireland, we say this with confidence as the figures speak for themselves.

92% of Irish consumers believe that technology is having an impact on Irish life, with 42% regarding technology as the main driver of change and 50% stating it is somewhat changing life in Ireland.

73% of business leaders in Ireland feel positive about the changes that technology is driving in their business and 49% believe that technology will enable them to overcome many of the socio-economic issues they are facing today.

Technology, it could be said, underpins everything we do in our working or private lives and every time we discover new ways of doing things, it's technology that makes it happen.

This is something that those of us in the technology space have been saying for many years now, but this research confirms it without question.



The Irish public need more guidance and reassurance to get on board with technology innovation

While the outlook is vastly positive, there is a note of caution for technology providers, with the findings highlighting a gap in the comfort levels among the public with new innovations.

The public are comfortable with certain aspects of transformation with 41% of consumers believing that technology developments such as AI, Mobile/Smart Technology will bring positive change to Ireland's future, but when the changes move further away from what they're used to - driverless vehicles, for instance, or houses built by 3D printers, they become somewhat less comfortable.

It is also clear that Irish consumers don't feel that they have the skills and knowledge to understand innovation technology. Only 31% of consumers feel fully prepared for technological change and have the necessary skills to take full advantage of new technology.

3.

All of us must work together to realise technology's potential

Technology companies in Ireland hold a lot of responsibility in driving innovation and change in Irish society. In order for technology to successfully progress in Irish Society, co-creation and collaboration is needed to build a better future in terms of the level of technology used and subsequent human interaction.

However, external economic and political issues need to be considered as a potential inhibitor for such technological change. For both cohorts, global economic uncertainty is the biggest worry regarding business and Ireland overall. According to business leaders, Brexit will have a greater negative impact on Ireland's economic future than on the economic business future of individual businesses.

Coupled with the Irish public's positive attitude towards technology and business leaders utilisation of technology to drive positive change it has been agreed that technology is helping Irish consumers and business leaders alike to embrace the future and overcome present and future socio-economic issues.

Co-creation and collaboration through the power of technology will allow us to build a better future for all.

Methodology

Data for this study was gathered from 912 members of the Irish public and senior business decision makers conducted through two separate studies and questionnaires. The consumer questionnaire comprised 521 consumer respondents and a standalone business study comprised 391 business leaders.

Research was conducted by iReach, an independent survey consultancy, with respondents taking part in interviews between 23rd – 30th November 2017.

iReach utilises leading market research solution – Mi Pro Survey Software for all aspects of survey project management: sampling, design, data collection and tabulation.



50%

Unclassified. © FUJITSU 2018

All rights reserved. FUJITSU and FUJITSU logo are trademarks of Fujitsu registered in many jurisdictions worldwide. Other product, service and company names mentioned herein may be trademarks of Fujitsu or other companies. This document is current as of the initial date of publication and subject to be changed by Fujitsu without notice. This material is provided for information purposes only and Fujitsu assumes no liability related to its use. Subject to contract. Fujitsu endeavours to ensure that the information contained in this document is correct but, whilst every effort is made to ensure the accuracy of such information, it accepts no liability for any loss (however caused) sustained as a result of any error or omission in the same. No part of this document may be reproduced, stored or transmitted in any form without prior written permission of Fujitsu (Ireland) Ltd. Fujitsu (Ireland) Ltd. endeavours to ensure that the information in this document is correct and fairly stated, but does not accept liability for any errors or omissions. Registered in Ireland no. 473572. ID-4498-002/01-2018