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Harry Andrews

*Lancaster University*, [h.andrews@lancaster.ac.uk](mailto:h.andrews@lancaster.ac.uk)

Ruilin Zhu

*Lancaster University*, [ruilin.zhu@lancaster.ac.uk](mailto:ruilin.zhu@lancaster.ac.uk)

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# Revisiting the Determinant Factors of E-Commerce Adoption in the Wake of the Pandemic: The New Landscape of Digital Transformation for SMEs in North West UK

Research-in-progress

**Harry Andrews**

Lancaster University Management School  
Lancaster University  
Lancaster, United Kingdom  
Email: h.andrews@lancaster.ac.uk

**Ruilin Zhu**

Lancaster University Management School  
Lancaster University  
Lancaster, United Kingdom  
Email: ruilin.zhu@lancaster.ac.uk

## Abstract:

In response to the challenges presented by COVID-19, many small businesses have opted to digitally transform to survive the economic downturn brought on by the pandemic. In particular, small- and medium-sized enterprises (SMEs) have turned to electronic commerce (e-commerce) to keep their firm afloat and maintain revenues amidst government restrictions and national lockdowns. While many SMEs shifted online against the backdrop of these contextual circumstances, the primary determinants which may have played a significant role in the e-commerce adoption decision in small businesses are unclear and cannot be explained by existing literature. Therefore, this paper finds it is the time to revisit this topic to ascertain the underlying determinants of SME e-commerce adoption during COVID-19. In so doing, this research aspires to provide practitioners and policymakers with advice as to how SMEs can counter crises by integrating technological innovations like e-commerce into their businesses and undergoing a rapid digital transformation.

**Keywords:** E-commerce adoption, SME, COVID-19, determinants, UK

## 1 Introduction

Academic research into the determinant factors of electronic commerce (e-commerce) adoption in small- and medium-sized enterprises (SMEs) is by no means unprecedented. Since first catching the attention of scholars in the mid-1990s, a plethora of studies have investigated this topic and have predominantly produced uniform findings as to the most significant factors influencing the e-commerce adoption decision in SMEs (Wymer & Regan 2005; Hoti 2015). E-commerce adoption in small businesses in recent years therefore appeared a settled area of research, where understanding was clear and the fundamental determinants of adoption were widely acknowledged and undisputed. However, this paper posits that the emergence of COVID-19 (coronavirus), renders an exploration of this research topic once again necessary.

The surfacing of the pandemic in the UK stimulated government restrictions and changes in consumer behaviour which negatively impacted many small British businesses (Hurley et al. 2021). Thousands of SMEs have already succumbed to the economic downturn precipitated by the coronavirus crisis, and it is expected that yet more insolvencies lie ahead once state support for businesses expires (Bank of England 2020; Lambert & Van Reenen 2021). Conversely, amidst the adversity created by COVID-19, the adoption of technologies has provided a lifeline for many SMEs (Ward 2020). In particular, e-commerce has come to the rescue of small firms by making a continuation of trading a possibility, in spite of many businesses being forced to close the doors of their premises to the public due to lockdowns (OECD 2020).

In the early stages of the pandemic, “10 years of e-commerce adoption was compressed into three months” (Mathradas 2020). This phenomenon can be linked to the nature of the pandemic, the government restrictions it prompted, and the efforts to survive of SMEs, but the importance of such contextual circumstances can be overestimated. A significant portion (30%) of SMEs have taken no action during the coronavirus crisis to try and digitally transform (Auger 2021). In fact, many SMEs opted not to adopt e-commerce during the pandemic and instead ceased operations, accepted subsidised payments through the UK government and chose to hibernate, or simply continued working with their existing systems without making any effort to digitally innovate. This suggests that the rapid acceleration of e-commerce adoption can and should be attributed to determinant factors that have led companies to begin trading online. Some of the factors recognised as vital to the SME e-commerce adoption decision within existing literature, however, simply do not apply to small firms which adopted e-commerce as a means of surviving the pandemic. MacGregor and Vrazalic (2005) noted that managerial time (that is, when a decision-maker within an organisation possesses ample time to consider and plan the adoption process) is a vital determinant in the adoption of e-commerce in SMEs. However, small business owners faced with an existential crisis and in dire need of maintaining cash flows at the start of the pandemic were scarcely at liberty to ruminate over the prospect of adopting e-commerce to ensure their company’s survival. Similarly, academics have alluded to a desire to conduct business globally and reach a broader customer base as an enticing factor which frequently convinces many SMEs to adopt e-commerce, but with supply chain disruptions, the enforcement of international trade restrictions, and a dramatic increase in shipping rates all proving to be repercussions of the coronavirus crisis, companies of all sizes have been prevented and discouraged from distributing and selling products overseas (Ocloo et al. 2020; Shih 2020; UNCTAD 2021). In light of these unparalleled circumstances under which many SMEs have adopted e-commerce during the pandemic – and the alarming rate at which e-commerce adoption has surged amidst the coronavirus crisis – existing literature appears incapable of explaining what motivated small businesses to start trading goods and services via the internet. As a result, there emerges the situation where previously unidentified factors have served a pivotal role in e-commerce adoption in the wake of the pandemic as part of the ongoing SMEs digital transformation. It is for these reasons that this paper wishes to re-visit this topic and contribute new theory which will be suited to explaining this phenomenon.

The specific research questions this paper intends to answer are the following:

1. What are the underlying factors which led UK North West-based SMEs to adopt e-commerce amidst the coronavirus pandemic?
2. How do these factors differ from the prior determinants of e-commerce adoption in SMEs in crisis-free times?

SMEs in the North West of the UK have faced immense challenges amidst COVID-19. Therefore, opting to focus this research upon the case of small businesses within this focused geographical region should provide an interesting case study for this paper. Although the UK North has typically been renowned for its economic dependence upon the public sector, today the North West region is home to some 561,000

SMEs (Ward 2021). The North West has been the third worst affected region in the UK financially amongst SMEs (Nowell 2021), and to compound matters, certain locations in the region have repeatedly been identified as COVID-19 infection hotspots (Borrett & Rao 2021). Consequently, the restrictions imposed upon SMEs in the North West have at times been more severe than those of businesses in other areas of the country, which might explain why SMEs in many other UK regions have weathered the storm created by the pandemic more favourably. It also must be mentioned that historically, North West SMEs have proved somewhat reluctant to begin trading online. In 2018, only 33% of North West SMEs had adopted e-commerce, meaning that uptake of e-commerce by SMEs was less in the North West than in any other region of the UK (Ashforth 2018). Therefore, understanding the underlying factors which led SMEs in a typically e-commerce resistant region to offer their products and services over the internet during the pandemic should lead to some illuminating findings which from a theoretical standpoint will extend the current understanding of e-commerce adoption factors, and from a practical perspective will provide advice for SMEs facing immense disruption to their operations as well as policy references for relevant authorities to better direct SMEs to ensure they can rebound from challenges such as the pandemic.

## **2 Literature Review**

### **2.1 E-Commerce**

E-commerce is considered a subset of e-business, which refers to the use of digital technologies for the fulfilment of business processes (Chaffey 2002). One of the most widely accepted understandings of e-commerce aligns with the definition of Carey (2001) who defines e-commerce as internet-based commercial transactions between at least two people. According to definitions of this kind, e-commerce constitutes no more than the purchasing and selling of goods or information conducted via the internet, but other academics argue that this description of e-commerce does not suffice. Zwass (1996) interprets e-commerce more extensively as: “the sharing of business information, maintaining business relationships, and conducting business transactions by means of telecommunications networks”. The inference within this more comprehensive definition is that e-commerce is not merely limited to online-based commercial transactions – it also extends to activities between buyers and sellers which are facilitated by technology and occur both before and after the purchase or vending of an item or information takes place. This paper accepts and adopts this particular definition of e-commerce.

### **2.2 E-Commerce and SMEs**

Hart and Saunders (1998) distinguished between proactive and reactive firms in regards to SME e-commerce adoption. The former refers to businesses which adopt e-commerce of their own accord in recognition of the benefits it can bring to their organisation, whilst the latter is indicative of companies which adopt e-commerce in response to external pressures such as environmental and social factors or competitor actions. Given that it is based within the context of the coronavirus pandemic, this paper proposes to analyse reactive SMEs which adopted e-commerce in a bid to survive and continue trading amidst nationwide lockdowns in the UK.

#### **2.2.1 Benefits of E-Commerce for SMEs**

Scholars have long extolled the virtues of e-commerce for small businesses and have emphasised that e-commerce adoption in the modern day is affordable and accessible to practically all SMEs (Mazzarol 2015). Numerous benefits are associated with e-commerce adoption for small businesses. These include: access to new customers both domestically and internationally; the ability to trade beyond standard working hours and automatically accept orders at any time of the day; opportunities for cost savings; and a level playing field to compete with big organisations and other SMEs (Quayle 2002). Additionally, e-commerce can help SMEs to improve the efficiency of their business processes and forge better relationships with their customers (Ajmal et al. 2017). Huy and Filiatrault (2006) have even gone so far as to assert that in light of these various benefits, SMEs simply cannot afford not to adopt e-commerce.

#### **2.2.2 Determinant Factors of E-Commerce Adoption in SMEs**

Key determinant factors as to whether an SME will adopt e-commerce are broad-ranging. The perceived benefits of e-commerce and its perceived suitability for a business are both factors which can play a pivotal role in influencing the adoption decision (Ifinedo 2011). An analogous factor to the compatibility of e-commerce with the SME is that of organisational readiness, which is concerned with whether a firm possesses the finances needed to fund an investment in e-commerce and the technological knowledge required to launch and maintain an e-commerce offering (Walker et al. 2016). The perceived complexity

of adopting and maintaining e-commerce has also emerged as a factor which may have a notable bearing upon the adoption decision in SMEs (Rogers 1995).

Pressure to adopt e-commerce from buyers, suppliers and competitors can serve as highly influential factors in motivating SMEs to sell online, and from an internal business perspective, commitment and willingness to innovate from top management are also said to be important determinants to e-commerce adoption in small businesses (Grandón & Pearson 2004; Ghobakloo et al. 2011). Similarly, both pressure and support from local or national governments, generally in the form of initiatives which aim to stimulate SMEs to adopt e-commerce, have also been specified as influential factors (Scupola 2009). MacGregor and Vrazalic (2005) identified the importance of managerial time and consumer readiness as determinants of e-commerce adoption in small businesses. Whilst the former factor was explained in the introduction, the latter relates to whether consumers would likely accept and respond positively to the adoption of e-commerce.

### **2.3 Digital Transformation of SMEs During COVID-19**

The digital transformation of SMEs has long been an area of interest amongst academics, and the emergence of coronavirus has served to revive discussion around this topic. The pandemic has taken its toll upon UK SMEs. Of 600 UK SME respondents to a survey conducted by Albonico et al. (2020), over 80% stated that revenues had decreased since the COVID-19 crisis surfaced, and over half of the respondents feared they would be out of business within 12 months. The challenges thrust upon SMEs amidst the pandemic have been widespread and include: “declining customer purchasing power, limited interaction and working hours, shortages of raw materials, cancellation of orders, difficulties with cash flow, and supply chain disruptions” (Uvarova 2021). The temporary enforced closure of all non-essential retail outlets in the UK also had an adverse impact upon SMEs in the brick-and-mortar retail sector and has led consumers in droves to shop online instead, thereby enhancing the popularity and use of e-commerce (Rigby, 2021).

As a consequence of the immense disruption COVID-19 has caused to businesses, many companies have been compelled to undergo a rapid digital transformation (Baig et al. 2020). Klein and Todesco (2021) argue that the process of digitally transforming an organisation during a global health crisis presents a far greater challenge to SMEs than it does larger companies, because small companies lack the financial capabilities and business skills needed to radically change how their business operates. However, this assertion has not necessarily held true over the course of the pandemic. Business research conducted worldwide has found that approximately 70% of SMEs have “intensified their use of digital technologies due to COVID-19” (OECD 2021). Given that this digitalisation process which many SMEs have undergone has led to increased efficiency, the discovery of new customers, and has often required considerable sunk costs to be incurred, it is generally believed that the changes that have resulted from small business digital transformations during COVID-19 are “poised to last” (OECD 2021). Papadopoulos et al. (2020) revealed that not only have SMEs that opted to digitally transform amidst COVID-19 been able to continue trading and financially survive the pandemic, but many have also benefited from a marked improvement in their performance and productivity. However, this research is perhaps culpable of painting a misleading picture of the power of digital transformation and the ability of SMEs to pivot and adopt an entirely new business model in an instant. Not all SMEs possess the technological expertise required to digitally transform, and many firms have been unable to respond to the challenges of COVID-19 by utilising technologies (Indriastuti & Fuad 2020). However, one can question the validity of the argument that SMEs might lack the capabilities and understanding required to digitally transform. Fletcher and Griffiths (2020) contend that it is now mandatory for every company, regardless of its size and sector, to embrace digital technologies, and looking beyond COVID-19, they maintain that making use of technology is not an “option” for businesses, but rather a “necessity”. Nevertheless, it cannot be said that every business must adopt e-commerce, because e-commerce is simply not applicable to all SMEs. In fact, Hoang et al. (2021) discovered that “technology perceived compatibility” has proved to be the biggest determinant of e-commerce adoption for SMEs since the start of the pandemic. This suggests that many small businesses have not turned to e-commerce simply because it does not offer a viable solution to lockdown measures for their business.

Papadopoulos et al. (2020) have drawn attention to the current dearth of research exploring the digital transformation of small businesses in the UK during the pandemic. This research gap extends also to studies focusing upon the adoption of e-commerce by SMEs amidst COVID-19. It is as a result of this observation that this paper is seeking to address this research gap by basing this study around the case of a small business community within a specific regional area, which little e-commerce adoption-related research has done previously.

### 3 Methodology

The research will be based upon inductive reasoning. The intention is that theory will be extended through the research, and given that the adoption of e-commerce by SMEs in the North West region of the UK is an under-investigated phenomenon in the context of COVID-19, this project requires that theory be induced from the data that will be collected.

This research calls for a qualitative approach in order to facilitate the deep, exploratory analysis that is needed to understand the determinant factors of e-commerce adoption amongst small North West businesses amidst the pandemic. Moreover, in light of the focused scope of this study, the exploratory nature of this paper and the fact that the phenomenon being investigated is itself recent and so far relatively unexplored, this research also requires the collection of primary data. Over 30 different enterprises have agreed to participate in this study, and within these businesses, employees working in various different roles will be interviewed. This paper has chosen to collect data not only from SME managers/owners (that is, decision-makers within SMEs), but from employees working at other levels in small businesses out of consideration for the fact that the decision to adopt e-commerce in SMEs may not come solely from top management. As Friis and Koch (2015) found, it is not uncommon for employees in small businesses to contribute to strategic innovation decisions. Furthermore, employees have been known to influence the e-commerce adoption decision in SMEs, because companies require staff members with appropriate knowledge and IT expertise if they are to successfully sell their goods and services online (Lawson et al., 2003).

Data will be collected for this study via semi-structured interviews which offer a blend of stability and flexibility which should help to ensure that the research findings are analogous and that they also give rise to compelling insights into the research topic. Each interview will last for a minimum of 30 minutes and will be conducted remotely using video communication software due to COVID-19 concerns.

Collected data will be coded to facilitate a clear and organised analysis. The specific coding procedure that will be followed is the three stage process of open, axial and selective coding. This consists of: observing the data collected and assigning open codes to data considered relevant; identifying links/connections between these open codes to put them into categories; and homing in upon the most important of these categories and condensing them into one core group from which a theory relevant to the research objective can be built (Corbin & Strauss 2015). This coding procedure will provide a straightforward and systematic method for analysing the collected data which should be conducive to the discovery of a meaningful academic finding.

### 4 Expected Contributions

From a theoretical perspective, this research will seek to provide an in-depth understanding of the underlying factors which motivated SMEs based in the North West of the UK to adopt e-commerce during the COVID-19 pandemic. In pursuing this theoretical aim, this paper aspires to expand knowledge on the topic of SME e-commerce adoption and will compare and contrast the factors which have previously served as determinants of small business e-commerce adoption with those factors which emerge as significant and relevant to North West SMEs which began trading online during the pandemic. From a practical perspective, this research will endeavour to provide advice to SME decision-makers with regards to the adoption of e-commerce and other technological innovations in challenging economic conditions. Additionally, it will seek to offer recommendations to policymakers so as to enhance the understanding of local authorities and national governments vis-à-vis how they can support small firms to sell goods and services via the internet, or undergo a rapid digital transformation when dealing with difficult business circumstances.

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