

# Pivoting Online: The Case of the Agri-Food Sector

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**Abstract:** The debate concerning e-Commerce adoption is an evolving one that in the context of the current COVID-19 Pandemic has come centre stage. Although the shift towards e-Commerce platforms has been an increasing trend in recent years, Curtin (2020) states the current pandemic has accelerated consumers' shifts toward e-Commerce by five years. As store closures and new enforcements became a reality, it forced many companies to pivot their online strategies overnight (Shadler et al, 2020). Since its inception in the late 90's, e-Commerce adoption and research has championed the rise and the significant benefits of e-Commerce. Industries as diverse as financial, retail, manufacturing, and hospitality (Josanov, 2011; Kremez et al, 2019; Helper and MacDuffie, 2000; Hua, 2016) have embraced e-Commerce. By contrast, research into the use and level of adoption by Agri-food businesses indicates that this sector has not kept pace with this digital revolution. This is surprising given the importance of this sector worldwide. Indeed, it is one of the most important indigenous industries in Ireland in terms of employment, economic output, and export performance. However, there is scarce research found in the case for Irish Agri-food e-Commerce development, with limited industry reports available. Previous research elsewhere called for government support to encourage the move to online territory (Sparkes and Thomas, 2001; Sturiale and Scuderi, 2016), and the onset of COVID-19 furthered this. Numerous support agencies expanded on their current offerings in relation to digital support, although little is known around Agri-food businesses adoption of these. For this reason, this paper intends to add to the limited studies surrounding this important indigenous industry in Ireland within the widely dynamic topic of e-Commerce platforms. The focus of this paper is directed toward the adoption and integration of these online platforms during COVID-19, the benefits and challenges faced, the role of support agencies and further support suggested by SMEs through survey data. This study has both an academic and industry focus and hence aims to improve our understanding of online activity and digital support within this sector.

**Keywords:** online, e-Commerce, social media, Agri-food, SMEs, support agencies

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## 1. Introduction

The adoption of online platforms and e-Commerce has been without doubt one of the most significant business trends within the last twenty years. According to Statista (2021), e-Commerce sales (which refers to the ordering of products or services using the internet), have increased by almost 400% since 2015. Facebook, for example, which recently announced a new e-Commerce feature (Rodriguez, 2020) has been at the forefront of this growth (Ortiz-Ospina, 2019). In this era of digital revolution, sectors as diverse as financial services, retail, education, and government agencies have all embraced this online and e-Commerce opportunity. For example, since Revolut's fruition in 2015, the Fintech company has become the UK's most valuable Fintech, crediting their success to the ability of managing all users "financial needs through a single platform" (Dawkins, 2021).

Despite this, not all sectors have embraced this digital opportunity. One sector that appears to have lagged in the level of adoption of online platforms and e-Commerce is the Agri-food sector. This sector includes traditional agriculture farming activities, food and beverages manufactures, and encompasses both primary and secondary sector activities. For example, the Corporate Finance Institute (CFI) (2022) defines agricultural businesses to include all activities that relate to farming, such as crop production, livestock, and distribution; traditionally primary activities. The food sector refers to businesses undertaking activities "...related to any stage of production, processing, and distribution of food" (Food Standards Agency (FSA), 2007), whether it is processed, unprocessed, or partially processed. The beverage industry is often included in the food sector and refers to businesses involved in the manufacture of drinks and ready-to-drink products (Irish Business and Employers Confederation (Ibec), 2022).

Several studies indicate that Agri-food businesses have not taken advantage of the digital revolution (Sparkes and Thomas, 2001; Sturiale and Scuderi, 2016; Cristobal-Fransi et al, 2020; Grant Thornton, 2020). This is surprising, given the economic and regional importance of the sector. It is one of Ireland's most important indigenous industries (Bord Bia, 2021). Added to this, the onset of the COVID-19 Pandemic (herein referenced as C-19) in March 2020 caused unprecedented disruption, and led to a surge in e-Commerce activity worldwide, as many businesses reassessed their online trading strategies overnight. While industries such as retail and financial services have been at the forefront of this digital revolution, little is known about the extent to which Irish Agri-food firms have actively engaged in e-Commerce and online trading. To address these issues, this paper

seeks to examine the level of adoption of e-Commerce and online platforms by Irish Agri-food businesses prior and in the wake of C-19. Specifically, the objectives of the research paper are to:

- Examine the level of adoption of e-Commerce and online platforms among Agri-food SMEs in Ireland pre and during C-19
- Assess their perception of the benefits and challenges in terms of adoption of e-Commerce
- Examine the role of support agencies in facilitating e-Commerce adoption
- Identify what future supports these firms will need to enhance their online presence.

## **2. Literature review**

There is no doubt that the internet has been a hugely powerful but disruptive force, transforming many aspects of the business landscape worldwide (OECD, 2019). Over the course of a decade (2010-2020), global e-Commerce sales have increased by 800% (Rheude, 2019), creating new business practices, models, and industries. Despite e-Commerce being both a pervasive and ubiquitous term, providing a comprehensive definition of e-Commerce is challenging. Early definitions such as Bajaj and Nag (2005) referred to e-Commerce as “the paperless exchange of business using electronic data interchange...” (p. 13). As technology evolved, the definition of e-Commerce expanded to include a wider scope of related activities such as social commerce. More recently, Chakraborty et al (2021) defines e-Commerce as including the entire online process, from “developing, marketing, selling, delivering, servicing, and paying for products and services” through the internet. For the purpose of this study, consistent with Chakraborty et al (2021), the term e-Commerce used in this paper refers to the use of online platforms, including social media platforms, business websites, and other e-Commerce retail sites.

### **2.1 The case for e-Commerce**

The phenomenal growth in e-Commerce and online trading has presented a huge opportunity for businesses, both large and small. The literature documents significant benefits in terms of improving customer service and customer interaction, the fastening of business processes, greater global competitiveness, greater time and cost savings leading to higher profit margins (Piris et al, 2004; Al-Qirim, 2007) In more recent years, better access to international markets, cost effectiveness and larger customer reach have all been identified within the literature as clear advantages (Cristobal-Fransi et al, 2015; Moon et al, 2017; Saridakis et al, 2019). The literature would indicate that while larger firms are more aware of the benefits, the advantages can be particularly significant for SMEs, who have resource and capital limitations (Grandon and Pearson, 2004; D’Angelo et al, 2016). While studies have cautioned around viewing e-Commerce as a panacea, barriers in terms of perceived costs, limited resources, organizational readiness and the lack of awareness of digital literacy among owners and managers, particularly for SMEs, have all been identified as challenges in e-Commerce adoption (Pease and Rowe, 2003; Zheng et al, 2004; Scupola, 2009; Kwadwo et al, 2016).

### **2.2 E-Commerce and the Agri-Food Industry**

While retail and particularly financial sectors have embraced the digital and e-Commerce revolution, the Agri-food sector appears to have lagged behind. Research by Sparkes and Thomas (2001), over two decades ago, argued that Welsh Agri-food SMEs had “not fully engaged” with e-Commerce. Subsequent studies reported that the websites of food and drinks businesses were not being used to their full potential (Sturiale and Scuderi, 2016; Cristobal-Fransi et al, 2020). In the case of Ireland, where SMEs account for over 90% of active enterprises (Central Statistics Office (CSO), 2021), there has been limited attention given to the issue of e-Commerce adoption among Agri-food businesses (McNulty, 1985; Stephens, 2014; Renwick et al, 2014). Recent industry reports from Grant Thornton (2020) and the Irish Farm Accounts Co-operative (IFAC) (2020) indicates that digital trends in the sector are less than expected, academic interest in the topic is scant. This is surprising given the importance of the sector, particularly in Ireland. Data from Bord Bia (2021) indicates that the sector employs 7.1% of total employment, contributes approximately 8% of GDP, and almost 90% of Irish food produced is exported to over 180 markets worldwide.

### **2.3 C-19 pandemic and supports**

In many respects, the C-19 Pandemic has certainly accelerated digital trends. In the wake of government restriction and major consumer shifts in their buying behavior (Curtin, 2020), many businesses were forced to

pivot overnight making the adoption and integration of e-Commerce critical to businesses survival, particularly SMEs. Indeed, the research suggested that in the ‘post-pandemic scenario’, SMEs were significantly more vulnerable to failure than larger firms (Ikmal et al, 2020). Moreover, Singh et al (2013) suggest that SMEs may not perceive the benefits of adopting and implementing e-Commerce. Hence a key issue is whether Agri-food businesses in this post-pandemic scenario are able to adapt to the digital world.

In this regard, a number of international reports by the OECD (2020) and United Nations Conference on Trade and Development (UNCTAD) (2021) highlight the role of policy supports and government as fundamental in helping business overcome existing barriers, to ensure a more inclusive e-Commerce landscape. The latter, for example, stresses the need for government to prioritize national digital readiness and for changes in public policy and supports to enable businesses to improve their digital readiness. In terms of the Agri-Food sector in Ireland, a series of policy initiatives and programs have been developed to help establish key digital skills and support. As outlined in Table 1, the Irish government has launched a series of supports to aid companies in the Agri-food sector in moving online. For example, the Think Digital Initiative launched in 2016 and the Innovation Voucher launched in 2007 are notable examples. Moreover, several agencies currently work in this arena, including Bord Bia, Enterprise Ireland, and Local Enterprise Offices (LEOs), and have been at the forefront of enabling companies to pivot online. The support outlined below shows a snapshot of the digital and e-Commerce solutions offered by these agencies, where some were available prior to C-19.

**Table 1:** Examples of support available by agencies

AGENCY	SUPPORT	DESCRIPTION
Bord Bia	Think Digital Initiative	Provides food, drink and horticulture businesses with the insight, skills, and supports necessary to win online.
Enterprise Ireland	Innovation Voucher	€5,000 for SMEs to explore a business opportunity or problem with a registered knowledge provider.
	COVID-19 Online Retail Scheme	Funding to enhance their digital capability. Supports a maximum 80% of the project costs with a maximum grant of €40,000.
Intertrade Ireland	E-Merge	£2500/€2800 fully funded consultancy support to help businesses develop online sales and e-Commerce solutions.
LEOs	Trading Online Voucher (TOV)	Targeted at SMEs – up to €2,500 for assistance to trade online, reaching new markets and boosting sales.

Despite these efforts, a recent industry report by Grant Thornton (2020) stated that adoption rates among this sector are less than expected, suggesting a gap between policy (i.e., supply side supports) and Agri-food businesses engagement with these policy supports. The core research question that this paper seeks to address is to therefore analyse online activity (pre and during C-19) and the extent to which these businesses are engaging with current support provision.

### 3. Methodology

For the purpose of this study, primary research was carried out using an online survey. The validity of surveys, and increasingly online surveys, is well established in the literature (Paris et al, 2016). Through a systematic literature review, Zeng et al (2017) identified that almost half of papers analysed used surveys. While the author acknowledges the limitations of online surveys (Andrade, 2020), in the context of the timing of this study, it was felt that this was the most appropriate method. Several steps were taken to mitigate these limitations. The survey was developed over a period of eight weeks and was distributed in April 2021 electronically to Agri-food businesses using various email and social media platforms such as LinkedIn, Facebook and Twitter. The survey was sent to several support agencies throughout Ireland who agreed to send it to their network of Agri-food SMEs in this sector such as LEOs, food hubs, and incubation centers. In addition, the author liaised with a number of national bodies that work with Agri-food businesses (i.e. Bord Bia), which identified food hubs and networks in their association. The survey was circulated to approximately 500 SME’s. The survey consisted of 19-27 questions, dependent on their online presence. This was divided into four sections, and was designed to establish the respondent’s business profile, clarity on their online presence and sales prior to and post March

2020 (onset of C-19 Pandemic), the benefits and challenges associated, and their knowledge and use of support from various agencies. The survey gathered 108 responses in total.

#### 4. Results

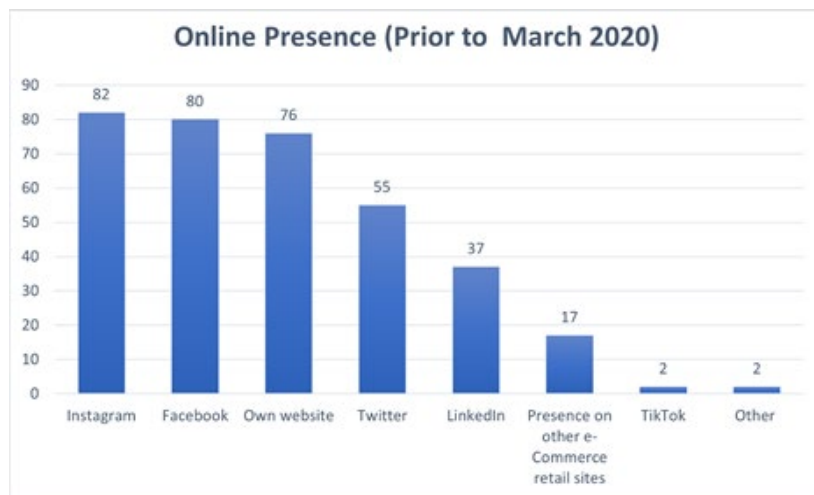
Survey data from 108 Irish Agri-food SMEs were collected and analysed (See Table 2).

**Table 2:** Sample demographics

<b>Number of respondents</b>	108
<b>Type of business</b>	
Agri-food (Agriculture, Farming and Fishing)	11 (10.2%)
Beverages	17 (15.7%)
Food business	80 (74.1%)
<b>Number of years in business</b>	
Less than 1 year	20 (18.5%)
1 < 5 years	39 (36.1%)
5 – 10 years	24 (22.2%)
10+ years	25 (23.1%)
<b>Size of Business (number of employees)</b>	
1 - 2	51 (47.2%)
3 - 5	22 (20.4%)
5 - 9	10 (9.3%)
10 - 49	22 (20.4%)
50 - 249	3 (2.8%)

The majority of respondents were food businesses (74%). The number of years in business range from less than 1 years (18.5%), between 1 to 5 years (36.1%), and 5+ years (45.3%). Microbusinesses cover 76.9% of the sample, 20.4% were small enterprises, and 2.8% medium sized. Dublin accounted for the main region of respondents (48.1%), with the remaining covering 19 other counties.

##### 4.1 Level of adoption and use of online platforms



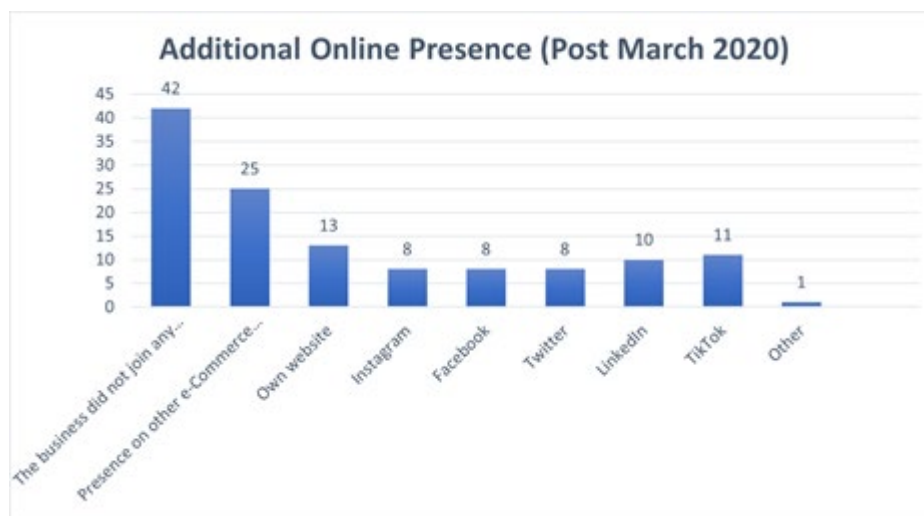
**Figure 1:** Respondents online presence pre C-19

Previous to March 2020, Instagram, Facebook, and the business website amassed the highest usage pre-Pandemic. Most respondents (73.7%) stated less than ten percent of sales came from online trading. Only 9.5% had gathered greater than fifty percent from online sales.

Following the outbreak of C-19, Forty-four percent (N=42) of respondents surveyed did not join any additional online platforms, rather the majority of those (76.1%) enhanced their existing website and social media pages'. The remaining respondents indicated that they joined various platforms, including other e-Commerce retail sites, the business website, and TikTok.

With regard to online sales increasing, staying static or decreasing during C-19, three quarters of the food businesses surveyed (76.6%) reported that online sales had increased since March 2020 (the onset of the

Pandemic), while the remainder (23.4%) indicated no change (See Table 3). In terms of the Agri and beverage businesses, (N=28), the results are similar. 64.2% of beverage businesses and 75% of Agri businesses also indicated an increase in online sales since March 2020. However, over a third of beverage businesses indicated either no change or a decrease in online sales. A small number of Agribusinesses and beverage businesses indicated a decrease in online sales since March 2020.



**Figure 2:** Respondents additional online presence post Pandemic

**Table 3:** Change in online sales status since March 2020

Change in Online Sales since March 2020	Decrease (%)	No Change (%)	Increase (%)
Agribusinesses (agriculture, farming and fishing)	12.5%	12.5%	75%
Beverages	1.4%	34.3%	64.2%
Food Businesses	0%	23.4%	76.6%
Total(average)	2%	30%	63%

Number of businesses: Agribusinesses N=11, Beverages N=17, Food businesses N=80

## 4.2 Benefits and challenges

In order to assess what extent to which the respondents were aware of the benefits and challenges offered by online presence and trading, a number of statements drawn from the literature were presented using a Likert scale. The results presented in Table 4 below indicate that the respondents are very aware of the benefits of online presence to their business. Consistent with literature, improved visibility and greater access to customers were important benefits strongly agreed by over 95% of businesses. However, the results indicate that selling domestically within Ireland is an important benefit from having an online presence (63%), whereas selling internationally is somewhat less important, with many in disagreement (31.6%).

**Table 4:** Statements presented

To what extent do you agree or disagree with the following statements			
	Disagree/ Strongly Disagree %	No opinion / Uncertain %	Agree/ Strongly Agree %
Online presence is important to increase the businesses visibility.	0	3.2	96.9
Online presence is important to gather more customers.	0	3.2	96.8
Online trading has enabled the business to expand to customers internationally	31.6	27.2	41.1
Online trading has enabled the business to expand to customers in different regions in Ireland	11.6	25.3	63.2

## 4.3 Access to enterprise supports

Out of the 108 respondents, 85% are aware of existing support by enterprise agencies towards helping these companies move online. In terms of which support agencies accessed in the past twelve months (See Table 5), the data reveals a significant degree of engagement among the various agencies. The data suggests that the

LEOs are a key point of contact for these respondents, as 76% of the businesses accessed supports from LEOs, followed by Bord Bia (44%) and Enterprise Ireland (27%).

**Table 5:** Support agencies utilized

Agency/Business type	Business Type			Total (n=108)
	Agri-food (Agriculture, Farming and Fishing)	Beverages	Food business	
Local Enterprise Office (LEO)	6	13	63	82
Bord Bia	3	7	37	47
Enterprise Ireland	1	2	26	29
Training Courses	2	6	20	28
Teagasc	4	1	11	16
Others (Intertrade Ireland, An Post, etc)	1	8	31	40

Finally, 72% of respondents indicated that they availed of online supports during C-19. The most utilised supports include attending a webinar series (N=47) (training sessions), followed by the TOV (N=44) and to a lesser extent, the innovation voucher (N=11). Of some importance is that fact that 28% of the business surveyed did not avail of any online supports from the enterprise agencies at this time.

#### 4.4 Proposed suggestions to improve their online presence

The final section of the survey included an open-ended question which sought to elicit respondents' suggestions on what additional support(s) the respondents feel would be beneficial to help their business transition online or improve on their current online platforms. The majority of respondents put forward a vast range of suggestions. These were thematically analysed and three main themes emerged, which included a lack of suitable qualified online marketing professionals, the need to widen the criteria and conditions often attached in accessing online support, as well as tailored training and mentoring. For example, according to one business owner, there is a need for a "reliable database of individuals to provide this service". According to the owner,

*"...the hardest part and biggest block in making the jump to paying someone to upgrade your website etc. is finding the person...I would love to utilise the TOV and get someone else to upgrade my website but I have no idea how to choose someone to do it for me/don't know where to start looking." (B2C Food business owner trading since 2019 in Dublin)*

In terms of the criteria and conditions that are often attached to these supports, several businesses felt that the time involved, and the conditions attached can be prohibitive for SMEs. Numerous businesses indicated that they "did not qualify" for online supports. For example:

*"I could not access the trading online voucher because I just started my business, so I was not trading for 6 months. Maybe it will help to have something like this for start-ups..." (B2B/B2C Beverage business trading for less than a year in Kildare)*

Finally, several business owners were acutely aware of their lack of knowledge and highlighted the need of targeted training and mentoring. For example,

*"I manage the website tho I have some knowledge but am not a web developer. What would really helpful would be to have a website health check and analysis of the website detailed so that I can address issues that I may not be aware of. I would also really benefit from SHORT bite size tutorials of marketing hacks, the latest widgets or apps to enhance website." (B2B Food business trading for over 5 years in Wexford)*

## 5. Discussion

The Agri-food Industry in Ireland is a vital component in Ireland's economic landscape. This sector has had to entail many disruptions as the changing nature of the implications C-19 presented accelerated the need for digital presence. The findings presented in this paper provide important insights into the use of online platforms by firms in this sector, as well as giving support agencies direct insights from their target demographic of the demand for additional support and training.

As is found from the data collected, online trading and presence has become increasingly important to Agri-food SMEs due to the implications of C-19. Prior to C-19, these firms had presence on various platforms, however, in the wake of C-19, these firms either sought to enhance their online platforms (76%) or join additional platforms. The results also indicate that Instagram, Facebook, and the business website were the most utilized platforms.

Consistent with prior research, the evidence indicates that these business owners are aware of the benefits of having an online presence in terms of providing greater business visibility and gathering more customers as reported by Moon et al (2017). However, the results also indicate that these businesses put less importance on using online platforms to access international markets, rather their focus is on selling nationally.

A review of current digital supports indicate that a range of supports were available both prior and during the Pandemic. Awareness and use of support agencies is relatively high for these sample firms, with 72% of firms engaging with agencies working in this space. The data also suggest that LEOs are a key point of contact for most SMEs, which shows the importance of this agency and its support system. However, just over a quarter (28%) of respondents did not utilize any online support. Challenges appear to indicate that the conditions attached to existing supports and lack of awareness in terms of accessing suitably qualified digital professionals were identified as key challenges facing these businesses, in addition to requiring more targeted training and mentorship. The results suggest that a reliable database of suitable professionals and more training to assist these businesses to invest in digital strategies would play a positive role in encouraging them to adapt to the digital landscape.

## **6. Conclusion**

The information gathered from this study indicates that the relevance of e-Commerce and online platforms for Agri-food SMEs has grown with the implications C-19 brought, as these businesses increased their online presence and trading to adapt to the changing needs of both consumers and government provisions. In line with this, many support agencies either elevated or expanded their current offerings of digital support, as the demand was substantial. For example, Burke-Kennedy (2020) noted that the TOV received “three years’ worth of applications in three months”. Support agencies play a crucial role in enabling SMEs to overcome barriers and ease their integration of the various platforms available. Throughout 2021, a promising 80% of SMEs plan to enhance their online presence, as majority of the SMEs understand the importance of investing in the digital platforms. It is recommended that SMEs focus on building their digital capabilities and continue to for the future as emerging new trends come to fruition. Support agencies also need to accommodate these SMEs and examine their current processes as the businesses identify the criteria and conditions as inhibitors. The limitations of this research include that as the sample size is relatively small and a significant proportion are food businesses, this means the results cannot be generalised for all Agri-food businesses. Moreover, many of the businesses in this sample are micro businesses. Future research could explore in more detail some of the issues identified which include addressing the digital awareness of these owners.

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