

# *Exemplar*

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A selection of  
outstanding  
undergraduate  
research  
projects  
of the final year  
students on the  
Bachelor of  
Business  
(Honours)



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## Foreword

Research at undergraduate level in many higher education institutions is sometimes neither recognised nor celebrated. Happily, this is not the case in GMIT.

In the School of Business at GMIT, over 100 students complete an introduction to academic research each year, through modules in Critical Thinking and Research Methods in Semester 1 of their final honours degree year, and the completion of a major Project in Semester 2. Since 2018, staff in the School have led the issuing of *Exemplar*.

The aims of *Exemplar* are to showcase the best undergraduate projects on the Bachelor of Business (Hons), give formal recognition to high-quality undergraduate work, and to develop the research acumen of students and supervision staff. This latter point is of immediate relevance as GMIT embarks on a journey with its Connacht Ulster Alliance partners to becoming a Technological University. In this context the ability to frame a research question, to think critically about different viewpoints and to structure an argument, all developed through a rigorous exposure to a research culture, will stand both students and staff in good stead.

I'm heartened to hear that over 300 students have now completed final year research projects since the last Programmatic Review and since the introduction of *Exemplar*. The allocation of supervision hours to this valuable work is also of major benefit to our academic staff, many of whom are also themselves engaged in ongoing scholarship activities and lifelong learning.

*Exemplar* is only part of a bigger story that is worthy of celebration. Beneath the glossy publication lies the core of what is taking place: development of student research competence across the entire final year of study, supported by lecturing staff, Librarians, Academic Writing Centre colleagues and others. We are, in fact, laying the groundwork for development of post-graduate pipelines and preparing our graduates to impact more effectively in the workplace.

Maith sibh!

**Dr Orla Flynn,  
Uachtarán/President**



## Editorial

Welcome to the third edition of Exemplar, a collection of some of the best undergraduate projects of the final year students on the Bachelor of Business (Honours).

After the formal grading of the final year projects was completed supervising staff were invited to nominate students for possible inclusion. Nominations were reviewed by the editorial team and a shortlisted selection of students were contacted to confirm if they would like to be included. Supervising staff then oversaw a revision and enhancement of the graded submission and the final work is published in Exemplar.

Students were required to identify a business topic that interested them and that they would like to learn more about whilst meeting the research expectations of the programme. This non-prescriptive approach allowed students to flex their intellectual muscle in a unique project of their own design. Understandably, the pandemic greatly influenced students' topics this year and included: E-learning, the four-day workweek, remote working and employee well-being, and the growth of self-service technologies. In addition, some students examined ongoing issues of concern to them including Irish consumers' attitude to sustainable fashion and cultured meat, and the ethical concerns of using social media in recruitment.

Each student reviewed the available literature and looked at their issue through the lens of that literature to develop a deeper and more critical understanding of their topic. Students were not required to complete any primary research but to make best use of the secondary resources available to them to examine their issue. A review of the references used illustrates the students' ability to source relevant published materials to enable them to complete their task.

Congratulations to the students and their supervisors for completing the projects. My thanks to Kevin McDonagh, Evelyn Moylan, Michael Moran, Laura McTigue, Deirdre Lusby and Orla Flynn for their support in compiling this edition.

**Colm Kelleher**  
**Editor**

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# **An exploration of ethical concerns when using social media in recruitment practices in Ireland**

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## **Abstract**

This literature review examines the use of social media within the recruitment process. Recruitment trends (including informal and formal practices involving social media), privacy concerns and protective legislation informing this discourse are considered from the context of organisations in Ireland. From examining the research underpinning this area, positive and negative outcomes are considered from both employer and employee perspectives.

**Keywords:** Social media, employee privacy, recruitment, technology

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## **Introduction**

As technology is rapidly progressing, present-day organisations are confronted with massive changes in the organisation (Colbert, Yee and George, 2016). Employers have witnessed the intense and dynamic impacts such development has had on various human resource jobs and the process of employment recruitment (Root and McKay, 2014, Johnson et al. 2016). According to Fry (2019), eighty-four percent of Irish employers say that utilising digital platforms, such as LinkedIn and Facebook are important for their organisation and use it to recruit and screen applicants.

Though social media presence and the embracing of digital transformation may have its benefits with respect to organisational competitiveness (e.g., reduces organisational costs and time needed for recruitment (Hosain et al. 2020), research suggests that ethical concerns arise from the pervasive use of social media. For example, Hazelton and Terhorst, (2015) found that approximately forty-nine percent of respondents were aware that their social networking profiles could be viewed by employers, leaving a little over fifty percent believing unaware of this potential. Recent study by SIPTU (Services Industrial Professional and Technical Union, 2020) found that sixty-seven percent of employers admitted to checking employees' social media during and after work. Belkin et al. (2020) indicates that with the rise of people working from home, employers expect employees to stay "logged on" after working hours in order to monitor productivity, which may indicate that employers are pushing the boundaries of expected behaviour.

The literature review will investigate the increasing use of social media platforms for recruiting; the potential benefits it offers; and the extent to which organisations' are exploiting digital platforms as part of their management practices. Given the rapid advances and the increased reliance on technology, the question of how it is changing work and employment is highly salient for scholars of organisational psychology and organisational behavior (Cascio and Montealegre, 2016). This paper, therefore, will be conducted based on Irish viewpoint, highlighting some

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of the legislations and protections in place that protect employees' right to social media-based privacy; and also elaborates on the extent to which this growing trend allows employers to engage this information, which could potentially affect their management practices. Employers may need to reconsider how social media is engaged and update their code of conduct, accordingly, to reflect the changing nature of the employer/employee relationship in light of growing social media trends.

## **Organisational Evolution**

According to a recent report by European Economic and Social Committee (EESC, 2017), traditional businesses and industries are affected by digitalisation, having an impact on existing organisational and management structures, which is most evident as a result of its higher flexibility; changing work monitoring methods; recruitment strategies; and skill and training needs. Owing to the developments in Information Technology (IT) employers have witnessed the intense and dynamic impacts such development has had on IT and its impact in various human resource jobs and the process of employment recruitment (Root & McKay, 2014, Johnson *et al.*, 2016). *Recruitment* can be explained as the process of attracting, selecting, and hiring the most suitable applicants for vacant positions based on a candidate's individual properties and their person-organisational fit (Melanthiou *et al.* 2015). As noted by Public Appointment Service (PAS, 2009), the current market is significantly competitive, and therefore attraction has become the most challenging part of the recruitment process for Irish recruiters.

The contemporary level of recruiting mostly comprises of internet, particularly the use of social media platforms. *Social media* is an umbrella term used "to describe digital, social software that facilitates information sharing, user generated content, and collaboration across people" (McFarland and Ployhart, 2015, p. 1654). With social media users predicted to reach almost 4.41 billion in 2025, an increase from 3.6 billion in 2020, the widespread use of social media has impacted some of



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the key business functions and processes within a range of industries (Baptista et al., 2017; Statista, 2020). For example, the employee recruitment process is a core business function that has been influenced by the pervasive use of social media (Abia and Brown, 2020), transitioning from paper-based process to digital electronic process, commonly referred to as e-recruitment, becoming the top source for recruiting in 2019 in Ireland (Hosain et al. 2020).

Research by Jobvite (2016) yielded a framework of objectives used to assess a variety of organisations recruiting employees through social media. The framework was developed based on a series of interviews conducted with over 1,400 recruiting and human resource professionals, in order to identify companies that are using social media to recruit. Results revealed that more than ninety percent of the respondents use social media, including LinkedIn, Facebook and Twitter to find more information of individuals such as; alcohol consumption, marijuana use and criminal record. He also identifies that sixty-four percent of respondents from this ninety percent, say they would have a reaction towards political affiliation on social media, which would possibly have an effect on their recruitment process. and Twitter to find more information of individuals such as; alcohol consumption, marijuana use and criminal record. He also identifies that sixty-four percent of respondents from this ninety percent, say they would have a reaction towards political affiliation on social media, which would possibly have an effect on their recruitment process.

The number of benefits for organisations to implement digital technologies, such as social media, or social network systems (SNS) as an e-recruitment tool by employers are also identified. For example, according to Hosain et al. (2020), the utilization of digital technologies reduces not only cost, but also the time needed for recruitment, with research also showing that electronic human resource management (eHRM) can improve human resource outcomes (Bondarouk and Rue, 2013; Parry and Tyson, 2008). While the utilization of e-recruitment can have large organisational benefits, it can also facilitate the employment

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testing process. Research by Johnson et al. (2016) examined the use of e-recruitment in HR practices by identifying how e-selection systems might assist organisations in enhancing the integration between employees and jobs and/or overall their cost. According to Johnson, (2016), there are four steps in the process: 1) job analysis; 2) testing process; 3) interviewing; and 4) selecting. Specifically, the first step is to identify applicants' job specification through electronic job analysis, which helps organisations' to simplify and streamline the recruitment process, which serves as the basis for initial screening criteria and selection processes.

The second step reveals the e-selection and its facilitation of the testing process (e.g. cognitive ability testing, personality inventories) by using this information to determine the degree of fit between individuals and jobs or organisations. With respect to more direct influence on Irish population, Fry (2019) shows that eighty-four percent of Irish employers say that social media platforms are important for their organisation, and use it to screen applications on their selection process. Furthermore, social media content across platforms conveys a wealth of information about applicants' opinions, thoughts and beliefs (Hazelton and Terhorst, 2015).

The third step reveals how employers are using videoconferencing to conduct pre-employment interviews. As evidence of the popularity of video interviewing, over 80 companies currently offer video-based interviewing solutions (Software Advice, 2019). With the current COVID-19 pandemic, however, this is likely to rise (Lister, 2021).

The final step in the selection process is to combine all of the information collected. Organisations can merge information gathered from job application and pre-screening (testing and interviews) through the use of technologies (e.g. artificial intelligence, which can generate and utilize algorithms) to make overall hiring decisions and, subsequently, monitor employees' performance. According to SHRM, (2021), recruiters verify

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the candidate's prior employability background information before employment and other pertinent data. : Likewise, Clark, and Roberts (2010) found that SNSs offer an inexpensive means of quickly running a background check for employers to ensure the candidate is being honest about his experience and credentials.

## **Ethical Considerations**

Unethical workplace behaviour can take several guises and vary in severity, from minor transgressions to large-scale illegal activity. Unethical workplace behaviour has been described as “any organisational member action that violates widely accepted moral norms” (Barends, 2019). Employers can engage in a simple Google search and locate social media profiles of a job applicant and may further proceed to engage in a more sophisticated analysis of their digital footprint across platforms (Jacobs and Gruzd, 2020). A study by Davison et al. (2012) examined the use of internet screening in order to quickly and cheaply obtain information about job applicants. Influence of a job candidate's social media presence on a prospective employer was also confirmed in research by Baert (2017) who found that a job candidate's Facebook profile photo can increase job interview invitations by thirty-eight percent and can positively impact hiring chances.

Ethical questions arise from whether candidates should have the right to know if employers are using information from social networking sites to screen or verify information they provide. Research by Hazelton and Terhorst (2015) explored the awareness of potential viewing on social networking profiles and found that over fifty percent of respondents were unaware their social networking profiles were potentially being viewed by employers. Additionally, employers may want to consider how searching candidates' backgrounds online can affect the overall morale of current employees, who may feel discontent in their workplace due to fear arising from their own social networking profiles (Broughton *et al*, 2010). Cain, (2007) noted that the nature of the internet means that public

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profiles can be accessed by anyone at any time. Other researchers, however, who have looked at the issues, such as employers accessing public accounts in SNSs, have found that it is still unethical from the perspective of employers to pre-screen candidates to potentially shape their decisions (see Gajendran and Harrison, 2006).

Through public profiles, employers may see sensitive and private activities that are not job-relevant but that may influence the employer's view of a candidate (Moore, 2011). According to Marysol and McCamey (2019), employers have limited information when undertaking their first pick of vacancies, beyond that provided in pre-screening assessments, resumes and other materials submitted as part of the job application. For example, a written curriculum vitae and recommendation letter(s) are often inadequate to gain insight into the candidates' personality and more information is needed to provide a holistic first impression of applicants.

Social media platforms have also been embraced by human resources professionals, job recruitment specialists and employers as a tool that not only facilitates the advertising of employment opportunities, but also technology that enables the screening of prospective employees, as well as the monitoring of current staff and their social media behaviour (Jeske and Shultz, 2016).

A broader perspective has been adopted by Rainey (2012), who argues that SNS screening and monitoring often exceeds checking pictures – managers: search for additional information (e.g. status updates); any negative comments which previous employers have had to say about them; and educational and previous work experience to cross-reference with information from their curriculum vitae. Zuber (2015) suggests that this type of unethical behavior would continue in the event that such behavior becomes the social norm. It has also been suggested that employees who engage in unethical behavior have a higher job satisfaction rating, resulting in less employee turnover. Pierce & Snyder, (2015) recognise that this need for employers to “ensure organisational satisfaction” is critical for employers in their evaluation and monitor

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employees on a daily- basis. They also found that such monitoring allows employers to further gain knowledge in a greater detail of their movements and behaviour.

With regards to monitoring employees, a recent study by SIPTU (Services Industrial Professional and Technical Union, 2020) found that approximately sixty seven percent of employers admitted to checking employees' SNSs during and after work. Influence of the social media presence on employers was also confirmed in research by Baier (2018) who suggests that, while SNSs have a number of positive attributes, they also risk making personal information available to individuals beyond originally intended audiences, including professional colleagues, clients and complete strangers.

### **Moral and Legal Implications**

Confidentiality, as an ethical concern, is generally a strict requirement for anybody handling another person's personal data; and strict legal requirements are in place in most jurisdictions regarding such handling (Felzmann, 2013). The European Commission set out plans for data protection reform in order to make Europe "fit for the digital age" (Palmer, 2019). Palmer, (2019) suggests that under the terms of General Data Protection Regulation (GDPR), employers' obligation to access data must be transparent inside and outside the organisation. Employers must be accountable for data processing activities and be able to show how you meet data protection principles. While not legally binding, the advice relating to social media screening in Article 29 of the GDPR (5.1), states that even though an individual's social media accounts may be publicly available, employers should still notify candidates before viewing their social media accounts, and gain clear consent to processing any data which exists there (CVCheck, 2019). This term suggests that issues regarding access to employment information in social media platforms are not covered in this legislation, leaving employers capable to take information from SNSs to shape their decision.

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Code of Conduct is a set of guides that recommend voluntary actions that employers and employees are advised to follow (Baker, 2013). The set of rules developed by organisations seems to lack in Irish organisations' as a formal method to train and instruct employees on a daily basis. Research by O' Dwyer and Madden, (2006) investigates the issues surrounding code of conduct in Irish based companies. A range of surveys were carried out with over 1,000 companies in order to identify the companies that have developed a code of practice within their organisation. While the results suggest that there is a significant increase in usage, formal ongoing methods of instructing new staff about codes are not prevalent. There are similarities between the findings expressed by O'Dwyer & Madden, (2006) and those described by EPolicy, (2007), who found that only twenty-seven percent of employers addressed monitoring policies and practices as part of formal, on-site employee training – the recommended way to maximize compliance.

The leading legal issue in conflict with business organisations' SNS screening of applicants involves the public profiles of candidates. Ireland has adopted policies and regulations that prohibit discrimination in the workplace. The Employment Equality Act (1998-2015) outlaw discrimination in a wide range of employment and employment-related areas (Citizens Information Board, 2019). Though the detailed discussion of legal requirements is outside the scope of the current research, but some general concerns with relevance to research data will be briefly outlined here. The legislation claims that discrimination claims can be brought up against an employer if an applicant feels that an employer did not interview them due to knowing the applicant's race, gender, nationality, religion, sexual preference, disability, marital status, or other information not afforded by a face-to-face interview. Having this legislation, however, may not be entirely sufficient to change issues such as pre-screening, as potential legal issues may arise. For example, court cases involving issues such as gender discrimination in the Irish context have occurred when employers have been disciplined for their unethical

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behavior from the usage of social media during the screening process (CCsolicitors, 2021).

While employee references can be a valuable source of information for employees, they are becoming ineffective from the use of SNSs. According to Horkan (1993), employment references have become a prominent concern of employees and their prospective employers, because, despite the additional information that may influence the decision to employ, past/current employers tasked with providing the reference may provide limited, misleading information or refuse to say anything negative about their former/current employees. Employment references can be a sensitive subject, particularly where the employee has left under unfavourable circumstances and may be why many employers in Ireland no longer provide references, rather, providing ‘statements of employment’, which set out the basic facts of the employment (Connolly, 2016). These findings are rather disappointing, as it can be reasonably speculated that technically, employees are giving personal references just by being on social media platforms, which leads to employers going conscientiously against accepted morals.

Moreover, research by Kiser et al. (2010) indicates that employees are “watched” through their use of their work computers via email and Internet usage. This finding was confirmed by Belkin, et al. (2020), who stated that employers are increasingly checking emails after working hours. A possible explanation for this could be that they have an increased control in their data after working hours, thus, gives them a broader range of information. With that, Hernandez, (2020) argues that there are various ways that employers can monitor employees just by being connected to the company's virtual private network. Contrary to expectations, Ariss, (2002) argues that any action performed on a company computer may be subject to monitoring even if it is not transmitted over a network nor stored in a file. Recent examples of such behavioural biases are evident from charges against IKEA Swedish case. According to (Raidió Teilifís Éireann [RTE], 2021), the French branch

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of Swedish retailing giant IKEA went on trial accused of running an elaborate system to spy on staff and job applicants using private detectives and police officers. Further in this research, it is evident that IKEA France set up a "spying system" across its French operations, collecting information about the private lives of hundreds of existing and prospective staff, including confidential information about criminal records. The charges included in this case include illegal gathering of personal information, receiving illegally-gathered personal information, and violating professional confidentiality. Moreover, the company has sacked four executives, but IKEA France, which employs 10,000 people, still faces a fine of up to €3.75m. Thus, in the light of this research, it is reasonable to suggest that while the European Commission set out plans for data protection reform in order to make Europe "*fit for the digital age-GDPR*,"; it is clear that employers are crossing the line between professional and personal life, which results organisations' facing a large amount of fines, but also a severe punishment in terms on its reputation and organisations relations.

Furthermore, Belkin et al. (2020) indicates that with the rise of people working from home, employers expect employees to stay "logged on" after working hours in order to monitor productivity. With respect to more influence on the Irish population, a survey conducted by Christian (2020), with over 900 organisations, found that approximately seventy-eight percent of employees currently work from home and fifty-three of these seventy-eight percent have a work assigned device. While this growing trend can be assumed to have a large impact on other European countries where GDPR is also covered and legislations that protect employee privacy is without effect, it is thus possible that Irish employers are using technology to gain further control over their employees after work.

Organisations are monitoring email, blocking websites, tapping into phone conversations, and even tracking employees via GPS combining technology with policy to manage productivity and minimize litigation,



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security, and other risks (April, 2002; Bhatt, 2001). According to Butterer and Lieb (2016,) employees now access employer computer networks from home both during and outside of regular working hours. Likewise, EPolicy, (2007) found that sixty-six percent of the companies monitor employee internet connections and sixty-five percent use software to block connections to inappropriate websites. As discussed by Rogers, (2002) employees are of the opinion that their non-job-related communications are private and, consequently, should not be monitored by their employers. An evidence of the use of social media in a personal capacity leading to disciplinary procedures of employees in work can be clearly seen in the Irish case of Toland v Marks & Spencer, (2011).

Policies have become more comprehensive as modern organisations become more dependent on a wide range of technologies which support “all aspects of their strategic and operational activities” (Doherty et al. 2010). Furthermore, they recognise the need for policies to be updated in line with the growth of technology to protect both the organisation and its employees. Nevertheless, concerns regarding the adoption of such policies have been developed by social media analysts. For instance, Husin and Hanisch, (2011) yield a framework to assist organisations when navigating through the policy development process. The importance of these findings relies on the five components examined, such as; 1) legal obligations, 2) different levels of management, 3) general and concise statements, 4) social media etiquette, and 5) notification and standardisation considered as essential elements for organisations to consider for the adaptation of social media policy. In addition, they also assert that each component can be broken down to various sub-components, which presents as a vehicle to dictate appropriate behaviour and enforce an organisation’s expectations. Fenwick et al. (2010) point out that even with an effective social media policy, it is essential for the senior management and recruiters to show an example of themselves utilising social media tools while adhering to the policy and ensure an up-to-date code of practice. Moreover, they also mention this could be achieved by several employees by encouraging

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ongoing development of formal methods, and consequently, an update of such policies amongst organisations and its importance could increase significantly.

## **Conclusion**

A review of published literature and industry reports shows that screening SNS for recruitment is both effective and becoming a global phenomenon (e.g. see Bejtkovsky *et al*, 2018; Tola and Deshati, 2017). Social media platforms are becoming more important for Irish employers on their management practices, and research indicates that a need exist to monitor employees on a daily basis to ensure satisfaction.

It can be argued that use of SNS for purposes of recruitment is an invasive practice that can potentially lead to negative outcomes for organisations. Furthermore, under the terms of GDPR, employers' obligation to access data must be transparent inside and outside the organisation, which will indicate that employers are crossing the line between personal and professional life, which results organisations' such as IKEA Sweden facing a large amount of fines, but also a severe punishment in terms on its reputation. In that context, employment legislations need to be modified to incorporate issues such as access to employment information outside the workplace.

Furthermore, Belkin *et al*. (2020) indicates that with the rise of people working from home, employers expect employees to stay "logged on" after working hours in order to monitor productivity. With respect to more direct influence on Irish perspective, Organisation of Working Time Act (1997) sets out statutory rights for employees in respect of rest, maximum working time and holidays, where employee are entitled to take some time off work (Irish Statute Book [ISB], 2021). Christian (2020) conducted a survey with over 900 organisations' outlined that approximately seventy-eight percent of employees currently work from home, and fifty-three percent of these seventy-eight percent has a work

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assigned device. These results provide further support for the hypothesis that Irish employers may use technology to gain further control over their employees by taking a further advantage of the current situation.

It is also evident that employers are pushing the boundaries not only morally, but also legally. While the references from previous employment can be a 'sensitive subject', it can be argued that employers are gaining a personal profile from employees through their SNSs, which may lead to employers to gain additional information on prospective employees through questionable means. Furthermore, there are laws in place that protect employees in a variety of ways (e.g. The Employment Equality Act, 1998-2015); and court cases involving issues such as gender discrimination, in the Irish context, have punished businesses for unethical behaviour (CCsolicitors, 2021). The use of SNS in a personal capacity can lead to a discipline procedures of employees at work as seen in the Irish case (e.g. Toland v Marks & Spencer, 2001), which further supports the invasive use of SNSs.

Moreover, as discussed by EPolicy, (2007), it is evident that only 27% of employers address monitoring policies, which indicates that Irish organisations set of rules lack as a formal method to train employees. It can be argued that there is a significant time lack between technology moving forward and rules set by organisations and legislations; thus, policy development should be a priority for organisations to ensure an up-to-date code of practice, as well as ongoing development of formal methods for instructing staff and potential applicants in an effort to overcome such issues, while also maintaining organisational culture and values within the organisation. As law and legislation may require longer time to be updated (Connolly & McParland, 2012), a very comprehensive analysis is developed by Husin & Hanisch, (2011) who excessively describes the steps of social media policies that organisations need to consider.

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The literature discussed adds to the rapidly expanding field of the invasive use of social media and provides a better insight of how organisations' exploit online platforms to gain further information about and control over their employees and potential candidates. The scope of this study was limited in terms of the actual data audits from organisations. Further research will be required in order to determine how many organisations are carrying out their recruitment and selection campaign online, alongside how they are using technology in the employee management practices.

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# **A study of employee perspectives of the benefits and challenges of the four-day workweek in Ireland**

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## **Abstract**

This research paper was undertaken to explore the attitudes of employees to the concept of the Four-day week (4DW) and to explore the possible impact that a shorter working week would have on the lives of workers in Ireland. The research proposes that the demand for a shorter working week is growing, and employee benefits such as a better work/life balance, job satisfaction, and mental well-being correspond with the employer benefits of reduced absenteeism, increased employee satisfaction, productivity, and work quality. However, for as many perceived benefits, equally there appear to be many negative consequences such as those related to increased staffing, administrative and contractual issues.

Findings suggest that defining a 4DW can be problematic, and that there is no one best practice, as employers must adopt the best solution for their institution.

**Keywords:** Four-day week (4DW), good practice

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## **Introduction**

The four-day workweek (4DW) remains an important topic of consideration given that work scheduling is as important to employees (e.g., pay, structure of work, job satisfaction and quality of personal life) as it is to their organisations' costs, productivity and quality of goods and services (Alfares, 2003). Several perceived benefits have been noted over the years with respect to implementing a 4DW, including employees' job satisfaction, mental well-being and potential to increase efficiency. However, for as many perceived benefits, there appear to be as many negative outcomes of such implementation, such as those related to staffing, administrative and contractual issues.

According to Ashford and Kallis (2013), there are three primary reasons for why a 4DW should be implemented. First, fewer work hours equate to more available hours to the currently unemployed for work (Schor, 2010) and for the promotion of job-sharing, which could have a potentially beneficial effect on the economy (Jackson, 2010). Second, the halting of the reduced working hours/reduced productivity trend (Lee, McCann & Messenger, 2007), which would allow for gains in productivity to potentially lead to more time off (Skidelsky & Skidelsky, 2012). Third, reduction in work, production and consumption, which may reduce activities that are harmful to the environment (Coote, Franklin & Simms, 2011). With that, it is important to consider other points. For example: (1) fewer work hours also equate to more available hours for part-time workers looking for more hours, which is also a positive; (2) the reduced working hours/reduced productivity observation was made before the 2008 financial crisis; and (3) such reductions are based on assumption and not empirically validated research; thus, Ashford and Kallis's second and third reasons should be interpreted with caution. Ashford and Kallis (2013) also noted the scepticism of economists regarding the regulation of working hours, in that such implementation may increase labour costs and decrease output – leading to less work available. Though, as they further postulate, if some form of a 4DW is to be implemented, a reduction in hours without pay-cut, is the likeliest to

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succeed, as employees would be more inclined to accept this form of a 4DW.

In addition to the need for evaluating such pros-and-cons of implementing a 4DW, defining what constitutes a 4DW has been problematic. Thus, the objective of the following literature review is to adequately define and conceptualise what is meant by a 4DW to inform the overall purpose of the proposed research, which is to explore the perspectives of full-time employees in Ireland on the potential of a 4DW, with respect to: (1) positives; (2) negatives; (3) feasibility of implementation; and (4) potential frameworks for future implementation. As a demand for a shorter working week grows, so does that of supporting research to aid in its implementation.

### **A brief history of the four-day workweek**

The concept of a four-day workweek (4DW) is not new, starting in the 1950s, then further popularised in the 1970s (Hartman & Weaver, 1977). In 1970, the American Management Association defined the 4DW as “any arrangement of workdays and hours scheduled by an organisation whereby one or more groups of employees fulfil the work commitment in fewer than the standard five full days” (see Samuelson, 1970, p. 7). This perspective was inconsistent with other ‘flexible’ perspectives on the working week during this time (Gordon & Elbing, 1971; Hartman & Weaver, 1977). During this period of interest in the 4DW, the most common reasons for support were the potential for enhanced employee productivity, job satisfaction and recruitment, along with potential decreases in labour cost, absenteeism and turnover (Fottler, 1973; Poor, 1970; Wheeler, Gurman & Tarnowieski, 1972). According to Fottler (1973), the most common format of the 4DW during this era consisted of 10-hour days (i.e., the ‘4/40’).

According to Calvasina and Boxx (1975), much of the reporting on the 4DW week during this time was based on opinion pieces and only some evidence-based data. Calvasina and Boxx (1975) compared the productivity and performance of 167 female factory workers for one year

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on a five-day week (i.e., 40 hours) with the same outcomes after switching to a 4DW (i.e., 38 hours). Results revealed no statistically significant differences regarding productivity or performance. Though these results do not suggest that a 4DW positively impacted performance, it did not significantly hinder productivity either; however, given that there was only a 2-hour loss per week, relatively speaking, these null effects are not entirely surprising.

Despite a few methodological flaws, these results are interesting to consider. Contextually speaking, however, the relevance of these findings is questionable, given that they are outdated, considering changes in economic climate and socio-cultural factors between 1975 and today. One important example in this context is that France has had their full-time week cut to 35-hours for roughly 20 years (Laker & Roulet, 2019).

Bird (2010) acknowledged that, given the numerous advancements made over the past handful of decades, interest in the concept of 4DW has been renewed and may be warranted, provided lessons from the past are considered. With that, accounting for research over the past 50-plus years, implementation of a 4DW has been argued as ‘a realistic goal’ in the UK (O’Grady, 2018); and, on the other hand, ‘far from inevitable’ in the U.S. (Bird, 2010).

One of the methodological failings of many of the research studies discussed thus far is that they are not based on longitudinal research or even controlled trials of 4DW (with exception to some of the studies conducted in the 1970s, e.g., Calvasina & Boxx, 1975); rather, self-reported survey data and other demographic data, collected from relatively small samples. This literature review identified one longitudinal study in the last five years: Kamerade et al. (2019) examined data collected from 2009-2018 about the relationship between amendments to work scheduling and mental well-being. Results found that though working even 1-8 hours yielded significantly higher mental



well-being than none (i.e., being unemployed), there was no variation in mental health between the lowest number of hours per week (i.e., 1–8 hours) and the highest (44–48 hours) assessed.

### **Employee attitudes towards the four-day workweek**

In 2018 the Workforce Institute at Kronos conducted a survey of 3,000 employees over eight countries. The survey found that 86% of employees cited losing time at work on tasks not related to their core jobs and that 78% of employees across Australia, Canada, France, Germany, India, Mexico, the U.K., and the U.S. believed that their jobs would take less than seven hours a day if they could work uninterrupted. However, 71% still said that work interfered with their personal lives. It was also found that three quarters of worldwide employees would prefer a longer weekend, if pay rate remained the same. This study suggests that for a shorter workweek to succeed, companies need to consider time being wasted to ensure employees have time to finish their work.

In recent years, Fórsa, one of the largest trade union services in Ireland, have been campaigning for a 4DW. A quantitative survey carried out by ‘Behaviours and Attitudes’ was undertaken for Fórsa in 2020, to gather the views of approximately 1,000 Irish workers on the 4DW. Of those that were surveyed, 74% were private sector, 77% worked full time, and 82% were employees, with the remaining 18% being employers. For the purpose of the survey the definition provided of a 4DW was ‘same job, same goals, same salary but over 4 days rather than 5’ (Ryan and Glennon. 2020, p.2). The results of the survey were positive with two thirds of respondents believing that a 4DW is realistic and achievable. Furthermore, three out of four respondents believed it would be desirable for employees, and 59% suspecting it is achievable from an employer’s perspective. Throughout the survey, younger adults and full-time workers responded positively to the idea of a 4DW. In general, older adults, farmers and self-employed respondents were more dubious. Despite the different views, 77% of all respondents agreed that the

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government should explore the introduction of a 4DW in Ireland, and almost half strongly supported the idea (Ryan and Glennon, 2020).

### **Impacts and concerns of the four-day workweek**

While there is much support for the theoretical implementation of a 4DW, there remains some trepidation towards the subject. One argument often used by campaigners for the 4DW is that employees have a better work/life balance. According to Travis (2010), while many studies have shown a correlation between a shortened workweek and less family conflicts, employees with fewer family problems are less likely to benefit or avail from the 4DW. Travis (2010) adds that the 4DW could be used by lawmakers as a work/family balance tool, which could be particularly relevant in today's climate, with the increase of people working from home.

With respect to family life, Lung (2010) suggests that considerations of the impact of 4DW implementation often ignores the potential effect on the individual and their families of working low-income jobs and whether they are paid hourly wages. Lung recommends that such consideration is necessary to ensure that 4DW implementation policies also benefit individuals earning low-incomes; and, as such, social welfare policies, low-income wage packages and even immigration policies also require consideration.

A recent, comprehensive, survey of business leaders in the UK who have implemented the 4DW in their organisation revealed decreases in absenteeism and commuting; and increases in employee satisfaction, productivity, work quality, cost savings, and workers' quality of life (Laker and Roulet, 2019). However, leaders also reported concerns regarding contract regulation, staffing issues and increases in the associated administration necessary to implement such a scheme. Laker and Roulet argue that though beneficial in many ways, large-scale implementation of the 4DW is unlikely.

Shao and Shen (2017) conducted environmental analysis on the relationship between shorter working weeks and the environmental impact from 1970-2010 in 15 European countries, including Ireland. Countries such as France, Denmark, Germany, and the Netherlands experienced more environmental pressure as the work hours reduced. While working hours reduced in Ireland during this time, carbon emissions and energy use increased. They further postulate that if working times continue to reduce, it will contribute to environmental deterioration. Thus it is necessary for policy makers to calculate correct working times to do the least amount of damage environmentally.

Another concern from an employee perspective is the introduction of *furloughs*. According to Green (2010) furloughs are unpaid days off, a type of shortened workweek that employees do not work and are unpaid for the hours they are furloughed. Furloughs are used often by employers in times of recession as a cost-cutting initiative. While employees are often unopposed to furloughs, as it is better to have some work than none, furloughs can still be a matter for concern, as they can be introduced without consulting employees. On the other hand the practice can simply be a way of saving jobs in tough economic circumstances. Green (2010) suggests that employees should be prepared to respond to such furloughs with strategies and collective action with other employees and their unions.

Despite the positive outcome reported by some companies, other businesses and associations are still unsure of the transition. The Irish Business and Employers Confederation raised concerns about the feasibility of the 4DW, stating that while the 4DW is possible for some businesses, it is not possible for businesses such as care facilities and, asking employees to condense their week may cause unnecessary stress (Roddy, 2019). Similarly, the Irish Small and Medium Enterprises Association (ISME) found issue with the plausibility of a 4DW in industries such as healthcare and others that require employees to be on call for long periods of time. John Barry, council member of ISME stated that “you lose flexibility” in such cases (Lyne, 2019).

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## **The four-day workweek: the Irish context**

Regarding working time, since 2005, the weekly hours worked by full time employees in Europe, have effectively unchanged, with Ireland remaining at approximately 40 hours (Eurostat, 2019). Rappanner and Maume (2016) noted that from 1989-2005, for the 32 nations they sampled, such as Ireland, Canada and Norway, many enacted maximum-work-time legislations, suggesting that work time was an issue during this period. In Ireland, legislated work hours remained unchanged, but employees reported less normative-work hours and preferred less time at work. In other words, countries with less than legislated work hours reported dissatisfaction with work time. Though the causality of the statistics is unclear, it does speak for the trends of work-time expectation and work-time regulations. It is important to note that what constitutes as part-time and full-time work varies between countries and changes over-time (Ward *et al*,2018).

Over recent years in Ireland, there has been a trend of working hours where roughly the same proportion of employees are working part-time (less than 30 hours a week) and are working full-time (more than 35 hours a week), perhaps partly due to the increase in women in the workplace (Gilmore,2019). According to De Spiegelaere and Piasna (2017), in the EU, one third of all female employees, as a proportion of all jobs, had a part time job from 2005-2015, in comparison to less than one tenth of male employees. Notably, part-time jobs were usually low skilled jobs, and often had less career opportunities than full-time jobs. De Spiegelaere and Piasna (2017) also noted that women, especially mothers, often do more of the unpaid household and care work indicating that women often cannot contribute as much time and energy into climbing the corporate ladder as their male counterparts. With a 4DW, women may be able to return to full-time employment and thus will no longer have the disadvantages that come with part-time work.

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## **Case studies in the four-day workweek**

### **State of Utah**

Wadsworth and Facer (2016) argue that it is important to engage employees when making the decision to go from traditional work schedules to reduced work schedules. Using a postimplementation survey, they examined the impact on the State of Utah after implementing a 4DW in 2008. Wadsworth and Facer (2016) found that it is important for employees to be able to voice their opinion of reduced work schedules as it effects employee's perception of the policy and how it affects their work-life balance. While this study focused on a mandatory implementation of a 4DW, by allowing employees to fully partake in a 4DW, and actively encouraging employees to engage with a 4DW, it reduced negative associations with the practice. In any case, Wadsworth and Facer (2016), notes when it comes to reduced work schedules, there is not one best implementation. Managers must consider factors such as citizen access to the company's services, but also must consider employee satisfaction and employee preference for work-life balance. It should be noted that in 2011 Utah returned to a five-day workweek when legislatures dropped the experiment due to citizen complaints (Johnson, 2011).

### **Perpetual Guardian**

Regarding successful implementation of the 4DW, Perpetual Guardian, a private New Zealand company, launched an 8-week trial of the 4DW in 2018. Employees worked 30 hours a week, all other conditions of work remained the same, including remuneration and expected levels of output. After the trial, 78% of employees reported they had a good work/life balance in the company, compared to 56% prior to the trial. Stress levels were reduced from 45% to 38%. They also saw an increase in production levels of 20%. Due to the results of the trial, the company continued with the 4DW, on an opt-in basis. (Perpetual Guardian, 2019).

### **ICE Group Galway**

ICE Group, a Galway based recruitment firm, has been operating a 4DW since July 2019. ICE group is one of the most substantial take up of the

4DW in Ireland to date. Following the lead of Perpetual Guardian, ICE implemented the 4DW, working 9-hour days without reduction in pay or production. The company claims the 4DW initiative allows employees more personal time and less stress, which earned them a nomination for the Family Friendly Ireland Awards (4dayweek.ie, 2021). The company decided to keep the business open six days per week, which caused some issues, such as the logistics around Bank Holidays, however, these issues have subsequently been corrected. Director of ICE, Margaret Cox, believes the initiative has been successful and that the company has demonstrated to other employers and countries, that a 4DW is not only possible, but is also a great benefit to society and businesses (Fórsa, 2020).

### **Microsoft Japan**

Similarly after seeing Perpetual Guardian's success, Microsoft Japan piloted the 4DW in July 2019, while still paying employees for five days. Employees were given five Fridays off in August of 2019 to encourage participation. The company claimed a productivity boost of 40%, reduced electricity costs by 23% and printed 60% fewer pages. The company also promoted less time wasting when it came to meetings and communication, encouraging employees to use collaborative chat channels rather than "wasteful" emails and meetings. Despite the positive outcomes of the trial, Microsoft Japan did not continue the experiment (Chappell, 2019).

### **Metro Manila**

In addition to studies conducted in countries already mentioned, a search of recent research also yielded studies from China, Korea and the Philippines. For the latter, 350 employees from different industries such as financial services, real estate, consulting, manufacturing, retail, food, and transportation in Metro Manila were invited to participate in a study. 175 respondents came from companies working a compressed workweek and 175 came from companies working normal working hours. The study found that a compressed workweek yielded lower levels of job stress,

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which positively affected work-life balance and work productivity (Paje at al., 2019).

### **Potential framework to implement the four-day workweek**

Skidelsky (2019, p. 8) argues that there is one main reason for reduced work hours, being a “natural and desirable outcome of a progressive society”. Skidelsky further notes that the pathway to a shorter working week is not a one size fits all situation but should consist of policies that can be adapted to different sectors: (1) a Job Guarantee Scheme (JGS), prompting the government to provide employment for jobseekers, who cannot find work in the private sector, as a last resort; (2) public sector investment, bringing the standard in the public sector up to that of the private sector; (3) establishing pay, conditions and hours using procurement policies in which the government could use their leverage to encourage automation (where possible), training and hours reduction to help achieve these goals; (4) sectorial social partnership forums, allowing employers, employees, and government to discuss openly about pay, working time and automation; (5) make listed companies disclose the impact of automation on employment; (6) improve individual working time rights through enforcing working-time rules already in place (e.g. the “Right to Disconnect”, which is code of practice that allows employees to disengage from work outside of normal working hours: Workplace Relations, 2021). With that, it is also important to consider drawbacks including: (1) implementation of the JGS would be difficult with respect to the nature of the jobs and the wage-rate; (2) investing in the public sector is not enough, they must know how to spend the investments efficiently; and (3) EU laws may contradict individual country laws, regarding time rights.

Despite potential drawbacks and the theoretical nature of Skidelsky’s framework, it is possible to extract some components and consider them as a possible framework for Ireland:

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(1) Regarding a Job Guarantee Scheme, the Irish government has similar incentives already in place (gov.ie, 2021) such as the JobsPlus scheme which incentivises employers to employ jobseekers under 30 years of age who are on the live register<sup>1</sup>, therefore it is not a farfetched idea that a similar scheme could be devised for the private sector.

(2) With respect to public sector investment, Hickey *et al* (2018) have suggested that such investment is beneficial to the country and that adopting a budget neutral investment spend will lower the risk of the negative effects of public finances and generate long-term benefits.

(3) With regard to government involvement in pay, conditions and hours, *Springboard* is an initiative funded by the Irish government that focuses on upskilling and reskilling jobseekers in higher education (Department of Education, 2021). With fewer people on the live register it is likely the government will extend this scheme to other sectors.

(4) Social partnerships were successful in Ireland prior to the 2008 financial crisis, however in recent years the government have been unfavourable towards these partnerships because every citizen was not a part of the process, not every public sector was covered, and former Taoiseach Enda Kenny said, “meetings took place in secret away from this institution” (Public Affairs Ireland, 2015).

(5) Consideration is required for some issues regarding General Data Protection Regulation (GDPR) when disclosing information on the impact of automation.

(6) As previously mentioned, Ireland has already enacted the “Right to Disconnect” Act and so would likely be receptive to creating new employment laws so that employees are treated fairly.

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<sup>1</sup> The Live Register is used to provide a monthly series of the numbers of people (with some exceptions) registering for Jobseekers Benefit or Jobseekers Allowance or for various other statutory entitlements at local offices of the Department of Social Protection (Central Statistics Office, 2021)



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## **Conclusion and next steps**

As early as the 1930's, Keynes famously predicted that industrialised countries would work a 15-hour workweek by now. However, many employers and employees are still unsure of the likelihood or plausibility of a shorter workweek. This project was undertaken to evaluate and understand the feasibility of a four-day workweek (4DW) in Ireland and to examine both the attitudes of employees and the impact a shorter working week would have on their lives. This review has identified a general desire for a shorter workweek worldwide, with approximately 75% of employees wanting a longer weekend (Workforce Institute, 2018). Similarly, three quarters of Irish employees found a four-day workweek to be desirable (Ryan and Glennon, 2020).

The research has shown that there are benefits to a 4DW that are to be considered. ICE Galway, Perpetual Guardian and Microsoft Japan cited an increase in productivity and less stress after implementing a 4DW. Another possible benefit of the 4DW is the potential for enhancing equality in the workplace and a better work-life balance, due to women (particularly mothers) being able to spend more time at home while still working full time (Spiegelaere and Piasna 2017). Increases in employee satisfaction, cost savings, and workers' quality of life along with decreases in absenteeism and commuting were also some benefits reported after implementation of a 4DW (Laker and Roulet, 2019).

This research further suggests that there are indeed grey areas in terms of perceived benefits-drawbacks dichotomy to a 4DW. While improved work-life balance was a positive consequence of the 4DW, Travis (2010) notes that employees with fewer family problems are unlikely to benefit from the 4DW in this context. Similarly, Lung (2010) outlines the potential negative effect on employees of low-income or hourly paid jobs. Both conclude that these issues need to be considered if aiming to implement a 4DW. Notably, a decrease in the environmental impact of jobs was also a perceived benefit from some employers such as Microsoft Japan, however a longitudinal study by Shao and Shen (2017) found that

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over the long-term carbon emissions and energy use increased in certain countries despite the reduction of working-time.

While this literature review has demonstrated that there is a demand for a 4DW in Ireland, further research is required to explore the feasibility of a widescale roll-out of a 4DW on a national level. A major limitation to this study is the lack of longitudinal studies, especially those pertaining to Ireland. As Skidelsky (2019) remarks, the government needs to play a larger role if the 4DW is to be accepted on a wide scale. To reduce the negative association with working less more institutions need to trial a 4DW on a mandatory basis, as suggested by Wadsworth and Facer (2016). Across each study it was concluded that there is no best practice for the 4DW, and that for it to be successful each employer must adopt the best solution for their institution.

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# **An investigation into the growth of self-service technologies and its impact on service providers and customer satisfaction**

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## **Abstract**

This project examines how service providers are enhancing customer satisfaction through the development and adoption of self-service technology (SSTs). In particular, the study will explore both customer and service provider experience of SSTs. The literature shows that, whilst some negative experiences have been identified, improvements in technology and customer familiarity with SSTs indicate that the significant growth in their use will continue in the future. Some of the main drivers include faster transaction speed through the elimination of the check-out phase, simpler payment, cost savings on sales space and customer service workers, and fewer human errors.

**Keywords:** Self-service technologies (SSTs), consumer behaviour, retail

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## **Introduction**

“The popularity of internet and evolution of technology has radically revolutionised the entire service delivery process by shifting from a traditional to a self-service mode” (Campbell et al, 2011). Self-service technology (SSTs) is the technological interface that allows customers to get their service done without the involvement of the service employees (Meuter et al, 2005). It is impossible to ignore technology because it has become so pervasive. Many everyday practices, such as monitoring packages online, ordering food from self-service kiosks in fast-food restaurants, withdrawing money from an ATM, and using price-scanning machines in supermarkets, would be impossible without it. Service providers implemented technology-enabled mechanisms, such as SSTs, to deliver convenient services to their customers, resulting in increased efficiency and customer loyalty (Tsou & Hsu, 2017). Customer satisfaction is considered the secret to the survival of a company in the today’s highly competitive era (Sedighimanesh et al, 2017).

This paper examines how technological advances have fundamentally altered the way in which services are delivered by switching from a traditional to a self-service model. Self-service can be classified into two types: technologically driven and non-technologically driven (Meuter et al, 2000). This research focuses on technology-driven self-service channels, which are known as SSTs. These are self-service channels that allow customers to manage their services on their own through a technical interface. The purpose is to also investigate are the service providers and their customers having the best positive experience with the SSTs and if there are some negative aspects to the implementation of SSTs, then is there a way to minimise them. SSTs is rapidly growing in all different sectors, such as the hospitality industry in the segments which include food and beverages, travel and tourism, accommodation, and recreation, and on the online environment including websites and online banking.

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This paper is useful as it gives businesses an idea of what to look out for when implementing SSTs in their business. It will show them the impact, whether it is positive or negative that it will have on the business itself and their customer's satisfaction. They should try to minimise the number of negative impacts that the implementation may have as much as possible. It will show whether there is a demand for SSTs and in which areas is the most demand for them. It will also show where the technology is set to be in the next few years and if it will be worth investing in.

Engaging in a critical literature review, this research set out to answer the following questions:

1. The potential growth of self-service technologies in the next coming years.
2. What impacts are self-service technologies having on service providers.
3. What impacts are self-service technologies having on customer satisfaction.

This paper will begin by giving a brief overview of the history and demand of SSTs. It will then focus on the first research question which identifies the potential growth of SSTs in the next coming years. Next it will examine the positive and negatives impacts on the service providers. Following this, it will examine the positive and negatives impacts on customers satisfaction. The paper will conclude with a summary and an insight into the future of SSTs.

## **History**

Merchandise was once selected for us from high shelves behind a counter by shop clerks. We now cart squeaky, wheeled metal baskets around well-lit warehouses known as supermarkets. We will click a connection tomorrow, and a drone will deliver a punnet of fresh raspberries to our

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house. We all know about SSTs as it is all around us but where and when did the whole concept of it start.

The SST market is segmented into three product segments i.e. vending machines, ATM machines and self-service kiosks. Vending machines are further segmented into beverage vending machines, candy vending machines, snacks vending machines, gumball vending machines, cigarette vending machines and specialised vending machines. ATMs are subdivided into conventional, white label, brown label, smart and cash dispenser type. The different types of kiosks are photo, DVD, ticketing, HR & employment kiosk, patient self-service kiosk, information providing kiosk, banking & financial kiosks, and other kiosk like restaurant kiosk, tele kiosk and building directory kiosks (Research and markets, 2015). To understand the concept of SSTs we must first look at where they came from and how they evolved.

The first true public examples of digital self-service machines were Automated Teller Machines (ATMs). The first ATM was introduced in the UK in 1967 (Asksuite, 2019). It is computing capacity and data networks were crucial not only for real-time communication with a complex banking system and they were also useful for a new generation of automated self-service devices, such as gas pumps, ticket machines, and self-checkout machines (Vital Edge, 2019). Bank of Ireland opened its first ATM at Stillorgan, Co Dublin on February 13, 1980 (Irish Examiner, 2017).

The first interactive kiosk was founded by Murray Lappe in 1977. An interactive kiosk is a computer terminal featuring specialized hardware and software that enables access to information and applications for communication, commerce, entertainment, or education. It was used for information at the University of Illinois. The kiosk was used to offer information about classes, bus schedules, on-campus activities, and other topics to university students. In the first six weeks of set-up, more than

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30,000 people reportedly queued to try the technology (Acante, 2020). A self-service kiosk is a system that enables customers to communicate directly with businesses and receive services at their leisure.

In the early 1990s, the first self-service checkout was invented by Dr. Howard Schneider. He installed it at Price Chopper Supermarket in New York (Possibility, 2017). It was a hassle-free way of purchasing items without having to wait for store assistance to free up and having their waiting time in queues reduced so this inevitable had the opportunity to grow (Possibility, 2017). The first self-service checkout was introduced in Ireland in 2003 in Tesco (Irish Examiner, 2013).

The amount of contact between humans and computers has increased dramatically over the last two decades. Users previously obtained services by communicating with one another, but the rapid advancement of technology, especially SSTs, has changed the way we communicate with one another to obtain services. It aids in the facilitation of user interactions by allowing them to execute a variety of tasks. In addition to many other SSTs, people now use internet banking, online shopping, interactive kiosks (Self-Check in, Self-Payment Machine, and Help Desk) in their daily lives (Bashir & Albarbarawi, 2011).

### **Demand for self-service technologies**

SST demand is expected to reach 28.3 billion US dollars in 2019, with a compound annual growth rate (CAGR) of 6.7 percent expected from 2020 to 2027. (Research and Markets, 2020). Technology is advancing at a breakneck pace around the world, especially in the field of SST. Take Ireland for example regarding tourism. Tourism is Ireland's best source of income for businesses, the use of SST is an amazing tool for tourists as it speaks several languages. Due to the option to use SSTs, tourists may opt to go on guided tours and visit museums in Ireland, as the headphones that are given have a bilingual option for the tour, rather than the language barrier of a human tour guide before this. The kiosks can

also help the increase of tourists as they also have a bilingual option which makes it easier for them to check-in at airports, order meals in restaurants, check-in and out in hotels and to print movie tickets in the cinemas (Castro et al, 2010). As well as being used by tour bus companies, smartphones can also be used by individuals to purchase bus or train tickets and to plan and buy tickets for activities before arriving or during your stay.

The global rise in convenience demand, including in Ireland and the United Kingdom, is highlighted in the Nielsen Quest for Convenience report. It was discovered that more than a quarter of global consumers (27%) are searching for products that make their lives easier and more convenient to use (26%). According to Nielsen, 31% of Irish shoppers now use self-service checkouts, compared to just 23% globally. There is no doubt that shoppers from the UK and Ireland are demanding greater comfort from their retail experiences (Newstalk, 2018).

**Table 1: Most common SSTs used by Consumers**

ATMs	For 24/7 banking.
Self-service checkouts	Such as in a supermarkets or libraries.
Kiosks	Used by airports and hotels to check in and to order food in restaurants.
Internet based services	Online banking, parcel tracking, booking accommodation and flights, purchasing products and services.
Apps and websites	For online banking, food ordering, mobile check-in, real-time transport timetables, hail a taxi app.
Phone based self-services	For answering computerised questions to be directed to the right customer service agent, and telephone banking.
Self-serve pumps	In petrol stations.

Source: Digital Resources, 2017

Most of what was once considered science fiction has now become commonplace. The future technology has already arrived. We can see new inventions packaged and commodified for customers in everything from video platforms to toys, ranging from artificial intelligence to real human augmentation systems (which are technologies that improve human productivity or capability, or that somehow add to the human body), as we reach the third decade of the twenty-first century. Now that we are dealing with these technologies daily, we are beginning to understand the impact and effects for individuals, society, organisations, and our environment in 2020 and beyond (Frog Design, 2020). Given the current global demand for SSTs, the future of SSTs appears to be brighter than ever, with even more advanced technologies.

### **Where will it be in the next few years?**

SST is being propelled by the demand for self-service machines and automated devices, as well as wireless networking, technological advancements, and remote management. Over the next decade, the booming retail industry is emerging in Ireland and is expected to provide many expansion opportunities (Retail Ireland, 2020).

The most significant impact of cloud based computing and wireless technology may be cost savings and enhanced competitiveness of IT services offered to public and private organisations, as well as potential for new services, but cloud based computing and wireless technology may also improve additional benefits for end users. This has a positive influence on SST availability as they are reducing staff costs (Cloud Watch Hub, 2017).

Furthermore, it is expected that a general understanding of the advantages of these technologies, such as ease of check-in and check-out, reduction in congestion, and improved customer service through shopping, airport, and banking applications would positively influence demand. To

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accelerate the development of the SST industry, manufacturers and service providers are now focusing their efforts on rural areas. We seem to be fuelling the gap between urban and rural areas in this modern era by failing to offer affordable broadband to rural communities. According to a Switcher poll, internet rates in towns and villages are up to 36 times higher than in some remote areas of Ireland (Burke-Kennedy, 2016). The government set up the National Broadband Plan (NBP) in 2012 to ensure that both urban and rural areas have the same quality of broadband and this rollout is still ongoing (SSRC, 2018).

One of the most advanced SST that began in 2018 was Amazon Go and there is no doubt that this is where SSTs is headed in the future. Only Walk Out Shopping is available on Amazon Go and Amazon Go Grocery. That means you can find what you need right now, whether it is a tasty lunch or dinner supplies, with no queues and no checkout. Amazon's cashier-less system uses a combination of ceiling-mounted cameras and shelf-weight sensors to monitor customers and merchandise as they pass into a store. After completing their shopping, customers can exit the store without having to scan something or speak with a cashier. Their account will be immediately credited, and they will get an email receipt (Verge, 2020). Amazon Go opened its first international store outside of the US in London on the 4<sup>th</sup> of April 2021, with plans to expand further (Verge, 2021).

Implementing SSTs has advantages for both the service provider and the customer. For SSTs to be implemented successfully, not only the service provider but also the customer must see a positive impact in their experience when using them. As customer adoption of SSTs is critical to their success, service providers must understand what would encourage or prevent consumers from using SSTs (Bitner et al, 2002). SSTs may come with certain restrictions and negative impacts for the service provider, which must be considered and weighed against the potential benefits. The following section will review the positive factors of SST



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implementation for service providers and evaluate them against the negative factors.

### **Factors that cause a positive impact on service providers**

There are many positive factors to service providers that implement SSTs. Companies implement SSTs for a variety of reasons, but the most common benefits are cost savings, increased efficiency, expanded delivery options, a more consistent service atmosphere, handling varying demand, and increased service availability (Curran & Meuter, 2005).

Service providers profit most from SSTs because they allow them to serve more customers with less staff, resulting in cost savings, after all, SSTs may replace employees (Curran & Meuter, 2005). For example, in a supermarket by implementing the self-service checkout, customers can scan and pay for their shopping without needing the assistant of an employee. As a result, the number of company personnel required in the service operation is reduced, resulting in operational cost savings. With SSTs replacing employees this helps the business as it also decreases the cost of training employees, equipment, and communication (Leung & Matanda, 2013).

Your consumer base will increase as your reputation for fast, easy service increases, resulting in more revenue sources, and the company will benefit. SSTs will also improve the availability and effectiveness of service for your clients by providing support 24 hours a day, seven days a week, even if it is just for the most basic issues. Since it supports several languages and time zones, it will also allow you to reach out to new customers all over the world at a fraction of the cost of hiring native language speakers (My Customer, 2016).

Accepting online orders enables retailers to stock more products while freeing up valuable floor space for more sales. Due to the high demand for online orders, service providers may decide to expand their delivery

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options. As there is now more freed up floor space the business can add more variations of different products which can lead to a higher number of customers. Customer satisfaction and loyalty can increase because of this quality improvement combined with lower prices (Bitner et al, 2002).

There is less space for error since technology, rather than a human, can remove duplicate bookings. When booking a hotel room, for example, technology could minimise the chances of a double booking. Furthermore, SST provides a more reliable and steady service than personal service because it is not as influenced by the volume of service demand, employee mindset, moods, or personal characteristics as personal service is (Liljander et al, 2006). There is a more consistent service atmosphere as the service is unaffected by an employee's frame of mind, as the customer themselves are functioning as a partial employee (Weijters et al, 2007).

### **Factors that cause a negative impact on service providers**

Although there are many positive factors for service providers in implementing SSTs, there are also many negative factors that come with the implementation as well. Some of these drawbacks include the expenses, such as the implementation and the staff training cost and the potential threat to the quality of the service provided, and customer theft.

Firstly, the initial cost of implementing SSTs may be significant for a business as it requires an upfront investment. The cost is determined by the needs of the business, the type of service, and the service provider. To accommodate a particular business, pre-designed self-service packages must be modified and tweaked (Chron, 2020). If the current equipment is insufficient to run the necessary software, the company's existing technology may need to be upgraded. A bigger company may be able to afford the upfront expense because of the potential for future savings, while a smaller company may struggle to make the initial investment.

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There is also a cost in training your employees on how to use the SSTs, in case a customer has any technical difficulties when using the machine, the employees must be able to deal with it quickly to keep the customer satisfied, as waiting a while for it to be fixed may lead to a loss of a customer (Bitner et al, 2002).

The implementation of SSTs is eliminating the interaction between customers and employees during the service delivery process. This could lead to an issue for the service provider when trying to build customer relationships, branding, and up-selling opportunities (Bitner et al, 2000). They also have to think about the customers that like the human interaction when entering a store, especially the older generation as it would take time for them to adapt to these new technologies and human interaction is what they are used to during the service delivery process. As there is less customer-employee interaction, that means that there are fewer opportunities for early detection of complaints and service recovery (Berry and Lampo, 2000). The lack of in-person assistance becomes particularly problematic when the occasional issues occur, for instance, price discrepancies, items failing to scan, the purchase of age-controlled substances such as cigarettes and alcohol, or splitting payments between credit or debit cards (Redyref, 2020).

Although businesses are making vast savings by cutting their labour costs, they are still losing out on large sums due to customer theft. While theft in stores has been happening for decades now, studies have shown that the theft rate has become much higher when self-checkouts got introduced. According to a study conducted by the University of Leicester, the loss was much higher in stores with self-service machines than in those without. These losses ranged from 33% to 147 %, which are not insignificant figures. The study also found that the more self-checkout machines a store had, the greater the loss rate was (ThirdEye, 2020). The business would have to invest in more security to minimise this issue.

**Table 2: Summarising the positives and negatives on service providers:**

<b>Positive</b>	<b>Negative</b>
Cost saving	Cost of SST implementation
Increased efficiency	Staff training cost
Expanded delivery options	Threat to the quality of the service provided
Consistent service atmosphere	Customer theft
Handling varying demand	
Increased service availability	

Any company's primary aim is to provide positive satisfaction to its customers. So, businesses need to ensure when implementing SSTs, that it is the right move to make in terms of will it have a positive or a negative impact on their customer's satisfaction. Customer satisfaction is a measure used in the marketing field of a company to define how well a product or service meets a collection of customer expectations. It is one of the most important factors in maintaining a sustainable business because customer satisfaction affects the organisation's future sales growth. Satisfaction with the quality of service provided, the level of product quality, the price of the product or service is measured in and where the product or service was purchased (Ehigie, 2006).

Customer satisfaction surveys and testing were performed in two categories: Customer satisfaction with a specific transaction (a customer's assessment of his or her experience and reactions to a specific service encounter) and overall satisfaction (a customer's assessment of their overall consumption experience to date) (Jones & Suh, 2000). Customer satisfaction can help a company retain customer loyalty by delivering outstanding support, which can lead to increased market share and is a precursor to customer relationship satisfaction (Das, 2015).

### **Factors that cause a positive impact on customer satisfaction**

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Many factors cause a positive impact on customer satisfaction from the implementation of SSTs. The process of enabling customers to co-produce the service provides them with multiple advantages, such as convenience, timesaving, and more control over the service delivery (Meuter et al. 2003). The implementation of SSTs allows the customers to do the delivery process for themselves rather than having an employee do it for them, therefore turning the customer into a co-producer (Gelderman et al, 2011). The method of payment has become considerably quicker, and the customer can simultaneously scan and pack their goods. By allowing customers to be a part of the service delivery process, it makes them feel more in control, therefore being the ones in charge of their satisfaction.

Customers tend to prefer the SSTs as it gives them better access to the service and its increased speed of service delivery. Self-scanning and online shopping have expanded the use of SSTs in retail settings (Childers et al, 2001). For example, an SSTs like an online shopping website, allows customers to shop at whatever time is convenient for them and gives them control over the transaction, which they can do without being rushed. Another SST example would be an ATM, it is opened 24/7 so you do not have to wait to do your banking during the daytime working hours of the bank (Castro et al, 2010).

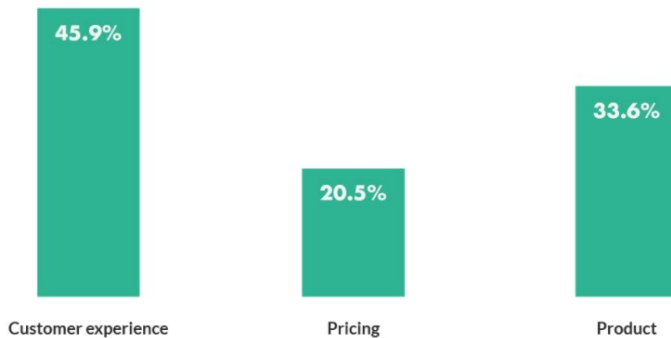
Customer satisfaction levels are increased because of the accuracy that SSTs provide. Unlike the human error that could previously happen when taking an order or booking. For example, a self-service kiosk cannot forget a customer's order or misunderstand it and a table reservation app will not double book tables or will not book them for the wrong time or date as the customer is responsible for entering the details for their service (Spot On, 2020).

For certain customers they find the use of SSTs be to less stressful and hassle-free. For example, people with disabilities such as speech,

mobility, hearing, and sight, may find that the online shopping option is more convenient for them as the product is delivered directly to their homes without having to interact with an employee or leave their home (Castro et al, 2010). SSTs would also be less stressful for tourists, as the kiosks would have multiple languages on them and would make it easier for them to order their meals in a restaurant or check-in at the airport instead of having that language barrier at the checkout tills with employees. Another positive factor of SST for tourists is that they can reduce the uncertainty that they may have in another country by pre-booking activities or services and gathering information about places online before they go to a different country that has a different native language (Kelly et al, 2017).

Super Office surveyed 1,920 business professionals and asked them what the top business priority is for the next 5 years (2021). The results were as shown in Chart 1 below, with customer experience being their top priority. This focus on customer experience drives towards a positive impact for customer satisfaction (Super Office, 2021).

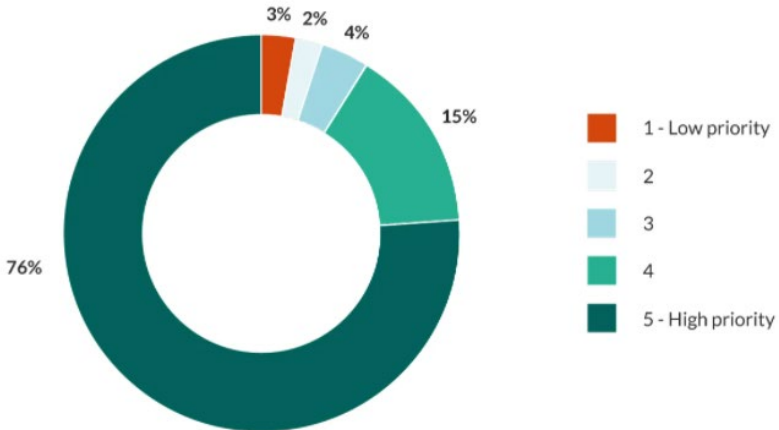
Chart 1: Business Priorities



A survey by Bloomberg Businessweek found that “delivering a great customer experience” has become a top strategic objective. A survey by Super Office found that 75% of customer experience management

executives and leaders rated customer experience a '5' on a scale of 1-5 (5 being of the highest importance). This result can have a positive impact on customers satisfaction (Super Office, 2021).

Chart 2: Importance of Customer Satisfaction/Experience



### Factors that cause a negative impact on customer satisfaction

Along with all those positive factors, many negative factors come with the implementation of SSTs on customer satisfaction. The main negative factor about SSTs is that you are losing out on the human interaction that we once had at the checkout (Redyref, 2020). Some people in society enjoy and gain great benefit from the human interactions they experience at the checkout when going about their daily activities and in certain cases it may be the only time that a person that lives alone gets to interact with another human (Taiyun Tech, 2019).

There are also some obstacles that customers must go through to be able to use certain SSTs. When using the self-service checkout customers must take the time to learn how to use the technology, which would be more difficult for the older generation to learn as their generation are not

used to all the technology devices that we have today. Another factor that harms customer satisfaction when using the SST is the level of failure that comes with it. Customers often would reject the use of SSTs because of ‘process failure’, ‘technology failure’, ‘customer-driven failure’, and ‘poor design’ (Meuter et al, 2000).

As well as using online shopping websites, customers need to invest in the necessary equipment needed to order online, such as a computer or smart phone and internet connection. Also, with the number of fraud instances that are occurring nowadays with fake online websites, customers are now having trouble trusting these SSTs. As when ordering online requires you to enter your card details, customers are finding it hard to trust these websites with their details in case they become a victim of fraud. It is much more difficult for customers to verify the trustworthiness of these online vendors. Customer’s lack of confidence in service providers can become a significant barrier to engaging with SSTs (Connolly & Bannister, 2008).

**Table 3: summarising the positives and negative on customer satisfaction:**

<b>Positive</b>	<b>Negative</b>
Convenience	Loss of human interaction
Timesaving	Taking time to learn to use the SST
Control over the service delivery	Invest in the necessary equipment
Speed of service delivery	Chance of being a victim of fraud
Accuracy provided by the SST	Level of failure

## **Conclusion**

This paper set out to examine the impact of SSTs on service providers and customer satisfaction. The paper investigated the potential growth of SST in the coming years and from this investigation we can see the rapid



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growth and impact of these technologies on our everyday life. From the first form of SST invented nearly 50 years ago to this day where we use it daily without even realising it, there is still certainly more room for SSTs to grow even further due to advancements in technology we have nowadays.

This paper demonstrates that there are both positive and negative impacts of SSTs on service providers. The primary positive impacts identified are cost saving, fast service to customers and fewer human errors, which allows businesses to develop successfully. There are also negative impacts such as expenses of implementation, staff training and higher possibility of customer thief which can have a huge financial burden on a business.

This paper also researched the impacts SSTs are having on customer satisfaction. There were many positive impacts such as convenience, timesaving, less stressful and more accuracy when booking or ordering products and services. The main negative impact on customer satisfaction was the loss of human interaction between the customers and the employees. Another negative factor was that customers had to learn how to use these technologies and had to trust these online vendors with their card details and home address, which could add stress and anxiety to several customers.

The future of self-service is better technology, thoughtfully incorporated and implemented into companies, giving customers quicker access to better information with less effort. Even though self-service has been around for over half a century, we still do not know how emerging technology and trends can affect it.

Artificial intelligence (AI) and related technologies will become more commonly used, but fully automated support for most user cases is still a long way off. *'The way forward is to use AI to make your support staff quicker, smarter, and more efficient'* (Help Scout, 2020). The future of

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SSTs would further reduce the contact between the customer and the seller. The Amazon GO store, for example, uses more sophisticated technology to identify what a shopper has placed in their shopping bag and completely removes queues by eliminating the check-out phase. Customers simply leave the shop. Amazon customers all over the world can testify to evolving shopping patterns in general, which are removing retail space and customer service workers from the process of purchasing large and small products. E-commerce, digital distribution of video games, music, and video content, online ordering and pick-up, ship-to-store, and online orders with locker pickup have all taken elements away from the conventional retail phase (PheedLoop, 2020).

Due to customer technologies, simpler payment forms, and touchscreens, the ability to empower customers and eliminate unwanted elements from the buying process has advanced at speed. Customers have seen quicker sales, more precise orders, and the ease of shopping whenever and wherever they want as they have taken on more responsibilities during the buying process. Due to these advances in SSTs, it leads to customer satisfaction and has a positive impact on service providers, which in turn might lead to potential growth in the future.

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# **An investigation into remote working with a particular focus on employee well-being**

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## **Abstract**

The recent global pandemic has propelled many businesses into switching to remote working practices and has necessitated that organisations develop effective policies to protect their remote workers' mental health and well-being. This paper provides insights into some of the key factors of remote work that contribute to mental well-being and identifies practices that employers can implement to optimise the health of their employees. The literature suggests remote working has benefits for workers, in terms of flexibility, work-life balance, job autonomy, job satisfaction and commuting exasperations. However, significant drawbacks have also been identified as remote workers are finding it difficult to "switch off" and they are missing out on the social interaction and personal support of colleagues and the organisation. This paper recommends the need for longitudinal research studies to fully explore the relationship between remote workers and employers to reduce the potential development of mental health issues within their remote workforce.

**Keywords:** Employee well-being, remote working, good practice

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## **Introduction**

The modern advancement of information and communication technologies (ICTs), and the greater availability of high-speed internet has revolutionised working patterns globally. Remote work (also referred to as telework, work from home, virtual work, telecommuting) has grown in its use as a new way of working over the past several decades. Di Martino & Wirth have defined remote working as “a flexible work arrangement whereby workers work in locations, remote from their central offices or production facilities, the worker has no personal contact with co-workers there, but is able to communicate with them using technology” (1990: 530).

The remote working phenomenon has been around since the 80’s, it became widespread in many countries, but it still did not become a widely used practice (Kossek & Lautsch, 2018). It has been over the past year that the global pandemic has significantly changed the working environment, with organisations having no other option than to switch to online working. Recent research from Crebar (2020) suggests that 16% of global companies are working fully remote, 70% of employees work remotely at least once a week and the remaining 40% are working under some form of hybrid arrangement. These significant figures suggest that there has been an increase in remote working in recent years. It is likely that these changes in work and employment will have immediate implications for organisations and the economy, which may lead to permanent shifts in the post-pandemic world of work and could potentially become the new norm.

The purpose of this research is to further investigate remote working to understand how it affects the mental well-being of remote workers. Currently, many businesses are adapting to remote working policies without taking into consideration the benefits and more importantly the challenges that remote workers experience (Madsen, 2003). In addition, the ongoing need to control COVID-19 and the continued need to work from home requires organisations to develop effective policies to protect remote workers mental health and well-being (Oakman, et al., 2020).

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Finally, with the increasing numbers of organisations who have to some extent transitioned into this new way of working, this review will also examine ways in which these mental health effects can be reduced. For organisations to successfully implement remote working policies, they will need to determine ways in which they can optimise the health of their employees. This requires gaining a better insight on the topic of remote working for individual workers, teams, and the organisation in general to avoid facing what Horan (2020) citing Ginger (2020) refers to as a “dramatic impact on remote workers health and productivity”.

This research has potential to be of interest for anyone seeking to examine the benefits and drawbacks of remote working, and similarly for business professionals seeking to better understand their remote workers.

The key questions to be addressed throughout this literature review are as follows:

1. What are the benefits and drawbacks of remote working on the mental well-being of remote workers?
2. How can organisations shift their practices to ensure the mental well-being of remote workers?

The first question to be addressed in this literature review are the benefits and drawbacks of remote working and the mental well-being of remote workers. Relevant research suggests that work-life balance, overwork, loneliness, social isolation and lack of support from organisations and colleagues are among many drawbacks affecting employees’ mental well-being while working remotely (Mann & Holdsworth, 2003; Russell, et al., 2009; Grant, et al., 2015; Felstead & Hekseke, 2017; Oakman, et al., 2020). However, other scholars argue the positive outcomes of remote working, with improved work-life balance, enhanced job satisfaction and the need for flexibility being the three most commonly cited (Pinsonneault & Boisvert, 2001; Gajendran & Harrison, 2007; Crawford, et al., 2011; Wheatley, 2012; Beauregard, et al., 2013).

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An assumption commonly held by remote workers is that this type of work can offer a more favourable work-life balance. However, Grant et al. (2015) suggest that remote workers find it difficult to manage the overlap between work and home, including planning and scheduling work in advance, writing “to do” lists and arranging suitable breaks. Additionally, they indicate that the inability to “switch off” entirely from work and overwork are two significant negative factors which impact upon the well-being of remote workers. Similarly, Russell et al. (2009) also confirmed that remote work increases the pressures of work and this could result in a deterioration of work-life balance. This may be because remote working increases working hours but also blurs the work and life domain, leading to an interference of work into family life (Russell, et al., 2009). These conclusions are supported by Eddleston and Mulki (2017) who propose that there appears to be a gap in the research with regards to work-life balance and the inability to switch off. This in turn points to a need for assessing how remote workers manage these two issues (Eddleston & Mulki, 2017). These findings indicate that while working remotely can negatively impact work-life balance and the inability to switch off, there is a need for further research to understand how remote workers can overcome these issues.

Despite these findings, many researchers disagree as they find strong support that work-life balance can be improved by remote working (Melo & de Abreu e Silva, 2017; Avis, 2018; Elshaiekh, et al., 2018). According to Beauregard et al. (2013) remote working positively impacts work-life balance for remote workers regardless of whether they are homeworkers, partial homeworkers or mobile workers. They further indicate that the more often homeworkers are allowed to work from home, the lower their work-life conflict is likely to be (Beauregard, et al., 2013). Comparable with this, a survey carried out with 454 professional-level employees found that there was a reduction in work-life conflict the more the participants worked from home (Golden, Veiga & Simsek, 2006). Raghuram & Wiesenfeld (2004) suggest that it is the flexibility that remote working provides that minimizes the interference between work and personal domains. This is potentially because flexible work enables

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remote workers to decide when, where and how work is performed, which facilitates the boundaries between work and home.

Furthermore, the nature of remote working means that workers are missing out on the social interaction element that they would experience if they were in the workplace. This idea of being away from the workplace adds to the long, continuous working hours and this may induce feelings of loneliness and social isolation. A study from Mann & Holdsworth (2003) found that there was reduced stress in remote workers as opposed to office-based workers. On the contrary, they also found that there was an increase in loneliness (Mann & Holdsworth, 2003). These remote workers also suffered other negative emotions such as worry, irritability and guilt (Mann & Holdsworth, 2003). However, the main aspect mentioned throughout this study was the lack of face-to-face communication with one participant stating that - 'I have experienced loneliness... and sometimes I just go out to the shops or something just to have face to face interaction with somebody' (Mann & Holdsworth, 2003, p 202).

In addition, other scholars cited these two factors as key issues with one scholar noting that remote workers must spend at least 20% of time in the office to fight these feelings of social isolation and depression (Fairweather, 1999). However, Iqbal et al. (2020) concluded that these feelings affect the younger and older end of the spectrum of people of working-age more, as opposed to workers who were also caring for children. Therefore, it appears to be the workers without childcare responsibilities that are most affected by these feelings. Iqbal et al. (2020) further highlight that workers with childcare responsibilities are finding it difficult to focus on their work, as opposed to those who didn't have childcare responsibilities. It has even been recommended that organisations must provide adequate work support for those with less control over their work settings at home to improve employees focus and productivity (Iqbal, et al., 2020). Examples of these would include changing working hours, reducing requirements on online meeting participation and more holistic ways of measuring productivity and

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performance (Iqbal, et al., 2020). Iqbal et al. (2020) and Mann & Holdsworth's (2003) findings therefore provide a possible explanation as to why remote workers can consider this type of work to be a negative experience.

Lack of support from colleagues and organisations is yet another challenge facing the mental well-being of remote workers in recent years (Mann & Holdsworth, 2003; Grant, et al., 2015; Oakman, et al., 2020). As previously mentioned, working remotely directly impacts workers as there is a lack of face-to-face communication with colleagues. Oakman et al. (2020) identified that employees who work remotely often experience 'greater emotional exhaustion and cognitive stress associated with reduced social support from their colleagues'. In comparison, Mann & Holdsworth (2003) state that working remotely leads to worry. This is due to a lack of support which may leave them anxious or fearful in their ability to complete their tasks successfully (Mann & Holdsworth, 2003). It has also been said that the "worry may be exacerbated by a lack of emotional support, for example a shoulder to cry on provided by a work colleague" (Mann & Holdsworth, 2003, p 203). However, it has been asserted that continuous support and communication from other employees is vital to improve the mental well-being of remote workers (Grant, et al., 2015; Oakman, et al., 2020). These findings suggest that communication in organisations provides social support along with the ideas and information needed to complete their roles more effectively. Therefore, it could be argued that it is necessary for organisations to encourage peer-to-peer communication as well as other tactics to overcome such challenges.

It is important to mention that remote working is generally associated with lower levels of work-related stress for employees. This is possibly because remote working is linked to fewer distractions, a reduction in commuting times, and increased autonomy and flexibility for employees. According to a recent survey of over 3,000 working professionals, 71% said they would like to work from home in order to reduce commute-related stress (Reynolds, 2018). In addition, 74% said that remote



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working would allow for fewer interruptions from colleagues and 60% said it would allow for a quieter working environment (Reynolds, 2018). These significant figures suggest that a large majority of employees would prefer a home working arrangement to improve their mental well-being and reduce work-related stress.

Furthermore, there is evidence to suggest that remote working saves workers the stress and strain of commuting to and from the office. By reducing the commute to and from work, remote working allows one to have more free time to spend on other work or personal life, thereby conserving emotional and mental energy (Wienclaw, 2020; Sardeshmukh, Sharma & Golden, 2012). Moreover, the pressure to arrive at work on time to avoid arriving late can itself be a stressor, and remote working helps to reduce that pressure (Sardeshmukh, Sharma & Golden, 2012). Nomoto et al. (2015) also consider the possibility that a reduction in commuting times can influence physical and mental health. From their results, they observed that long-time commuters are more likely to lack sleep, exercise and have shorter working hours (Nomoto, et al., 2015). However, it is important to note that a reduction in commuting issues is positively linked to a decrease in financial expenses. Some examples of financial expenses would include 'costs for parking, gas, or other transportation' (Wienclaw, 2020, p 1). In addition, costs of lunches and meals can significantly be reduced (Wienclaw, 2020). Therefore, this enables workers to either save or spend their savings on essential needs for the future, thereby reducing stress levels and increasing the well-being of remote workers.

Returning briefly to the earlier discussion of remote working and the flexibility it provides for remote workers. Flexible work can be defined as the "time, amount and location, where an employee has freedom over the working schedule, to what extent they chose to work and the chosen workplace" (Oljemark & Lindén, 2018, p 35). Organisations tend to offer remote workers flexibility to control their own working hours in ways which best suit the workers' needs. One of the benefits of this flexibility is that it could result in improved mental health and

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productivity for remote workers. According to a recent survey of 800 employees, 54% of employees with flexible work arrangements are more likely to say they have the emotional support they need to manage stress (Courtney, 2020). Additionally, 57% of remote workers confirm that they are much more likely to be able to change the stressful things about their work, for example workload (Courtney, 2020). Researchers have investigated the effects of flexible work schedules. These practices are generally associated with positive employee attitudes and increased job satisfaction (Gajendran & Harrison, 2007; CIPD, 2018), decreased staff turnover (McNall, Masuda, & Nicklin, 2009) and reduced absenteeism (Baltes, et al., 1999).

Contrastingly, scholars argue that flexible working schedules can lead to work intensification (Kelliher & Anderson, 2010). Work intensification is often associated with feelings of pressure and stress experienced by employees to complete a large number of tasks in less time (Kelliher & Anderson, 2010; Herpen, 2017). Kelliher & Anderson (2010) carried out a study of over 2066 professional workers. Their findings show that the large majority of remote workers experienced some form of work intensification when working flexibly (Kelliher & Anderson, 2010). These findings are in line with a number of other investigations carried out with flexible workers, for example Echtelt et al. (2006) and Major et al. (2002) found workers working when they are not scheduled to work and reporting greater effort when they are working. Consistent with this, Chomiak (1999) citing Gale (n.d) noted that “the flexibility and control provided by this work-style arrangement may have facilitated longer working hours”.

The above assertions highlight the need for organisations to be aware of the potential impact that these policies could have on the mental well-being of remote workers. While there are legislative provisions for flexible working arrangements in many countries worldwide, it seems likely that the amount of organisations offering flexible work will continue to grow, especially during the current pandemic due to COVID-

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19. Thus, one must be prudent and consider the full range of consequences before introducing these policies into their organisation.

Another claim commonly associated with the benefits of remote working is that it enhances autonomy for remote workers (Olsan, 1987; Coveyduck, 1997; Beauregard, et al., 2013; Golden, et al., 2012). Autonomy can be defined as “the extent to which individuals have control over how work is to be accomplished” (Golden, et al., 2012, p.197). Having the ability to complete work tasks according to one’s own preferences will mitigate the effects of stress and exhaustion, according to Golden et al. (2012). Additionally, with greater control over their work, remote workers will possibly feel more engaged and dedicated to their job (Golden, et al., 2012). Working remotely also enables one to have greater control over some elements of their work environment, for example breaks from work, work apparel, lighting, ventilation and workspace which contributes to increased feelings of autonomy (Gajendran & Harrison, 2007). However, Wang et al. (2020) contradict these claims as they suggest that workers with higher autonomy over their work could potentially be distracted by their family issues and find it challenging to focus on their work while working remotely.

Drawing on the evidence from the current literature, there are ways in which organisations can better facilitate remote workers with regard to this working policy, which is the second question that this literature review addresses. According to Baruch (2000), organisations should “find new ways to manage..., develop innovative career paths, and put in place proper support mechanisms for teleworkers” (p. 46). Many scholars have outlined a list of recommendations for business owners and managers in working with remote working interventions. Some of these recommendations suggest including the creation of an effective management culture, management control and trust, communication and social interaction, staff training as well as technical support (Madsen, 2003; Mann & Holdsworth, 2003; Gajendran & Harrison 2007; Grant, et al., 2013; Vasudevan, et al., 2021). Such recommendations would need to be addressed to ensure success of this working policy.

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Mann and Holdsworth (2003) state that organisations are required to follow a number of implications to mitigate any potential negative effects of remote working on the well-being of remote workers. It has been suggested that organisations are required to provide support to workers who are remote working and for workers who are considering adapting to this working policy (Mann & Holdsworth, 2003). Recommendations on how to handle stress, work-life balance and work-family conflict should be offered to workers as they are particularly relevant when talking about the negative associations related to this working policy (Mann & Holdsworth, 2003). In addition, innovative opportunities for communication should be provided to reduce social isolation among remote workers (Mann & Holdsworth, 2003). Likewise, Grant et al. (2013) highlight the point that professionals (such as managers and supervisors) should take well-being needs into consideration when supervising remote workers. Facilitating colleagues with open discussions about social isolation and the building of relationships can improve the mental well-being of remote workers (Grant, et al., 2013). This will also build trust between managers and team members (Grant, et al., 2013).

These conclusions are supported by Gajendran & Harrison (2007) who claims that organisations providing remote working policies should intervene to control the damaged co-worker relationships that may result. Such interventions could include arranging face-to-face meetings, social activities along with assigning one day as colocated to maximise communication among co-workers (Gajendran & Harrison, 2007). Managers must be proactive about communication and take responsibility to help their employees to cope with stress-related issues when working remotely. Failing to do so could potentially lead to low employee morale and high staff turnover for remote teams.

Boundary management support should also be considered by organisations when allowing employees to work remotely. This will assist remote workers with challenges in separating boundaries between work and personal life. Ward (2007) states that the initiation of mentoring

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programme whereby employees who currently work remotely can share their experiences of how they manage their time and workload effectively. This will enable them to better understand how to best organise not just their time but also their working environment at home (Ward, 2007). However, according to Eddleston (2015), organisations must educate remote workers and managers on how to facilitate the boundaries between work and home. This requires training them on how to respect their work-life boundaries without them feeling like they are on duty 24/7 (Eddleston, 2015). Comparable with this, it has been recommended that managers enhance communication with remote workers, to ensure that they are keeping checks in relation to workload, well-being and performance (Grant, et al., 2015). The above strategies could have the potential to counteract any negative issues experienced by remote workers.

Scholars agree that technology failure can be a major source of stress for remote workers (Mann & Holdsworth, 2003; Ward, 2007; Major, et al., 2008; Oakman, et al., 2020). Mann & Holdsworth (2003) state that technical support must be prioritised and that all technological equipment should be provided to allow employees to work effectively. Major et al. (2008) mentions that hardware, software, high-speed internet and remote work-related phone calls must be paid for to facilitate job performance. Similar findings were reported by Ward (2007) who states that technology can be one of the main challenges for remote workers. Ward (2007) further notes that organisations should review their facilities every eight months to ensure that the appropriate equipment is available as well as secure networking connections to allow employees to work remotely. These findings lead to the conclusion that organisations need to substantially rethink their remote working programs to facilitate the needs of remote workers who find it challenging to adapt to this working policy. If these issues are not dealt with appropriately, employees may become frustrated, experience lower productivity and feelings of isolation could increase.

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The ongoing corona virus pandemic has unleashed a wide range of issues impacting the mental well-being of remote workers. Due to the downfall in the economy in recent months, many remote workers having been facing a degree of uncertainty about their job security. Vasudevan et al. (2020) states that employers must communicate with employees in relation to future plans to reduce their stress levels. Additionally, firms are obliged to collaborate with mental health experts to “assess the mental wellbeing of the employees to provide appropriate intervention and remedies” (Vasudevan, et al., 2020). The results of these findings suggest that organisations must go the extra mile to ensure employees’ mental well-being is looked after and to help them adjust to the new normal with minimal disruption. This should therefore reduce the psychological impact that this working policy is having on remote workers.

Researchers also recommend the introduction of new technologies to increase the social contact between managers, remote workers and team members (Grant, et al., 2015). Many scholars suggest further recommendations for example, to develop appropriate training and development interventions (Madsen, 2003); to create an online support system and regularly counsel the employees to ensure their mental and emotional well-being (Vasudevan, et al., 2020); to train managers to monitor and control remote working programs carefully and react in an expedient manner to correct any undesirable consequences (Madsen, 2003); to help remote workers to develop a successful manager-employee relationship (Coveyduck, 1997).

In summary, this review provides insight into some of the key factors of remote work that contribute to the mental well-being of remote workers. The findings from this literature review deemed remote working to be beneficial to remote workers in terms of flexibility, work-life balance, job autonomy, job satisfaction and commuting problems. However, it must also be acknowledged that research has also explored conflicting arguments which identified significant drawbacks to remote working and the mental well-being of remote workers.

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Loneliness and social isolation were documented as two major challenges facing remote workers, as discussed by Mann & Holdsworth (2003) and Iqbal, et al., (2020). It is clear that workers are struggling with the lack of social interaction with their colleagues and supervisors, and this contributes to the feelings of loneliness and isolation. Other challenges identified throughout this research are work intensification, work-life boundaries and lack of support from other colleagues and organisations.

With the increasing numbers of organisations transitioning into this new way of working, they are likely to be faced with exciting new changes and challenges. Businesses need to be prepared to meet and accept these challenges. Therefore, this review provides information that could potentially be helpful as an information source for business owners who are interested in pursuing remote working policies for themselves and their employees. These principles could potentially facilitate business professionals in improving working conditions for their remote workers to mitigate the negative effects of this working policy, and therefore enhance the positive outcomes of remote working on their mental health and well-being. At a minimum, innovative opportunities for communication between team members and managers is crucial to help to reduce the negative impacts associated with remote working. However, this literature review also finds that support on aspects such as overwork, stress levels, work-life balance and well-being should be considered by any organisation as part of any move towards a remote workforce.

To further investigate the remote working phenomena, and gain a broader and deeper understanding of the topic, one recommendation is to undertake a longitudinal research study. This would involve a systematic consideration of all aspects of the relationship between remote workers and the relevant organisations while working remotely over a long period of time. The development of clear guidelines could then be created to mitigate any negative impacts of remote working on employees' health and well-being. My hope is that these findings could be useful to inform organisations and employees' work practices in a way that might

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potentially improve their health and well-being as we move towards a remotely based workforce for the foreseeable future. It is clear that we must accept and embrace remote working as a reality in our future working lives.

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# Exploring the use of E-learning as a Primary Mode of Teaching in Irish Third-Level Institutions

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## **Abstract**

This literature review examines the use of e-learning as a primary mode of teaching in the context of Irish third-level education institutions. The impact of using such technology is considered from the perspectives of student mental health, student accessibility and the protection of work-life balance for students. It is suggested that the benefits of using a ‘blended learning’ approach outweigh using either face-to-face or e-learning on as the primary mode of teaching.

**Keywords:** e-learning, technology, third-level education, student mental health.

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## Introduction

E-learning, also known as electronic learning or online learning, is the method of gaining information through the use of electronic devices and media (Tamm, 2019). E-learning is not a new phenomenon; in fact, research had shown that it was first introduced in the 1900s when Donald L. Bitzer developed the PLATO computer system (Tamm, 2019). E-learning utilises electronic devices to navigate educational curriculum outside the standard classroom (Gehl, 2020). Thus, preparation, technological resources, and general student service facilities all play a role in the viability of transitioning from traditional learning approaches to e-learning (Kecia, 2020). E-learning provides students and teachers with the opportunity to stay connected and active with educational content while operating from their homes. As a result of the COVID-19 pandemic, third-level institutions and universities worldwide had to close their campuses, these educational institutions have had to adopt e-learning approaches quickly. Many institutions remain uncertain about the feasibility of e-learning as a permanent teaching tool (Gaebel et al., 2014). Thus, there is now an even greater need for research exploring the effects, impacts and efficacy of e-learning.

The COVID-19 pandemic has impacted more than 376 million students worldwide (Dr. Ray, 2020). Teachers and students alike have been forced to quickly adapt to e-learning due to the closure of third-level institutions (Gehl, 2020). The unpredicted transition from face-to-face learning to remote e-learning has had various impacts. For example, a survey conducted to over 25,000 users of Leading Irish database Nightcourses.com (2020) found that there has been a significant rise in online course demand due to the pandemic, with 73% of those surveyed stating that they would now consider e-learning, compared to a previous 36% (VirtualRecruitment.ie, 2020). This may be a cause for concern as there is evidence to suggest that online courses reduce students' achievement and reduces the likelihood of students' remaining enrolled in institutions (Hamann et al., 2020). In contrast to these findings, Gratton-Lavoie, and Stanley (2009) note that there appears to be no



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significant variation in performance between e-learning and face-to-face learning formats. Due to these contrasting findings, there is a need to further explore the effects of e-learning on students' performance and engagement.

The majority of e-learning studies have been conducted from the lens of teachers or lecturers (Valverde-Berrocoso et al., 2020). As a result, there is a gap in the research looking at the effects of e-learning on Education's key consumers, students. Consequently, this paper aims to assess the effects of e-learning against traditional classroom approaches on students at third-level Irish institutions aged 18 to 24 years. This research seeks to explore how

e-learning specifically affects younger third-level students, as opposed to postgraduate students, who are typically above the age of 25 years and are likely to have previous experience with traditional teaching methods in third-level institutions.

This literature review explores the effects of e-learning on third-level students, drawing on national and international research, in an attempt to determine the suitability of e-learning as the predominant method of teaching in Irish third-level institutions. Given the ongoing pandemic and increased use of technology, Irish third-level institutions must prepare for an online learning future.

There is a body of literature exploring the impact of e-learning in an environment where all necessary resources were available (Valverde-Berrocoso et al., 2020). However, during a global pandemic with insufficient resources, there is little understanding of the consequences of e-learning. Thus, the present paper aims to develop a clearer understanding of whether e-learning can be used as the primary mode of teaching in Irish third-level institutions.

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Specifically, the research questions are:

1. What are the effects of e-learning on students in third-level institutions?
2. Should e-learning be used as the primary mode of teaching in Irish third-level institutions?

### **Defining the term ‘E-learning’**

E-learning uses information and communication technologies to create learning experiences that can be formulated, coordinated, and generated with a great deal of flexibility and without any limitations (Horton, 2006). With this method, a compilation of lessons is made available on digital platforms such as computers or handheld devices to aid learning. A key aim of e-learning and gaining general knowledge is to improve professional expertise and comprehension to assist learners in achieving their learning objectives (Clark and Mayer, 2008). According to Downes (2005) e-learning has evolved over the past two decades from a niche term to a mainstream phenomenon. The following section explores Ireland's third level education system.

### **Ireland's Third level Education system**

Ireland's third-level education system comprises of universities, institutes of technology, and education colleges, collectively referred to as higher education institutions (HEIs). The National Framework of Qualifications (NFQ) is a ten-level scheme for comparing national and international educational qualifications and assigns Levels 6 to 10 to third-level qualifications (Irish NFQ, 2020). Higher Certificates (NFQ Level 6) and Ordinary Bachelor Degrees (NFQ Level 7) are the most common qualifications. Honours Bachelor Degrees (NFQ Level 8) are also available.

A third level student is someone who is enrolled in a university or higher learning institution to further their studies. This research explores the

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effects of e-learning on students aged 18 to 24 years of age attending third-level institutions. This research seeks to explore how e-learning specifically affects younger third-level students, as opposed to postgraduate students, who are typically above the age of 25 years and are likely to have had previous experience with traditional teaching methods in third-level institutions. The following section explores the effects of e-learning on students in third-level institutions.

### **The Effects of E-Learning on Students in Third-level institutions**

Based on the first research question, this section seeks to explore the effects of e-learning on students in third-level institutions. Researchers from around the globe have discovered similar and contrasting findings.

#### **Decreased mental well-being**

There are many effects associated with e-learning. However, a student's mental well-being can be affected in a number of ways including stress and anxiety consumed from technological devices. Thus, the effect of a student's mental wellbeing will be discussed further. Technology has been identified as a factor that could directly affect a students' ability to focus on their studies (Gehl, 2020). The amount of time students spend in front of a device has been shown to negatively impact the amount of sleep they receive (Husain, 2020). According to Sara Thomée (2016) blue light from digital screens suppresses the sleep-promoting hormone melatonin, preventing an individual from getting a good night's rest. This is a concern for students, as Jalali (2020) reported that inadequate or late sleep and early wakening affect an individual's learning ability and neurobehavioral functions (e.g., alertness, attention, fatigue, and mood). As a result of the COVID-19 pandemic and the move to e-learning, students' screen time has risen (Wong et al., 2021), resulting in sleep loss which can negatively impact academic success. The Gen Z Index (2020) found that young people in Ireland between the ages of 16 and 21 spend up to six hours a day on their smartphones.

#### **Accessibility**

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Both students and lecturers have unrestricted access to e-learning, 24 hours a day, seven days a week. This may not be beneficial for some students, as the sense of never-ending learning may be stressful. Exposure to computer and smartphone screens is thought to be connected to various stress-related symptoms (Mheidly, Fares and Fares, 2020). These stress-related symptoms can take the form of neurological, emotional, or musculoskeletal impairments, which can harm a person's quality of life and ability to work or learn daily (Hossmann and Hermann, 2003). Dringus (2003) stated that "24/7 is a good marketing scheme, but online learners and professors burn out easily". Similar results by Charles P. Davis (2020), found that increased exposure to smart devices and screens has been linked to high stress and burnout levels.

As a result of e-learning in a global pandemic, there are increased concerns around screen time and the subsequent impact on students' sleep, anxiety, and stress. In contrast to earlier findings of a student's mental well-being, Pei and Wuin's (2021) study showed that e-Learning has advantages in improving student knowledge and skills. Although it is important to note that both studies were conducted during the pandemic, it is difficult to ascertain whether the rise in anxiety or stress was due solely to e-learning or whether the fact of being in a pandemic was associated with these symptoms. Thus, it is reasonable to assume that e-learning is having a negative impact on a student's mental wellbeing.

## **The lack of Technological resources**

### **Increased Anxiety**

E-learning makes use of electronic devices to provide educational content. However, students are experiencing increased stress and anxiety over the shortage of technological resources available to them. Students in third level institutions may require more technological resources than a student in secondary level education. Students who were used to traditional learning settings will find it challenging to transition to eLearning (Wong, 2007). According to Strauss (2003), the transition to e-learning is difficult as it requires the shift of physical classroom materials to e-learning materials, which takes considerable time and

effort. The key worry of students aged 21 to 24 years old regarding e-learning, according to a survey conducted by George Saade (2020), is their academic achievement when taking online courses without the necessary technological resources. However, there is little available research regarding Ireland's technical disparity.

### **Increased stress**

Nonetheless, according to Dublin City University (2020) a technical imbalance was visible during the first closure of Irish institutions in March 2020, when disadvantaged students were left stressed without technology devices such as a laptop for e-learning. Students required laptops or computers as well as printers for e-learning (Kathawala, 2002). Navigating online courses without the required resources can jeopardize a students' overall academic success and cause increased stress levels (Rimmer, 2020). In August (2020), the Irish government unveiled a 15-million-euro package to assist higher Education and third-level Colleges to purchase over 16,700 laptops. This fund was developed to aid Irish third-level students in overcoming their fear of impacting their academic success by supplying appropriate technology equipment. Despite this gesture, Ireland's broadband connectivity continues to be a concern. According to research carried out by Wired Score Ireland (2020), 92% of Irish homes have connectivity issues. Ireland's digital infrastructure has lagged behind its European counterparts, with currently only around 8% of homes having access to fibre-to-the-premises (FTTP) connections (Scully, 2020). These technical barriers, such as weak internet connection, can cause problems for students who rely on e-learning. Roy (1996, p.9) showed an example of sluggish communications causing difficulties when students from Rhode Island and Green Island were unable to provide answers to their teacher during an online debate session due to internet connectivity issues.

Though e-learning is intended to be a multimedia-rich learning environment, limited resources can frustrate the learning process for students. Students are unlikely to experience those frustrations in a

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conventional face-to-face teaching environment as technical devices, such as laptops, are not necessarily required. Thus, it can be assumed that the lack of technological resources is having an effect on students in third-level institutions.

### **The effects of a poor class structure on students**

Class structure will cause an effect on students in third level institutions as they transition from traditional classrooms to virtual classrooms. According to Ivergard and Hunt (2005), the preliminary design of e-learning courseware is a big concern for students. While e-learning allows students to develop their schedules, students can struggle with the lack of structure (Husain, 2020). For example, Rimmer (2020) found that it can be challenging to keep track of the workload allocated due to the inconsistency of scheduling from lecturer to lecturer. In contrast to these findings, Heaney (2017) found that too much structure can also backfire; sitting in front of a laptop for long periods of time can be exhausting. Without sufficient breaks, back-to-back video classes mean that students do not have the chance to take a break before switching to another subject. The lack of a traditional educational structure may impact a students' motivation. For example, Husain (2020) notes that many third-level students have indicated a lack of motivation due to the current configuration of classes, which can impact their academic performance during the semester. Kember et al. (2001) reported that incoming first-year students need additional training with regards to e-learning. They may assume that non-traditional learning, such as e-learning, is equivalent to traditional learning, but this is not the case. Similarly, according to Dearnley (2003), newcomers to non-traditional Education can become confused because the lecturer does not give detailed instructions. According to Kember et al (2001) these newcomers need specific orientation courses to become accustomed to a non-traditional learning atmosphere such as e-learning.

### **Difficulties to Self-discipline**

For many people, e-learning is a difficult activity that necessitates a great deal of self-discipline. According to Kearsley (2000) e-learning offers autonomy or independence, but learners must have "initiative and self-discipline to research and complete assignments." Similarly, Schott et al. (2003) states that the success rate of e-learning is heavily contingent on students' willingness to be self-directed and internally inspired. In agreement with this, Rivera, and Rice (2002) suggest that learners who are not self-motivated find e-learning unsatisfactory. Abouchedid and Eid (2004) note that e-learning students, by far, have a higher dropout rate than their traditional peers. To compensate for their alienation, e-learners need extra reinforcement and support; inspiration is essential for them to complete the course successfully ("Lessons from the e-learning experience," 2002). Furthermore, e-learning may not be suitable for certain students, for instance, science students who need comprehensive physical science laboratories to complete experiments (Vernon, 2002). These results suggest that poor class structure has an effect on students in third-level institutions.

## **Decreased Social connectedness**

### **Lack of social interaction**

As a result of e-learning students are more lonely and alienated suffering from a lack of social interaction. The lack of social connectedness is negatively impacting third-level students. Students have expressed a deep desire to reconnect with one another in person (Rimmer, 2020). The lack of social interaction with other students and faculty can negatively impact students and lead to anxiety, worry, and a lack of motivation (Son et al., 2020). Students tend to learn better when they are alongside their peers; according to Roesch (2020) 45% of students will underperform academically due to a lack of social contact. Their psychological well-being will suffer as a result. As reported by the Mental Health Foundation (2020), 20% of adolescents experience a mental health problem in any given year, and 75% of mental health disorders will have progressed by 24 years of age. For many years, the college sector has viewed this as a

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significant challenge to resolve. As a result, it's crucial to keep track of these percentages during a worldwide pandemic.

### ***Mental Health issues***

According to the Young Minds March (2020) survey, over 83% of students with mental well-being issues are experiencing worsening symptoms due to the latest COVID-19 pandemic, which has been attributed to general e-learning distress incurred by the pandemic. This research indicates that a lack of social connectedness among students contributes to feelings of loneliness, distress, tension, personal issues, and mental health illnesses. As a result, it's reasonable to think that e-learning is creating decreased social connectedness among students in third-level institutions.

### **Work-Life Balance**

#### **Time management**

Balancing work and life can be difficult at times. When it comes to a work-life balance, though, e-learning will have both negative and positive consequences for different people. Now that the home has become a place of both work and rest, students are trying to draw boundaries between their Education and personal lives. An increase in academic workload and long working hours has been a factor affecting students' work-life balance. According to a Greenfield Online Survey (2007) 48.8% of college students believe they do not have enough time to complete their assignments. As a consequence of the COVID-19 pandemic, many students say they have been assigned more work than usual, triggering tension and anxiety. Contrasting findings by Holder (2007) state that teachers could be assigning the same workload, however, students' mindsets may feel that they are constantly doing college work when nothing else is happening due to the global pandemic.

Students juggling jobs and family obligations may appreciate the convenience of e-learning (Drayton, 2020). Holder (2007) notes that students who have strong learning patterns can remain on track for tasks



and readings, and the ability to control time is more likely to persist than non-persisters. Stanford-Bowers (2008) agrees with this statement and states that staff, faculty, and students should understand the importance of time management in persistence.

Based on the findings of this research, third-level students benefit from the flexibility of e-learning in terms of location and the ability to manage their own time. Lecturers and students may feel like they are still working because there is no off button for e-learning as it is available 24 hours a day, seven days a week. In response to this, Ireland has implemented a new code of conduct known as "the right to disconnect" (Beesley, 2021). This code of practice aims to achieve a healthier work-life balance, encourage people to sign off, and not return calls or emails after working hours. This code of conduct can ideally serve as a model for students and allow them to have a healthier work-life balance.

It can be assumed that a student's work-life balance can be impacted by e-learning. However, it has both negative and positive effects on a student's work-life balance. Considering this the following section seeks to understand should e-learning be the primary mode of teaching in Irish third-level institutions.

### **E-learning as the Primary Mode of Teaching in Irish Third-Level Institutions**

The effects of e-learning on students in third-level institutions are mentioned in the question above. The effects have prompted us to consider whether e-learning could be a feasible primary mode of teaching in Irish third-level institutions. The traditional classroom will be discussed in relation to e-learning and what should be the proposed primary mode of teaching for Irish third-level institutions.

### **Traditional Classroom**

Traditional classrooms encourage teachers and students to interact face-to-face. Learners can interact with peers and experts in a face-to-face

environment, which can be enjoyable and beneficial to their learning. According to Pignolet (2008), many students reported missing face-to-face interactions with peers and lecturers. Similar findings from the US News and World Report (2008) indicated that current college freshmen spend less time socialising and more time learning alone, resulting in an "all-time low" in mental well-being among students. When comparing e-learning and face-to-face learning, Iwasaki et al (2006) found no substantial difference in students mental well-being regardless of the learning environment. Some Irish third-level institutions have changed their welcoming facilities to accommodate e-learning to fill the void left by the traditional classroom setting. The Galway Mayo Institute of Technology (GMIT) (2021) offered a "First5weeks" online orientation programme to new incoming first-year students. Through an online learning environment, students were able to communicate with their peers and get to know their new classmates.

There are some drawbacks of a conventional face-to-face classroom and the e-learning environment. However, each educational environment has its own set of beneficial characteristics. From the research gathered it is suggested that the most suitable method of teaching is 'blended learning' in Irish third-level institutions.

### **Blended learning**

Blended learning strives to enhance the use of resources while also fulfilling the educational purpose and learning outcomes while integrating the beneficial characteristics of each environment (Garrison and Kanuka, 2004). According to Garrison (2004), blended learning combines online and traditional classroom learning environments to allow the best use of resources to improve student learning outcomes and address critical institutional issues. This definition is similar to that of Graham (2004) in that blended learning can be defined as the organic integration of thoughtfully selected and complementary face-to-face and online approaches and technologies.

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Blended learning occurs in two locations: in-person and online (Kaur, 2013). Blended learning makes use of a virtual classroom where instructors and students will be in various locations at times. Digital meeting tools are often used to execute these activities. The topics covered can be similar to those dealt with in a live classroom unless they are too complex or contentious (Kaur, 2013). However, most students would need specialised workstations and high-speed connections to interact (Kaur, 2013). As previously stated, Ireland's internet infrastructure would affect students who need high-speed access to engage in online classrooms. Students and lecturers benefit from blended learning because it allows them to be more flexible with their learning. Bliuc (2007) found that both lecturers and students can become learners as the simulated and physical landscapes are integrated. A meta-analysis conducted in the United States by the Department of Education (2009) found that students in fully online and blended courses perform significantly better than students in face-to-face classes. According to Hoffman (2019) this may be the future mode of teaching in third-level institutions. Thus, it may be assumed that e-learning has been linked to some adverse outcomes and as a result, it is suggested that blended learning is a more effective method of teaching in Irish third-level institutions.

Considering the limitations of a conventional face-to-face classroom and the possible benefits of e-learning, alongside its limitations, mixed learning or 'blended' learning emerges as a valuable method of teaching. This teaching approach is the most effective way to incorporate the positive aspects of both environments to provide a primary mode of teaching in Irish third-level institutions.

## **Conclusion**

One of the primary objectives of this research was to evaluate the effects of e-learning on third-level students both nationally and internationally and draw conclusions on the suitability of e-learning as the primary mode of teaching in Irish third-level institutions.

Within the field of e-learning, there is a wealth of information available, including both predicted and underpredicted results. Many of the identified effects, such as the impact of technology on mental health, are acknowledged as contributing to the long-term effects on students. Due to the COVID-19 pandemic and closure of third-level institutions, there has been a recent rise in demand for e-learning. Although many effects of e-learning have been identified, they are primarily based on international studies, as a limited number of studies are specific to Irish third-level institutions or students. Therefore, further study on Irish third-level students should be carried out to fill this research gap, which would produce more accurate findings to inform the development of services in Irish third-level institutions. There was a connection between researchers discovering more negative effects such as mental health problems, stress, anxiety, and sleep deprivation of e-learning rather than positive effects.

The second aim of this investigation was to determine whether e-learning was a feasible primary mode of teaching in Irish third-level institutions. A significant amount of research on e-learning and face-to-face traditional learning has been conducted over the last decade. This was a strength of the study, as the effects of both teaching environments could be tailored to students' experiences. A common theme was identifying beneficial effects from both learning environments, such as social connectedness, flexibility, and the ability to work in groups or individually (Husain, 2020). The result of this investigation indicated that researchers found both negative and positive effects from both teaching environments. Combining the positive effects of face-to-face learning and the benefits of e-learning, it is concluded that a 'blended learning' or a 'mixed learning' environment may be the best way forward for teaching. Throughout this investigation, it was observed that e-learning caused many negative effects such as stress or anxiety. It has been argued that there are more negative effects of e-learning than positive. However, one of the most prevalent benefits is its expansive geographical scope all over the globe.

A meta-analysis conducted by the US Department of Education (2009) showed that students in wholly online or blended courses performed academically better than students in a conventional classroom. These studies are of interest to Irish third-level institutions as they suggest that the learning environment has little impact on academic performance. However, this research was conducted in the United States before the outbreak of the COVID-19 pandemic. Thus, it is proposed that research should be conducted in Europe or Ireland to gain a better understanding of the effects of e-learning or blended learning on a student, amid a global pandemic learning environment. The effects of e-learning or blended learning on a student's academic performance will be determined more accurately and whether blended learning should be used as the primary mode of teaching in Irish third-level institutions.

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# **Sustainable Clothing: an investigation into the purchasing intentions of Irish consumers**

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## **Abstract**

This project aims to understand sustainable clothing purchasing intentions in the Irish context. Considering the complexity of this domain, two academic areas were explored – psychology and sociology. Sustainable clothing purchasing intentions will be explored through the lens of the Extended Theory of Planned Behaviour and Hofstede's Cultural Dimensions Theory. This project will make use of the literature to understand the primary individual and national level predictors of sustainable clothing purchasing intentions in the Irish context.

**Keywords:** Sustainable Clothing, Sustainable, Hofstede, Behaviour, Culture, Individual, National.

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## Introduction

This paper investigates the individual and national differences of sustainable clothing purchasing intentions in the Irish context. Globalisation has contributed to overconsumption, the creation of waste through excessive purchasing of products (Pookulangara and Shephard, 2013; Fe, King and Norum, 2015), and the strong trajectory of the fast fashion phenomenon (European Environment Agency, 2021). The industry is currently predicted to grow by \$5 billion in the next ten years at a compound annual growth rate of 21.9% (United Nations, 2020). Should the population exceed nine billion within the next thirty years, we would require three planets to sustain our current lifestyle (United Nations, 2020). The exhaustion of finite resources has created a sense of urgency among consumers (Strouse, 2001). This shift in values has developed greater intentions to purchase sustainable clothing, with online searches tripling from 2016 to 2019 (Cheng, 2019). However, there is currently no industry standard; thus, the term sustainable is interchanged with eco-conscious, eco-friendly, ethical, green and organic (Berg *et al.*, 2019; Rausch and Kopplin, 2020). For the purpose of this paper, sustainable will be used.

## Rationale

This paper seeks to understand the individual and national differences of sustainable clothing purchasing intentions in the Irish Context.

## Individual Differences

In theory, consumers should be purchasing more sustainable clothing. However, a gap was identified between consumers environmental concerns and their purchasing of eco-friendly products (Shim, Shin and Kwak, 2018). This paradox is defined as the attitude behaviour gap (Wong, Turner and Stoneman, 1996; Ohtomo and Hirose, 2007). The twelfth goal of the UN is to ensure sustainable consumption and production patterns (United Nations, 2020). Therefore, it is increasingly important to understand sustainable clothing purchasing intentions to enact this change. Research studies exploring the gap have been conducted in Asia (Maichum, Parichatnon and Peng, 2016; Yang, Li and

Zhang, 2018), the USA (Wong, Turner and Stoneman, 1996; Diddi *et al.*, 2019) and across Europe (Rausch and Kopplin, 2020). Thus, there is a gap in the literature exploring individual sustainable clothing purchasing intentions in Ireland.

## **National Differences**

This paper also considers the main national differences of sustainable clothing purchasing intentions. Considering the nuances of sustainable fashion and how it is marketed in different cultural settings (Nayeem, 2012), it is essential to consider the main national differences that encompass sustainable clothing purchasing intentions in Ireland.

This paper draws on two main theories to help inform consumers sustainable clothing purchasing intentions in the Irish context. The Extended Theory of Planned Behaviour (ETPB) is used to predict an individual's intention to engage in a behaviour (Ajzen, 1991; Boon and Fern, 2020). Researchers have used this theory to quantitatively assess the antecedents of sustainable clothing consumption (Manchiraju, Fiore and Russell, 2012; Diddi *et al.*, 2019). Further on in this paper, culture will be quantitatively explored through Hofstede's Cultural Dimensions Theory (Hofstede, 1994; de Mooij and Hofstede, 2011). Research studies have identified variances in consumer behaviour (Liobikiene, Mandravickaite and Bernatoniene, 2016), and national culture helps better understand this (Nayeem, 2012),

## **Objectives**

This paper aims to explore the use of the ETPB to understand the main individual differences of sustainable clothing purchasing intentions. Secondly, this project aims to investigate the moderating role of culture on consumers' intention to purchase sustainable clothing on a national level in the Irish context. The overall aim is to better understand the main individual- level and national-level predictors of sustainable clothing purchasing intentions of Irish consumers and formulate recommendations for a conceptual, theoretical framework. Considering the reasoning above, this study will be driven by two overarching questions;

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RQ1: What are the main individual-level predictors of the purchasing of sustainable clothing?

RQ2: What are the main national-level predictors of the purchasing of sustainable clothing?

## **Consumption Behaviours**

"Consumer Demand is driven by the instant coverage of fashion weeks and street style in fashion magazines and online" (McAlpine, 2019, p. 1). Previously, most fashion labels released two collections a year; however, with increased media coverage and increased consumer demand; fashion brands need to respond to these trends; thus, retailers are now releasing up to 50 collections a year (McAlpine, 2019, p. 1). Prices of clothing have fallen relative to inflation (European Environment Agency, 2021), resulting in overconsumption.

Furthermore, in 2019 it was identified that more than half of fast fashion consumed in Ireland is disposed of in less than a year (MerrionStreet, 2019). Considering this, the Irish government reported that Ireland would be tackling waste management with key targets such as single-use habits, including fast fashion (MerrionStreet, 2019). It is increasingly important to understand individual and national sustainable clothing purchasing intentions in Ireland to enact this change (MerrionStreet, 2019). The following section explores behaviour models used to understand the main individual-level predictors of sustainable clothing purchasing intentions.

## **Individual-Level Predictors of Behaviour**

Researchers have explored the sustainable clothing purchasing intentions of individuals through widely researched modes. In the sustainable clothing domain, the Extended Theory of Planned Behaviour is the predominant theoretical framework. However, The Fogg Behaviour Model has been suggested as an alternative. The following section will explore the use of these models to identify the main predictors of individual-level sustainable clothing purchasing intentions.

## **Models for Predicting Individual Behaviour**



The Fogg behaviour model focuses on human behaviour and suggests that changing behaviour requires motivation, ability and triggers to work in synergy (Soyer and Dittrich, 2020). The model is a widely used mode for designing products and persuasive technologies (Fogg, 2009; Withanage *et al.*, 2015; He, Yan and Gong, 2019). Soyer and Dittrich (2020) suggested using The Fogg Behaviour Model to understand and persuade sustainable clothing purchasing. The study suggests the TPB excludes impulse tendencies associated with purchasing fashion items. Despite their criticism of the efficacy of TPB, the construct of perceived behaviour control already accounts for volatile and non-volatile behaviours (Rausch and Kopplin, 2020). Moreover, intention has been found as the most significant predictor of behaviour (Ajzen, 1991; Liobikiene, Mandravickaite and Bernatoniene, 2016; Maichum, Parichatnon and Peng, 2016), and the Fogg Behaviour Model lacks measures to test relationships regarding the influence of culture on sustainable clothing purchasing intentions.

### **Theory of Planned Behaviour**

It is argued that the TPB will provide a useful theoretical underpinning to understand the main individual-level predictors of sustainable clothing purchasing intentions of Irish consumers. First introduced by Ajzen (Ajzen, 1985, 1991), TPB is an extension of the theory of reasoned action and has been used to predict purchasing behaviours (Maichum, Parichatnon and Peng, 2016; Yang, Li and Zhang, 2018). Central to TPB is an individual's intention to perform a behaviour (Ajzen, 1991). Ajzen postulates three constructs that determine intention; attitude, subjective norms, and perceived behavioural control (Ajzen, 1985).

By changing these three predictors, one can increase the likelihood of performing the action (Robinson *et al.*, 2008; Baker and White, 2010). Researchers have extended this theory to include other domain-specific constructs, forming the Extended Theory of Planned Behaviour (ETPB) (Yang, Li and Zhang, 2018). For example, in the food industry, additional constructs are human values and perceived availability (Verbeke and Vackier, 2005; Vermeir and Verbeke, 2008). Additional constructs in

agriculture are intergroup perceptions (Fledlmg *et al.*, 2008), and lastly, green consumer identity was included in a study exploring purchasing of sustainable housing. (Judge, Warren-Myers and Paladino, 2019). This study extends the TPB with two well-established constructs from sustainable clothing literature; environmental knowledge and perceived self-identity. The following section explores the primary and additional constructs of the ETPB which will be used to identify the main predictors of individual-level sustainable clothing purchasing intentions.

### **Individual-Level Predictors of Sustainable Purchasing Intentions**

Attitude, Subjective Norms and Perceived Behavioural Control are the key antecedents of behaviour. This section explores their use as main predictors of individual-level sustainable clothing purchasing intentions.

#### **Attitude Towards Purchasing Sustainable Products**

Attitude is the degree to which an individual has a favourable or unfavourable perception of a specific behaviour (Ajzen, 1991, pp. 179–211). If a consumer has a positive attitude toward a behaviour, they are more likely to perform the action (Ajzen, 1991, pp. 179–211; Verbeke and Vackier, 2005). Studies reveal that attitude positively influences purchasing behaviours in the skincare industry (Kim and Chung, 2011; Boon and Fern, 2020) and food consumption (Verbeke and Vackier, 2005). This correlation was also evident in the purchasing of sustainable housing (Judge, Warren-Myers and Paladino, 2019). Furthermore, a positive relationship between attitudes and sustainable clothing purchasing intentions was found in studies across Germany (Rausch and Kopplin, 2020), China (Yang, Li and Zhang, 2018) and the US (Diddi *et al.*, 2019). Therefore, it may be established that attitude is a main predictor of individual-level sustainable clothing purchasing intentions across many cultures.

#### **Subjective Norms**

Subjective norms develop intentions, then behaviours. (Kim and Chung, 2011; Maichum, Parichatnon and Peng, 2016) and they are based on normative beliefs (Tian *et al.*, 2019). It is the perceived social pressure

from friends and family to perform or not to perform a behaviour (Ajzen, 1991; Liobikiene, Mandravickaite and Bernatoniene, 2016). Subjective norms positively affect purchasing intentions of organic skincare (Boon and Fern, 2020) and sustainable food (Vermeir and Verbeke, 2008). The empirical findings of Maichum, Parichatnon and Peng (2016) identify subjective norms as having the lowest influence on purchasing intentions of Thai consumers for green products. Contrastingly, across the EU, subjective norms determined green purchasing behaviours among consumers (Liobikiene, Mandravickaite and Bernatoniene, 2016). Therefore, it may be established that subjective norms are a main predictor of individual-level sustainable clothing purchasing intentions and its relationship with intentions differs depending on cultural context.

### **Perceived Behavioural Control; Price**

Perceived behavioural control is the perceived ease or difficulty of performing the behaviour, and it is assumed to reflect past experience and anticipated hindrances (Ajzen, 1991). Factors that influence perceived behavioural control are time, money, and skills. If more of these resources pertain to an individual, the consumer perceives to have more behavioural control of their purchasing decisions (Kim and Chung, 2011). Vermier and Verbeke (2006) identified inconsistencies between consumers attitudes and intentions to purchase organic food, suggesting this may be affected by factors such as price. Similarly, a study conducted in the US identified budget constraints as a barrier to purchasing sustainable clothing (Diddi *et al.*, 2019).

Conversely, in Germany, there was no evidence of price sensitivity affecting purchasing sustainable clothing (Jacobs *et al.*, 2018). Green products usually come at a premium compared to conventional products (Yang, Li and Zhang, 2018). Thus, it is important to consider the income level of the consumer and where they are living. Therefore, it may be established that perceived behavioural control is a main predictor of individual-level sustainable clothing purchasing intentions and its relationship with intentions differs based on the cultural context.

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## **Individual-Level Predictors of Sustainable Clothing Purchasing Intentions**

Environmental Knowledge and Perceived Self-Identity are well-established constructs from sustainable clothing literature. This section explores these two constructs as main predictors of individual-level sustainable clothing purchasing intentions.

### **Environmental Knowledge**

Environmental knowledge is considered knowledge of facts and relationships regarding the environment (Fryxell and Lo, 2003). Environmental knowledge has been identified as a key antecedent to sustainable clothing purchasing intentions and allows consumers to differentiate sustainable products from conventional products (Rausch and Kopplin, 2020). Environmental knowledge was shown to positively affect attitude, subjective norm and perceived behavioural control in studies in Thailand (Maichum, Parichatnon and Peng, 2016), Germany (Rausch and Kopplin, 2020) and across the EU (Liobikiene, Mandravickaite and Bernatoniene, 2016). Considering this, environmental knowledge is an important moderating factor, and a main predictor of individual-level sustainable clothing purchasing intentions and its relationship with intentions is consistent across cultures.

### **Perceived Self-Identity**

Perceived self-identity or the way one views oneself (Sparks and Shepherd, 1992) has been found to have a substantial independent effect on sustainable consumption (Sparks and Shepherd, 1992). Similarly, a study conducted by Manchiraju, Fiore and Russell (2012) explored sustainable fashion consumption in the US. Their research findings suggested that perceived self-identity was a significant predictor of sustainable fashion consumption. Conversely, perceived self-identity was seen to have a negative effect in a study in Germany. It was determined that egoistic values were a barrier to sustainable clothing purchasing behaviours (Jacobs *et al.*, 2018). It is important to note that perceived self-identity is an important moderating factor and a main predictor of individual-level

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sustainable clothing purchasing intentions and its relationship with intentions differs across cultures.

### **National Level Predictors of Behaviour**

Many researchers have used the ETPB to explore consumers' individual sustainable clothing purchasing intentions across several geographical areas and cultures (Manchiraju, Fiore and Russell, 2012; Maichum, Parichatnon and Peng, 2016; Yang, Li and Zhang, 2018; Boon and Fern, 2020). The predominant critique of these studies lies in that they did not consider the study's cultural context. Moreover, one study that incorporated both culture and ETPB was conducted over various countries throughout Europe, including Ireland, but not specifically (Liobikiene, Mandravickaite and Bernatoniene, 2016). This cross-cultural study assumes that consumer purchasing behaviours are homogenising due to cultural convergence within the EU. However, Hofstede and Mooij (2002) stated that cultural convergence is considered a myth and that cultures are diverging. Similarly, a study conducted in 2017 postulates that different marketing strategies are needed for different cultures, solidifying that consumer behaviours have not yet homogenised (Ocansey, 2017). Furthermore, values reside in culture (Nayeem, 2012) and the empirical findings of Akaliyski (2019) state that differences in cultural identity prevent value convergence across countries.

Considering the above reasoning, there is sufficient literature to critically argue that consumer behaviour has not yet homogenised. It has been identified that the relationship between attitude, subjective norms, perceived behavioural control, and intentions are inconsistent across cultures. Therefore, it is important to independently explore the national differences of sustainable clothing purchasing intentions in the Irish context. The following section will define culture and explore models used to identify the main predictors of national-level sustainable clothing purchasing intentions.

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## **National Culture**

The phenomenon of culture is learned from the environment, and it is expected that groups of people will act in the same way, appropriate to that culture (Hofstede Insights, 2020). Furthermore, values reside in culture and carry knowledge through generations (Nayeem, 2012). Culture plays a significant role in the consumption of green products (Nayeem, 2012; Liobikiene, Mandravickaite and Bernatoniene, 2016) and in marketing research (Soares, Farhangmher and Shoham, 2007). As culture is widely studied, it is essential to note that quantitative and qualitative methods have been used to understand this phenomenon. The following section will explore models used to understand the main predictors national-level sustainable clothing purchasing intentions in the Irish context.

## **Models for Predicting National Behaviour**

Researchers have explored culture through both quantitative and qualitative methods. Halls' cultural factors and Hofstede's Cultural Dimensions Theory have been used to better understand culture. The following section will explore the use of these models to identify the main predictors of nation-level sustainable clothing purchasing intentions.

## **Ethnological Methods**

Ethnological methods are descriptive classifications of culture. They pertain to qualitative approaches, drawing on sociology, psychology and anthropology as a basis for identifying and comparing cultures (Roth and Lenartowicz, 1999; Soares, Farhangmher and Shoham, 2007). Hall's low-context (LC) and high-context (HC) dichotomy provides a method through which cultures may be differentiated to de-code hidden messages in communication (Hall, 1977; Larsen and Rosenbloom, 2003; Soares, Farhangmher and Shoham, 2007). Although Hall's model is one of the dominant theoretical frameworks used in marketing research, it operationalises culture only on two opposite dimensions, thus, limiting the understanding of cultural influences on purchasing intentions. Considering this, qualitative methods will help better inform the main

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predictors of national-level sustainable clothing purchasing intentions in the Irish context.

## **Quantitative Methods**

Hofstede developed the first quantitative empirical model of "dimensions" of national culture, thus providing a new paradigm for taking account of cultural elements (Hofstede, 1994, 2021). Despite McSweeney's (2002) criticism of Hofstede's Cultural Dimensions Theory, it is currently still accepted as the most reliable model to understand national cultures. The following section explores the six dimensions of national culture; power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance, long-term and short-term orientation and indulgence versus restraint (de Mooij and Hofstede, 2011). Each dimension is measured on a scale from 1 to 100

## **National-Level Predictors of Sustainable Clothing Purchasing Intentions**

Of Hofstede's six cultural dimensions, some have the potential to affect sustainable clothing purchasing intentions, and some are less likely to affect sustainable clothing purchasing intentions.

## **Dimensions with the potential to affect sustainable clothing purchasing intentions**

Long-Term versus Short-Term Orientation considers the extent to which a society exhibits a future-orientated perspective versus a conventional short-term perspective. Long-Term orientation implies investment in the future, whilst short-term orientation concentrates on the pursuit of happiness rather than peace of mind (de Mooij and Hofstede, 2011). With a score of 24, Ireland's culture is classified as normative, meaning the Irish exhibit great respect for traditions, a small propensity to save for the future, and desire quick results (Hofstede, 2021). Considering the availability of fast fashion and its cheaper prices (European Environment Agency, 2021), it may be assumed that Ireland's Short-Term orientation

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has the potential to affect consumers intentions to purchase sustainable clothing on a national-level.

Indulgence versus Restraint is the extent to which people try to control their desires and impulses. Indulgence refers to the free gratification of desires and impulses. Restraint is the extent to which people try to suppress their desires and impulses (Hofstede, 2021). With a high score of 65, Irish consumers are indulgent. Consumers exhibit a willingness to realise their impulses and desires with regard to enjoying life and having fun and place a higher degree of importance on leisure time and spend more money as they wish. Fast fashion follows trends and is easily accessible due to its low cost (Joy *et al.*, 2012); furthermore, "fashion is an emotional decision, not a rational one" (Koelblin, 2018, p. 1). In a study in America, self-indulgent behaviours resulted in consumers buying fast fashion as they felt happy in materialistic possessions (Diddi *et al.*, 2019). Therefore, Ireland's indulgent culture has the potential to affect sustainable clothing purchasing intentions on a national level.

Masculine societies value achievement and success. Feminine societies value caring for others and quality of life. A high score on this dimension indicates that culture will be driven by competition, achievement and success, with success being defined by the winner or best in the field. Scoring 68, Ireland is a Masculine society; consumers are highly success-oriented and driven. Irish consumers display their wealth through status brands and jewellery (de Mooij and Hofstede, 2011), thus, intrinsically discouraging national sustainable clothing purchasing intentions. Considering this, Ireland's masculine culture has the potential to affect sustainable clothing purchasing intentions on a national level in the Irish context.

Uncertainty Avoidance considers how a society deals with the fact that the future can never be known (de Mooij and Hofstede, 2011). This is the extent to which the members of a culture feel threatened by ambiguous or unknown situations. At 35, Ireland has a low score of Uncertainty Avoidance. Considering this, Irish consumers are okay without knowing what is ahead. The Irish consumer's inability to think about the future



may be encouraging fast fashion purchases as they do not consider the environmental effects. Thus, Uncertainty Avoidance has the potential to affect national sustainable clothing purchasing intentions in the Irish context.

### **Dimensions Least Likely to Affect Sustainable Clothing Purchasing Intentions**

Individualism and collectivism can be defined as people looking after themselves and their immediate family only; versus people belonging to in-groups that look after them in exchange for loyalty. In individualistic cultures, people are "I" conscious. According to Hofstede Insights (2021), Ireland scores 70 on this dimension and is individualistic. Self-actualisation and standing out is important to Irish consumers (de Mooij and Hofstede, 2011). Referring back to the ETPB, perceived self-identity had a varying influence on individual-level sustainable clothing purchasing intentions. Therefore, it may be assumed that Ireland's individualistic culture is less likely to affect national sustainable clothing purchasing intentions.

Power Distance is the extent to which the less powerful members within a country accept that power is distributed unequally (Hofstede, 2021), fundamentally addressing how a society deals with inequalities among people (Hofstede, 2021). Members of a large power distance culture believe one's social status must be clear, allowing others to show respect and are less sensitive to price (de Mooij and Hofstede, 2011; Lee, Lalwani and Wang, 2020). Low power distance index cultures enjoy more autonomy. Ireland has a power distance score of 28. Sustainable clothing exhibits a higher price tag (Diddi *et al.*, 2019). As observed in the ETPB, perceived behavioural control; the correlation between price and individual-level sustainable clothing purchasing intentions differs depending on cultural context. Thus, power distance is less likely to affect sustainable clothing purchasing intentions on a national level in the Irish context.

An exploration of Hofstede's Cultural Dimensions Theory has identified that most dimensions of national culture have the potential to affect

sustainable clothing purchasing intentions on a national-level in the Irish context. Therefore, it is proposed that there is a correlation between national culture and sustainable clothing purchasing intentions in the Irish context; and Hofstede's six dimensions of national culture are the main predictors of national-level sustainable clothing purchasing intentions.

### Conceptual Theoretical Framework

Considering the main predictors of individual-level and national-level sustainable clothing purchasing intentions, the ETPB, in tandem with Hofstede's Cultural Dimensions Theory, helps better inform sustainable clothing purchasing intentions in the Irish Context. A conceptual, theoretical framework has been suggested to understand individual and national sustainable clothing purchasing intentions (see Figure 1).

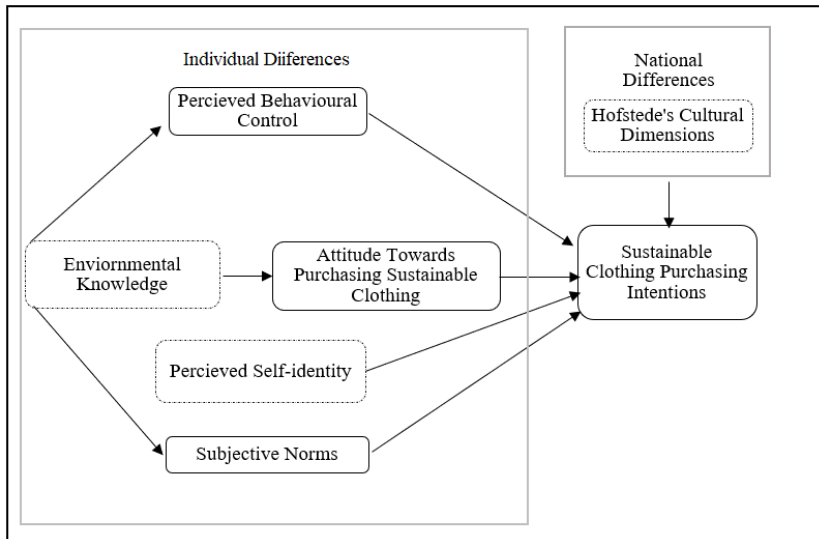


Figure 1. - Conceptual Theoretical Framework 1

### Conclusion

This research aimed to gain a better understanding of sustainable clothing purchasing intentions in the Irish context. There is an extensive body of

knowledge available on behaviour models and sustainable consumption since the 1990s. Although comprehensive, there is a gap in the literature on sustainable consumption behaviours in Europe and mainly Ireland. Therefore, further research needs to be conducted in this area to help better understand sustainable consumption behaviours.

The first aim of the research was to determine the main predictors of individual-level sustainable clothing purchasing intentions. Based on the reviewed literature, the ETPB was used. The findings conclude that intention is the most significant predictor of a behaviour and central to ETPB is an individual's intention to perform a behaviour. It was identified that attitudes, subjective norms and perceived behavioural control are main predictors of individual sustainable purchasing intentions. However, it was found that the relationship between these predictors and sustainable clothing purchasing intentions varied throughout geographical and cultural settings.

Furthermore, based on green literature, the ETPB has been expanded, including additional constructs from the sustainable clothing domain. These were environmental knowledge and perceived self-identity. Environmental knowledge had a positive relationship with attitude, subjective norms and perceived behavioural control in countries across the EU (Liobikiene, Mandravickaite and Bernatoniene, 2016; Rausch and Kopplin, 2020) and in Thailand (Maichum, Parichatnon and Peng, 2016). Perceived self-identity had a negative effect on sustainable clothing purchasing intentions in Germany (Rausch and Kopplin, 2020), however, in the US, it was a predictor of sustainable clothing purchasing intentions (Manchiraju, Fiore and Russell, 2012). It can be assumed that the main predictors of sustainable clothing purchasing intentions change based on the cultural setting.

Lastly, this project explored national culture and its effects on national-level sustainable clothing purchasing intentions in the Irish context. Sustainable clothing is marketed differently depending on the culture or geographical area (Nayeem, 2012); considering this, it was an important moderating factor of sustainable clothing purchasing intentions in

Ireland. Hofstede's Cultural Dimensions Theory allowed for a greater understanding of Irish culture through qualitative methods. For the purpose of this study, national culture was explored, and it was identified that there were six different dimensions; Individualism/Collectivism, Long-Term versus Short-Term Orientation, Indulgence versus Restraint, Power Distance Index, Masculinity/Femininity and Uncertainty Avoidance Index. The findings of this study, identified there was a relationship between each of the six dimensions and sustainable clothing purchasing intentions; however, there were dimensions which were more likely and less likely to affect sustainable clothing purchasing behaviours on a national level in the Irish context.

Limitations of this paper considered a lack of green literature completed across Europe and specifically Ireland. Although there are signs of cultural convergence, it is still accepted that values do not always carry over. Therefore, studies that attempt to understand these behaviours based on cultural convergence limit our understanding of the sustainable clothing domain.

A conceptual, theoretical framework including Hofstede's Cultural Dimension's Theory and the ETPB has been proposed to account for these differences in geographical areas and will help better explain why the main predictors of individual-level and national-level sustainable clothing purchasing intentions change across cultures. It is suggested that empirical research is conducted in Ireland to inform ETPB. From there, a structural equation model will identify relationships between sustainable clothing purchasing intentions, behavioural constructs and the effect of culture on intentions. This will help better understand sustainable clothing purchasing intentions and will help marketers better understand the consumer and encourage sustainable clothing purchasing intentions in Ireland. Furthermore, research should be conducted on the production pattern of clothing manufacturers to provide a holistic understanding of the sustainable clothing industry. This will be important if Ireland is to reach the twelfth goal of the UN; to encourage sustainable consumption and production patterns.

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# **Consumer attitude to cultured meat in Ireland**

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## **Abstract**

Recent research has identified a change in Irish consumer expectations and preferences when selecting meat products. Consumers are aware of and influenced by ethical and social matters, including climate change indicators, increasing population sizes and social dynamics. These drivers of change present an opportunity for innovation and ethical technologies in the meat industry including the production of cultured meat through synthetic biological processes. ‘Cultured’, ‘clean’, ‘cultivated’ or ‘in vitro’ meat is an artificial alternative to the conventional practice of raising animals on farms. The purpose of this research project is to explore the factors that influence consumer attitude towards cultured meat in Ireland.

**Keywords:** Cultured Meat, Consumer Attitude, Meat, Climate Change, Beef.

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## **Introduction**

The world of meat is transforming as a result of emerging changes in consumer expectations and preferences. Research conducted by Bord Bia pinpointed a shift in Irish consumers' perspective when selecting meat products (Bord Bia Thinking House, 2020). The report highlighted that consumers are aware of, and influenced by ethical and social matters, including climate change indicators, increasing population sizes and social dynamics (Bord Bia Thinking House, 2020). These drivers of change present an opportunity for innovation and ethical technologies in the meat industry.

The forefront of meat innovation features the production of cultured meat through synthetic biological processes. 'Cultured', 'clean', 'cultivated' or 'in vitro' meat is an artificial alternative to the conventional practice of raising animals on farms (Robin, 2005). Cultured meat is artificially produced by isolating, extracting, and replicating the animal's stem cells in a controlled environment (Wilks, et al., 2021).

## **Purpose**

The purpose of this research project is to explore the potential influences of consumer attitude towards cultured meat in Ireland. Currently, most of the research on consumers' perspective towards cultured meat has been conducted in countries outside of Ireland. Although this information is not directly relevant to Irish consumers, it can be leveraged to gain an insight into the factors that may influence consumer behavior. For the purposes of this project, comparisons will be made between cultured meat and the dominant agricultural practice of raising of cows by farmers in Ireland.

The information gathered in this investigation may be useful to marketers attempting to enhance the development of cultured meat. This literature review will examine previous studies, reports, and credible sources on cultured meat to provide structure and support for future research in Ireland.

This project aims to address the following questions:

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- What are the positive and negative influences in consumer attitude formation of cultured meat?
  - What are the limitations of existing research on cultured meat?
  - Can marketers ethically assure consumers that the positive influencing factors will be maintained by all cultured meat producers?

### **Statement of importance**

The importance of researching consumer attitude formation is highlighted by the societal and environmental benefits that is presented with the successful adoption of cultured meat by consumers in Ireland.

Changes in consumer attitude and preferences towards meat production methods place increased importance on investigating the factors influencing attitude formation of cultured meat. Cultured meat has the potential to be a highly lucrative product as estimations predict that synthetic meat will contribute towards ten percent of the global demand for meat by 2030 (Barclays, 2019). Improving consumer appeal is believed to be a critical activity in the successful introduction to retail markets (Tomiyama, et al., 2020).

Further importance of investigating a meat substitute product such as cultured meat is seen in the growing demand for meat produce. As consumer demand for meat increases, so will the impacts of conventional meat production namely environmental damage, animal welfare and food shortages. The revolution of the meat industry through substitute products represents a sustainable alternative to feeding the increasing global population which is forecasted to reach 9.7 billion by 2050 (United Nations, 2019).

### **Review of project structure**

This project will examine literature on five factors suspected of influencing consumer attitude formation of cultured meat in Ireland: the relative environmental impact, the reliance on conventional agriculture, consumer concerns of animal welfare, the degree of trust placed in

scientific production methods, and the health effects of consumption. Each factor will be critically analysed to identify whether it has a suspected positive or negative influence on consumer attitude formation.

## **Literature Review**

### **Environmental impact comparison**

The environmental impact of conventional or animal-based meat is suspected to influence consumer attitude formation of cultured meat. If produced responsibly, cultured meat offers a close substitute to consumers while significantly reducing the environmental impact of the meat industry (Lynch & Pierrehumbert, 2019). The predominant practice of producing meat by raising animals has a significant impact on the natural environment. Currently, the sector accounts for 35.3% of Greenhouse gas (GHG) emissions, which is predicted to increase an additional 4% by 2030 (Environmental Protection Agency, 2019).

Several activities have resulted in the agricultural sector becoming the main contributor of GHG emissions in Ireland. A combination of grass and silage represents the main diet of cows living on farms which releases methane into the atmosphere during digestion (Environmental Protection Agency, 2019). According to the Agriculture and Food Development Authority of Ireland, Teagasc, total farm machinery consumes an estimated three-hundred million liters of oil-based fuel per annum (Hopkins & Walsh, 2014). The spreading of manure and nitrogen by farmers to enrich over-grazed grasslands further contributes to the environmental impact of this sector (Environmental Protection Agency, 2019).

The emission of GHG results in solar energy being trapped within the Earth's atmosphere (Environmental Protection Agency, 2020). This energy heats the Earth's surface, melting vast quantities of ice which causes irregularities in climate and weather patterns (Environmental Protection Agency, 2020). The environmental impact of conventional meat production is suspected to influence consumer behavior in favor of a more sustainable alternative. However, studies have indicated lack of



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awareness by consumers of the severe environmental impact of meat production (Hartmann & Siegrist, 2017).

Cultured meat has potential to significantly reduce the GHG emissions of meat production in Ireland. The leading study on cultured meat production provides insight into the comparative environmental impact with that of conventionally produced meat (Tuomisto, et al., 2014). This investigation produced one thousand kilograms of cultured meat, resembling the expected future method of production (Tuomisto, et al., 2014). The results of this study indicate that cultured meat can be produced at seventy-eight percent to ninety-eight percent less GHG emissions than conventional meat production (Tuomisto, et al., 2014).

Despite promising results, researchers criticize the validity of this study, speculating a low probability of achieving similar results if the scale of production was to be increased. As cultured meat is still in development, it is difficult to accurately compare it with conventional practices in terms of environmental impact. Several factors such as sourcing renewable energy and the scale of production implemented have potential to alter the environmental impact of cultured meat (Mattick, et al., 2015) (Post, et al., 2020).

Cultured meat can potentially supply enough meat to satisfy the demand of international markets. However, the environmental impact of this industry will depend on the collective use of renewable energy by all production facilities (Lynch & Pierrehumbert, 2019). Studies indicate that if the production of cultured meat was to be powered by fossil fuels, the environmental impact would be more severe than that of conventional meat production (Lynch & Pierrehumbert, 2019). Without adequate production legislation and regulation in each country, it would be unethical to advertise a lesser environmental impact as a benefit of cultured meat consumption.

Several additional factors have been identified that may limit the accuracy of the results obtained in this study. There is no known method to accurately measure GHG emissions as numerous independent human activities effect the level of atmospheric gases present (Science Learning

Hub, 2018). The GHG emissions absorbed by the natural environment namely by oceans, forestry, and vegetation is absent in this study (Science Learning Hub, 2018). Furthermore, this investigation is under the assumption that over forty companies developing cultured meat will each operate using the same production technology (Bridgeman, 2020).

The land required for meat production is considered to be an environmental impact as it restricts environmentally friendly alternative uses e.g. wind turbine farms or natural forestry. According to the 2010 Census of Agriculture, 4,886,600 hectares of land is used for farming in Ireland (Teagasc, 2017). There are an estimated 137,000 farms in Ireland of which more than seventy-five percent produce meat (Kiernan, 2019). This high number of farms, averaging 32.5 hectares in size restricts Irish farmers from achieving economy of scale which otherwise could potentially reduce the environmental impact of the industry i.e. land usage (Sustainable Food Systems Ireland, n.d.). The area of land required for cultured meat production is estimated to be one percent of that of conventional farming (New Harvest, 2017). Market research estimates that forty-one percent of consumers are willing to pay premium for prices for products that promote sustainability (PwC, 2019). The prospect of mitigating the environmental impact of meat production is suspected to positively influence consumer attitude formation of cultured meat.

### **Reliance on conventional agriculture**

Ireland's reliance on conventional agricultural practices to generate revenue is a factor suspected of influencing consumer attitude formation of cultured meat. The Irish economy is heavily reliant on conventional agricultural practices as a revenue stream. In 2016, beef produce accounted for eighty-five percent of total agricultural exports or 13.9 billion euro in value (Teagasc, 2017). Agriculture is responsible for the employment of 8.5% of Ireland's population (Teagasc, 2017). Consumers are suspected to be deterred from purchasing a substitute product that may threaten the individual's employment or that of a relative, friend, or neighbor. In addition, many Irish farmers are suspected to be unwilling to make a career change as national census

figures show that twenty-five percent are aged over sixty-five years old (Central Statistics Office, 2018).

Research conducted by (Shaw & Mac Con Iomaire, 2019) indicates Irish residents who are either financially reliant on or living in close proximity to agricultural practices may influence consumer attitude formation of cultured meat. The findings of this study show contrasting attitudes, towards cultured meat, of consumers living in rural areas from those living in urban areas. Subjects living in rural areas were shown to be more reluctant towards the introduction of cultured meat, concerned of the implications to the income of beef farmers (Shaw & Mac Con Iomaire, 2019). The reliance on, and familiarity to conventional agricultural practices is suspected to have a negative influence on consumer attitude formation of cultured meat in Ireland.

### **Animal welfare**

The association of animal welfare to meat production is suspected to influence consumer attitude formation in Ireland. Research conducted by Teagasc indicates that consumer perceptions of quality are influenced by the practices of meat production (Regan, et al., 2018). Furthermore, Irish consumers have been shown to perceive high quality food standards with the protection of animal welfare (Meehan, et al., 2002). The production of cultured meat involves extracting cells from the body, and so, does not require the animal to be held in captivity for extended periods of time (Wilks, et al., 2021). In addition, the extraction of muscular cells from the body is done without inflicting significant pain to the animal (Burton, et al., 2000).

Research conducted by Teagasc has shown that Irish consumers define animal welfare in terms of animals exhibiting natural behaviour patterns and leading normal lives during the meat production process (Meehan, et al., 2002). This may present an opportunity for the substitution of conventional farm produce as cultured meat does not require the prolonged containment or ultimate slaughter of animals (PETA, 2017). There are an estimated 1.1 million cows in Irish farms for the purpose of meat production (Enterprise Ireland, n.d.). The number of animals

required for cultured meat production is substantially reduced as the cellular DNA of one animal can be replicated to produce large quantities of meat (Edelman, et al., 2005).

The widespread introduction of cultured meat to retail markets has the potential to reduce the demand for animal-based meat. This scenario raises consumer concerns regarding the future of animals currently being raised for the purpose of human consumption (Laestadius & Caldwell, 2015). Research indicates that there are two possible outcomes for farm animals if there was demand for conventional meat was to cease. Firstly, a widespread eradication of farm animals would allow alternative uses of grassland e.g. crop farming (Chauvet, 2018). Secondly, farm animals could be released back into the wild, however, generations of domestication may have dulled natural survival instincts (Welin, 2013). Both outcomes highlight the need for a that is mutually acceptable by consumers and farmers. The potential to improve the welfare of animals is a factor suspected of positively influencing consumer attitude formation of cultured meat in Ireland.

### **Trust placed in scientific production of cultured meat**

The level of trust placed in scientific food production is suspected to influence consumer attitude formation of cultured meat. Research conducted by (Hwang, et al., 2020) on consumer attitude of cultured meats concluded that a lack of trust placed in biotechnology is a common factor which negatively influences purchasing decisions. Furthermore, the level of technological involvement in food production has been identified as an important factor in predicting the successful substitution of conventional meat with cultured meat (Román, et al., 2017).

Cultured meat producers would be subject to intense scrutiny by regulatory authorities such as the Food and Drug Administration (Burdock Group, 2018). Despite this, several studies have shown a link between the technology used in the production of cultured meat with other potentially harmful uses of this technology as a factor influencing consumers' attitude formation (Hopkins & Dacey, 2008) (Brooks & Lusk, 2011).

The view of consumers that cultured meat production is interfering with the natural process of evolution may evoke negative perceptions (Choudhury, et al., 2020). The use of such technology to clone human beings may deter consumers from supporting cultured meat production (Brooks & Lusk, 2011). In addition, the use of such technology to replicate human meat for consumption is suspected to negatively influence consumer attitude formation of cultured meat (Hopkins & Dacey, 2008).

The likelihood of large corporations holding a monopoly over the cultured meat market has also been identified as a common concern by consumers in several studies (Laestadius & Caldwell, 2015) (Driessen & Michiel, 2012). The negative impacts of such monopolies are assumed to resemble those seen in other industries; the absence of rivals would discourage innovation and competitive pricing strategies. Ultimately, the possibility of a small number of cultured meat producers is suspected to negatively impact consumer attitude formation. Furthermore, safety concerns over the use of cultured meat technology was shown as a mutual deterrent towards the meat substitute of urban and rural consumers in Ireland (Shaw & Mac Con Iomaire, 2019).

A lack of awareness of regulations surrounding the sale and distribution of food in Ireland may result in consumers being reluctant in adopting cultured meat. A study conducted of consumers has shown that 44% identified the Food Safety Authority of Ireland as the primary food regulator in Ireland (Food Safety Authority of Ireland, n.d.). Generating awareness of regulatory authorities is suspected to increase consumer trust in food produced using scientific methods. A lack of trust in the technology used in production is suspected to be a factor negatively influencing consumer attitude formation of cultured meat in Ireland.

### **Health effects of meat consumption**

The effect of meat consumption on personal health is suspected to influence consumer attitude formation of cultured meat. The following comparisons made between consuming conventional and cultured meat in terms of health-related issues have been classified into two sections:

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nutritional content, and the risk of contamination during the manufacturing process.

Conventionally produced meat has high protein, vitamin, and mineral content (Bohrer, 2017). While there is a possibility that cultured meat may have a similar protein content to conventional produce, nutrients and minerals would have to be added (Fraeye, et al., 2020). Although cultured meat is being developed to resemble conventional meat, there is a possibility that consumers may perceive cultured meat as being less healthy (Ramajanaki Doraiswamy & Gayatri Krishnan, 2020). The perception of cultured meat having a lesser nutritional content than conventional meat is a factor suspected to negatively influence consumer attitude formation.

Consumers may perceive cultured meat as being the healthier alternative due to the absence of vaccinations found in conventional meat production (Claffey, 2017). In addition, farm animals are often herded into unsanitary confinements during winter months, exposing the body to germs (Geary, 2020). As cultured meat is produced using scientific methods in a controlled environment, the produce is theoretically exposed less foreign bodies than conventionally farmed meat (Astrid & Bartels, 2019). Comparatively, (Bridgeman, 2020), states the levels of *Escherichia coli* (E.coli), a bacteria which is harmful for human consumption, that is caused by animals consuming fecal contaminated substances.

A study on consumer attitude indicates that consumer attitude of cultured meat is positively influenced by generating awareness of unnatural aspects of conventional meat production (Faunalytics, 2018). Consumer awareness of controversial scandals such as horse DNA identified in produce labelled as beef, and growth hormones injected into cows are suspected of negatively impacting consumer views on animal-based meat in Ireland (RTE News, 2016) (Independant, 2013). The practice of producing cultured meat in a controlled environment without exposure germs or vaccinations combined with complete transparency in the meat

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industry is suspected of positively influencing consumer attitude formation.

An additional benefit to the health of consumers is the capability to reduce the level of cholesterol present in some cultured meat products (Astrid & Bartels, 2019). The carcinogens found in conventional meat which is a factor in the development of cancer (Bridgeman, 2020). The improved health benefits of consuming cultured meat in comparison to animal-based meat is a factor suspected to positively influence consumer attitude formation.

### **Summary**

Addressing the suspected factors that have potential to influence the attitude formation of cultured meat is believed to be crucial to a successful adoption of the product substitute by consumers. Despite initial investigation, the true environmental impact of cultured meat production is unknown and further research is needed to market this comparative benefit to consumers. The strong association of Ireland with conventional meat production may deter consumers from supporting cultured meat.

The improvement to animal welfare represented by substituting consumer demand with cultured meat is suspected to be a key factor in the successful future marketing of this product. A lack of trust placed in biotechnology by consumers represents a primary deterrent to the product. Despite regulation of cultured meat, consumers may view the product as being less healthy than conventionally produced meat.

### **Future action**

The next steps in contributing to the existing literature on consumer attitude formation of cultured meat is by conducting primary research on Irish residents. This would involve analyzing the responses and behavior of test subjects and behavior when questioned about cultured meat. The test subjects would be profiled based on demographic information including age, gender, diet, and geographical location. The collection of demographic data is believed to be a useful method in identifying and

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understanding trends in consumers' attitude formation and acceptance towards cultured meat.

The interaction of researchers with participants would involve providing an explanation of cultured meat and the recording of initial reactions to this new food technology. This information would then be divided into segments, labelling the common attractions and deterrents of cultured meat and the methods used in its production i.e. food safety was identified as the main discouraging factor in adopting cultured meat by men aged under thirty-five years old in the western region of Ireland. The purpose of this primary research is to analyse links between cultured meat consumption and the positive, and negative societal, environmental and health factors. Additionally, it would aim to identify the target market as well as effective strategies in marketing cultured meat to consumers living in Ireland.



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