Microentrepreneurial commitment and perseverance in local communities during the COVID-19 crisis

Abstract

Purpose – Drawing on the Pinocchio paradox, this paper explains the puzzling performance of microbusinesses during the COVID-19 crisis based on their entrepreneurial commitment and perseverance.

Design/methodology/approach – Findings are drawn from a survey of owners and managers of 202 microbusinesses in Northern England during lockdown periods caused by the COVID-19 crisis.

Findings – The sampled microbusinesses remained committed to serving communal needs during the crisis. They persevered with high service levels despite the negative implications for the viability of those businesses.

Originality/value – The study fills an important gap in understanding why microbusinesses, which contribute significantly to the UK and other national economies, continued to serve their communities during the COVID-19 crisis despite financial risks. A principal contribution is understanding the role of entrepreneurial commitment and perseverance, underpinned by local network ties, in enabling microbusinesses to remain highly active during the crisis to serve unmet needs and to compensate for lost business. State policies are proposed to assist microbusinesses and communities in anticipating and supporting their needs in and beyond future crises.

Keywords COVID-19 crisis, commitment, local communities, microbusiness performance, paradox theory, perseverance

Paper type Research paper

Introduction

This study addresses a puzzling phenomenon: *Why did microbusinesses (organisations with up to nine employees) continue to operate at a high level during the COVID-19 crisis?* To date, entrepreneurship literature has offered partial explanations based on social responsibility (Simunaniemi *et al.*, 2023), adaptability and innovative management practices (Arslan *et al.*, 2022), social capital generated by family members and customers (Bressan *et al*., 2021), and the salience of the local network ties of SMEs.

To address the puzzle, this study explores the performance of microbusinesses in Northern England where the COVID-19 crisis adversely impacted local economies (Haq et al., 2023, 2024). Business performance is defined as "a situation [where] a business makes a net profit, or continues to grow, or survives insofar as it does not accrue a loss" (Haq *et al*., 2023, p. 2). The study examines business performance in terms of entrepreneurial commitment and perseverance of microbusiness owners/managers, i.e., two of the most enduring characteristics (e.g., Haq *et al*., 2023; Tang, 2008; van Gelderen, 2012). Entrepreneurial commitment is the extent to which entrepreneurs seek to remain engaged with their businesses despite the uncertainty of unforeseen crises (Tang, 2008). In contrast, entrepreneurial perseverance relates to microentrepreneurs' continual pursuit of entrepreneurial goals regardless of environmental and other barriers (Santos *et al.*, 2020).

This paper contributes to entrepreneurship literature by showing that entrepreneurial commitment and perseverance have a significant, positive relationship with microbusiness performance during crises when many other businesses were fully/partially inactive. The sampled microbusinesses continued serving their customers. Some microbusinesses risked their survival by offering new products and services that were unavailable during the COVID-

19 crisis to compensate for their business losses (Mao *et al*., 2021). The Pinocchio paradox helps to explain this puzzle. Microbusinesses faced stark choices during the pandemic: continuing business operations which may have risked their survival, reducing (Alves *et al.*, 2020) or pausing operations (Arslan *et al.*, 2022). The sampled microbusiness chose the first option to continue serving their local communities in adversity (Haq *et al*., 2023; Tang, 2008; van Gelderen, 2012). Their choice contrasts with common business logic because a sensible financial choice for most businesses during the COVID-19 crisis was to conserve their capital and other resources by reducing operations (Alves *et al*., 2020) or pausing (Arslan *et al*., 2022) their business activities. Importantly, the Pinocchio paradox explains, uniquely, why the sampled microbusinesses prioritised keep serving local communities. The story is that by continuing their business activities during the crisis, the sampled microbusinesses may have ensured the survival of their community. In turn, as self-supporting units without government financial assistance, microbusiness survived by contributing to the survival of local communities.

In addition, this study found that entrepreneurial commitment and perseverance mediated microbusiness performance. The continued activities of the sampled microbusinesses may have mitigated the socio-economic impact of the COVID-19 crisis on local communities (Kraus *et al.*, 2020; Veksler and Thorgren, 2023) during lockdowns. This study extrapolates from the positive performance of microbusinesses during the COVID-19 crisis that this performance at least partly explains the independent survival of local microbusinesses and their communities (cf. Haq *et al*., 2023). This study, therefore, contributes to understanding the socio-economic impact of microbusinesses on their local communities by explaining their paradoxical tendency with managers and owners choosing potentially existential activities during a crisis. A chief reason was their commitment to communal interests and their perseverance in overcoming financial and physical barriers (during lockdown).

The next section reviews literature on behaviours of microbusinesses during economic crises. The survey instrument and findings are presented by drawing on the Pinocchio paradox to narrate the unusual activity of microbusinesses when they appeared to cut off their noses (by remaining active during the crisis) to spite their faces (regardless of threats to business survival). Policies are proposed to attenuate the potentially fatal consequences of microbusinesses continuing to operate during crises.

Theory and hypotheses

Microbusinesses

Many microbusinesses suffer from resource limitations (Haq *et al*., 2024) although collectively they make substantial economic contributions (Saridakis *et al*., 2022). Microbusinesses can successfully manage some of the tensions that arise from their resource and other constraints (Amankwah-Amoah *et al*., 2021). During the COVID-19 crisis, some microbusiness drew on their experiences to manage liquidity issues while most businesses focused on cost-cutting (Kraus *et al.*, 2020). Unregistered microbusinesses generally received little government financial support and lacked capacity to navigate bureaucratic applications for funding (Kraus *et al.*, 2020).

Typically, microbusinesses do not plan strategically. Their plans instead tend to be ad hoc and short-term because they lack funds and must comply with rules set by dominant corporate incumbents (Dessi *et al.*, 2014). The advantage of smallness, however, means that microbusinesses can co-opt cultural resources as competitive tools (Haq *et al.*, 2023). The authors investigated the behaviours of microbusinesses during extreme environmental conditions of a global pandemic when microbusiness owners/managers used their local knowledge to overcome resource limitations.

An organisational paradox may arise when a chosen strategy damages the business (Smith and Lewis, 2011). Adopting the Pinocchio paradox as an explanatory lens, the story is that

microbusinesses may continue or increase their activities and survive a crisis but not necessarily grow. The literature has been largely silent on why and how vulnerable microbusinesses continue trading during crises when they switch to offering new services/products. Extreme strategies may present an absurd contradiction, a Pinocchio paradox, when the chosen strategy can generate a positive outcome in situations where positive outcomes are unexpected (Amankwah-Amoah *et al.*, 2021) or against prevailing business logic. Many microbusinesses which demonstrate this paradox are operated by consanguineous entrepreneurs, who survive with few resources (Mukherjee *et al*., 2023; Ng and Keasey, 2010). The Pinocchio paradox is not unusual in microbusinesses. It explains the otherwise puzzling behaviour of microbusinesses that take apparently existential decisions to resolve business tensions by relating extremely closely with communities which ensure their mutual survival. This phenomenon of microbusinesses cutting off their noses in the COVID-19 crisis to spite their faces represents a classic Pinocchio paradox.

Smith and Lewis (2011) present a dynamic equilibrium model of organizing that suggests how cyclical responses to business tensions enable peak activity. Organisational responses that reflect their ability to adapt to continuous pulls in opposite directions offer a blueprint for future success. However, Smith and Lewis (2011) do not demonstrate how organisations might exploit opposing forces – paradoxes – for business gains. Scholars who use the Pinocchio paradox have suggested that confronting tensions, for example by splitting (which requires choosing among tensions) or by integrating synergistic choices (involving contradictory elements that are merged synergistically), may create short-term peak activity. In businesses, the sustained activity of agile leaders (Lewis and Andriopoulos, 2014) may then fuel long-term business growth and development (Hill *et al*., 2022; Williams and Shepherd, 2016).

Paradox theory

Paradoxes are "contrary propositions that are not contestable separately, but are inconsistent when conjoined" (Gaim e*t al.*, 2022, p. iii). Paradoxes are contradictory yet interrelated elements, dualities, that co-exist within a unified whole and which persist over time. Although paradoxical elements appear logical when considered in isolation, the same elements are irrational, inconsistent, and sometimes absurd when juxtaposed (Lewis, 2000; Smith and Lewis, 2011).

The Pinocchio paradox (Eldridge-Smith and Eldridge-Smith, 2010) refers to a wooden puppet in children's literature, who dreams of being a living boy. His nose grows whenever he lies. Pinocchio's statement "My nose will grow" is unverifiable because it does not contain any semantic bases with which this statement can be verified. While Pinocchio's audience can only take his word (or not) that he is telling the truth, his nose only grows if he is lying. Here the paradox is that Pinocchio's nose is able to grow only when his nose does not in fact grow (Eldridge-Smith and Eldridge-Smith, 2010).

The paper draws on the Pinocchio paradox as a lens for its story of microbusiness activity during COVID-19. The Pinocchio paradox explains, uniquely, the apparently senseless paradox of why microbusinesses engaged in ostensibly unnecessary business risks during extreme environmental conditions. Zhang *et al*. (2022), for example, relate the story of bed-and-breakfast businesses in China that took on grocery deliveries in the COVID-19 crisis. Without drawing on the Pinocchio paradox, observers of microbusiness activity may ask: *What financial and/or other returns will this activity generate?* Yet a paradox arises when the sampled microbusinesses claimed to have been commercially active during the pandemic despite the absence of perceptible value to the businesses of their continuing activity. Instead, the subsequent, positive performance raises an absurd situation – inherent in this paper's research question – where microbusinesses behaved in the pandemic as if they were able to grow their business only when the business did not actually grow.

The Pinocchio paradox is fundamentally different from any other paradox. For example, Pinocchio's statement that his nose can only grow when it is not growing is exceptional to the semantic nature of the liar's paradox, whose veracity can be measured. The use of the Pinocchio paradox in this paper is consonant with its differences from the liar's paradox. Smith and Lewis (2011) and Smith *et al*. (2017) applied paradox theory to explain organisational tensions, where this application is possible because of the semantic verifiable nature of paradoxes such as the liar's paradox. If Pinocchio were to create a liar's paradox, he would have said: "My nose has grown". This latter statement may be evaluated as true or false, for example by measuring Pinocchio's nose before and after the statement (Eldridge-Smith and Eldridge-Smith, 2010).

By contrast, instead of trying to make logical (financial) sense of the activity of the sampled microbusinesses, one way of applying Pinocchio's paradox to the evidence of their activity during COVID-19 is to return to the profile of their owners as entrepreneurs who were only operating in their local communities like traditional corner shops in England (Cowling *et al.*, 2020; Dessi *et al.*, 2014). A strong sense of locality can be a principal distinguishing feature of microentrepreneurship (see, for example, Haq *et al*., 2023). Hence the sampled respondents' profiles as microentrepreneurs were why constructs of entrepreneurial commitment and perseverance (related to local communities) were drawn on to explain the Pinocchio paradox that the data revealed. Like Pinocchio, the sampled microentrepreneurs could have said: "[Our] businesses will perform only when they aren't growing". The data in fact revealed the sampled microbusiness owners/managers demonstrated strong entrepreneurial commitment and perseverance during the COVID-19 crisis when lockdown rules shut business-as-usual activities.

Paradox denotes one or more dualities, such as Pinocchio's binary condition of his growing or non-growing nose. These dualities oppose one another and yet are synergistic and inter-related within a single domain where the paradox(es) reside(s) (Quinn and Cameron, 1988). Paradox theory suggests that a core tension often found in small businesses can become sources of dynamic, creative activity – a competitive strength – when "paradoxical leaders" manage organisational paradoxes effectively (Lewis *et al*., 2014). Accordingly, simple management structures (Rothwell, 1989) and less bureaucratic environments (Link and Bozeman, 1991) in microbusinesses may enable them to respond more readily to crises by (re)using existing resources to conduct different business activities (Ortega-Argilés *et al.,* 2009). Microbusiness owners/managers can convert weaknesses into competitive strengths by calling on customer loyalty in their closed local community ecosystem (Dessi *et al.*, 2014). Here microbusinesses survive in adversity without government subsidies through self-reliance and relying on their local communities (Haq *et al.*, 2023).

Carmine *et al*. (2021, p. 121) suggest that the COVID-19 crisis "heightened the urge [of some organisations] to manage short- and long-term goals." Microbusinesses which rely on continuing business from a few local customers particularly need to persevere with these relationships (Dessi *et al.*, 2014). Consequently, microbusinesses remain obstinately committed to serving their local communities regardless of adverse economic conditions (Tang, 2008). Scarce resources available to microentrepreneurs may have strengthened their commitment to serve customers when the COVID-19 crisis "threw persistent contradictions into sharp oppositional relief" (Keller *et al.*, 2021, p. 171). New opportunities emerged from the extreme lockdown conditions (Carmine *et al.*, 2021).

The next section presents hypotheses constructed to examine how the sampled microbusinesses managed tensions between social responsibilities to their communities and profit-seeking goals during the COVID-19 crisis.

The impact of the COVID-19 crisis on microbusinesses

Crises are situations "characterized by surprise, high threat to important values, and a short decision time" (Holsti, 1978, p. 39). A crisis represents "a disruption that physically affects a

system as a whole and threatens … its existential core" (Pauchant *et al.*, 1992, p. 12). Microbusinesses possess fewer resources than larger businesses to withstand shocks (Bicho *et al*., 2022; Lefebvre, 2022) and cannot optimise their resources (Colovic and Schruoffeneger, 2022) due to the liability of smallness (Bicho *et al.*, 2022), low savings (Cowling *et al*., 2020), and poor training (Pérez‐Luño *et al.*, 2016). Microbusinesses suffer from resource depletion (Dessi *et al*., 2014) as they cannot normally access external funding (Ng and Keasey, 2010). Additionally, microbusinesses may suffer more than larger businesses due to their distinct operational practices such as depending on a few local customers for survival (Haq *et al*., 2021). Many microbusinesses are informal organisations, unregistered in official records and fatally exposed to adverse trading conditions (Lefebvre, 2022). The COVID-19 crisis exacerbated the illiquidity of microbusiness when many employees in UK microbusinesses were ineligible to receive government wage support for furloughed staff (Cowling *et al.*, 2020). We, therefore, hypothesise that:

H1: There is a direct negative relationship between economic crisis and microbusiness performance.

Entrepreneurial commitment and perseverance

The authors assessed the influence of microbusiness owners' and managers' entrepreneurial commitment and perseverance on business performance. Accordingly, the authors tested the influence of the two traits on microbusiness performance. Intuitively, high levels of entrepreneurial commitment and perseverance could explain a sustained level of performance among entrepreneurs who have little regard for adverse trading conditions such as those created by the COVID-19 crisis. Overall, entrepreneurial commitment and perseverance represent the ability of entrepreneurs to act intuitively to advance business activities during a crisis. Specifically, entrepreneurial commitment represents a business founder's emotional attachment to their business (Davidsson and Gordon, 2016). The stronger an entrepreneur's commitment to his/her business, the more likely they will be to act vigorously to pursue opportunities with little or no regard for adverse economic conditions (Davidsson and Gordon, 2016). Therefore, entrepreneurial commitment, coupled with adaptability, play an important role for business survival during crises (Hill *et al*., 2022). In contrast, an entrepreneur with weaker commitment may be unwilling to engage in entrepreneurial activity during crises (Davidsson and Gordon, 2016).

Entrepreneurial perseverance refers to the ability to recover from crises while continuing to trade under severe pressure (Khlystova *et al.*, 2022). Entrepreneurial perseverance may be developed with experience over time (van Gelderen, 2012). Accordingly, many microbusinesses exhibit higher levels of entrepreneurial commitment and perseverance than their counterparts in larger businesses (Doern, 2016) because their severe resource constraints require them to solve problems (Rakshit *et al.*, 2021). The authors, therefore, hypothesise that:

H2a: There is a direct positive relationship between economic crises and entrepreneurial commitment.

H2b: There is a direct positive relationship between economic crises and entrepreneurial perseverance.

H3a: There is a direct positive relationship between entrepreneurial commitment and microbusiness performance.

H3b: There is a direct positive relationship between entrepreneurial perseverance and microbusiness performance.

Entrepreneurial commitment and perseverance can also indirectly affect business performance (Aagaard, 2016; Branicki *et al*., 2018; Doern, 2016). Lamine *et al*. (2014) suggest that serial entrepreneurs who successfully grow their businesses can develop a range of personal social skills which ease the establishment of further ventures. van Gelderen (2012) contends that entrepreneurial commitment and perseverance affect business performance with enhanced social skills to support operational management. Accordingly, the authors hypothesise that:

H4a: There is an indirect positive relationship between economic crises and microbusiness performance that is mediated by entrepreneurial commitment, and

H4b: There is an indirect positive relationship between economic crises and microbusiness performance that is mediated by entrepreneurial perseverance.

Figure 1 illustrates this conceptual framework:

Insert Figure 1 About Here

Methodology

Research context

The sampled microbusinesses were located in Northern England where cities experienced rapid de-industrialisation in the 1980s (Gherhes *et al*., 2020; Haq, 2015) and significant job losses (Gherhes *et al*., 2020). In the UK, entrepreneurship scholars have focused on larger urban populations in Southern England although microbusinesses in Northern England represent a large portion of UK businesses (Hutton and Ward, 2018) and make substantial local contributions (Danes *et al*., 2009). Local communities typically support local microbusinesses rather than large stores (Kwon *et al*., 2013; Dessi *et al.*, 2014). Hence microbusinesses become deeply attached in their community with mutual, long-lasting benefits (Haq *et al*., 2021; Haq *et al*., 2024).

Selection of variables

This study's independent and dependent variables are, respectively, the COVID-19 crisis and microbusiness performance. Two other independent variables are entrepreneurial commitment and perseverance. Entrepreneurial commitment is the necessary condition of, and entrepreneurial perseverance is the sufficient condition for, microbusiness performance. The authors assume that entrepreneurial commitment is a level of determination for microbusiness owners and managers to be able to sustain business activity over economic crises. Entrepreneurial commitment involves an emotional attachment to local communities that generates value, such as tacit knowledge for persistent, repeat purchases (Haq *et al.*, 2021). Entrepreneurial commitment of microbusinesses to the local community, matched by perseverance, are known to relate strongly (Doern, 2016) despite the adverse effects of economic crises (Rakshit *et al*., 2021).

Data collection

The list of microbusinesses was extracted from the Forecasting Analysis and Modelling Environment database which provides 10-year financial accounts for over three million UK and Republic of Ireland companies. The authors designed and emailed an on-line Qualtrics survey to 26,095 microbusinesses in manufacturing, retail, tourism and leisure sectors in the Yorkshire, Humberside, and Lancashire regions of Northern England from March 2020 to February 2021. This period was the height of the COVID-19 crisis in the UK, including two lockdowns. Reminder emails were sent after 15 days. 222 responses were received, and 202 responses were validated and analysed (182 owner-managers and 20 employee-managers). Researchers drew from small sample sizes in qualitative (Kraus *et al.*, 2020; Peng, 2022) and

quantitative (Harries *et al*., 2021) management research (Zhao *et al.*, 2020) during the COVID-19 crisis when many business shutdowns (Sarkar and Clegg, 2021) resulted in low response rates (Zhao *et al.*, 2020).

Data analysis

Four competing models were sequentially tested and compared using structural equation modelling (SEM) using IBM SPSS Amos (v 26) with maximum likelihood estimation. SEM allowed simultaneous estimation of all the relationships in the conceptual model and a determination of fit of empirical relationships (Iacobucci, 2010). For each model, overall fit, significance of paths, and predictive power were considered. The data were analysed using Anderson and Gerbing's (1988) two-step approach. First, a confirmatory factor analysis (CFA) was performed to determine whether the measured variables reliably reflected the hypothesised latent variables. Second, structural equation models were tested to determine overall model fit, significance of path coefficients, and the explanatory power of four competing models. The authors performed a bootstrapping analysis to test the mediation effects.

Measures

Established scales were used to measure the constructs. Indicators were assessed on a five-point Likert Scale ranging from (1) "strongly disagree" to (5) "strongly agree". Table II illustrates the measured items and their validity assessments. The measure of *crisis* was adopted from Herbane (2013). Respondents were asked to rate the importance of four types of impact that could result from a crisis: direct revenue loss, loss of sales, recovery costs and company survival.

To measure the *performance* of the sampled microbusinesses, five items developed by Hernández-Linares *et al.* (2021) were used. Respondents were asked subjective measures of performance since they yield more holistic evaluations and capture more than a single performance element (Rodiguez *et al*., 2004). These items measure relative to rivals, how the firm's current performance compared in terms of "quality of product and services", "development of new products and services", "ability to attract and retain essential employees", "satisfaction of customers or clients" and "increase in competitive position".

On *entrepreneurial commitment*, two items were used to measure the behavioural dimension of commitment (Tang, 2008): "There is no limit to how long I would give maximum effort to establish my business", and "My personal philosophy is to 'do whatever it takes' to establish my own business".

Entrepreneurial perseverance was measured by two items drawn from Santos *et al.* (2020) to capture the attitudes and behavioural characteristics of high-performance respondents, based on their ability to keep performing in the face of adversity. These items were, as respondents observed, "setbacks [which] don't discourage me from pursuing my business ambitions". Another commented that "during a crisis, I persist in achieving my goals despite seeing others give up".

Control variables

Covariates included the age of each microbusiness, industry sector, and location. These control variables have been used in small business studies (Branicki *et al.*, 2018; Dessi *et al*., 2014). Additionally, the authors assumed that mature businesses are resilient (Branicki *et al*., 2018), while microbusinesses in non-essential industries are vulnerable during crises (Irvine and Anderson, 2004). Rural locations may also influence microbusiness performance (McKeever *et al.*, 2014).

Results

Demographics

The sampled respondents comprised 90.1% owners and 9.9% managers. There were 76.7% male respondents and 23.3% were female. 27.2% were aged over 60, and 0.5% of respondents were 18-30 years old. The remainder of the sample were aged 31-60 (see Table I). 84.2% of microbusinesses employed up to nine individuals, and the balance of microbusinesses (15.8%) were non-employers. 97.5% of the sampled microbusinesses generated less than £2 million revenue per annum, and the remaining 2.5% generated £2-10 million per annum. 33.2% of the microbusinesses had operated for over 20 years, 16.8% were 16-20 years old, 19.3% were 11-15 years old, 15.3% were 6-10 years old while the remaining microbusinesses (15.3%) were five years old or less (but over one year old at the start of the COVID-19 crisis). Geographically, 47.5% of the microbusinesses were located in West Yorkshire, 27.7% in Lancashire, 14.4% in South Yorkshire, and the balance of 10.4% were based in York-Humberside:

Insert Table I About Here

Common method variance

The authors conducted Harman's (1967) single factor test to check for common method variance (Rakshit *et al.*, 2021). A single factor explained 16.4% (below the 50% threshold) of the total variation. No common factor variance emerged (Podsakoff *et al.*, 2012).

Multicollinearity

The all-constructs variance inflation factor value was less than five, which suggested no multicollinearity in the model (Kock and Lynn, 2012).

Measurement model

The CFA results indicated that the measurement model matched the data ($\chi 2$ = 104.287, degrees of freedom (df) = 60, $\chi 2$ /df = 1.738, $p < 0.000$; CFI =0.958; TLI = 0.946, and RMSEA = 0.061). The standardised loading of constructs was greater than 0.60 (except CRS5) and thus is statistically significant ($p < 0.000$). All the constructs had good internal consistency as their Cronbach's Alpha values were above 0.8 (Nunnally, 1978).

To verify convergent validity, the average variance extracted (AVE) and construct reliability were calculated. In general, an AVE of 0.5 or greater (Hair *et al.*, 2010) and a composite reliability (CR) of minimum 0.6 are desirable (Tseng *et al.*, 2006). The analysis indicated that the CR values for all the four latent constructs (PERF, CRS, EC, and PER) were greater than the recommended value. The AVEs of the four latent constructs ranged from 0.509 to 0.736, which was above the recommended value. Thus, convergent validity was confirmed (see Table II).

Insert Table II About Here

To verify discriminant validity, the authors compared the square root of the AVE and the correlation coefficients with the other variables. If the square root of the AVE were greater than the correlations with other variables, discriminant validity held (Chin, 1998). As all latent variables met this condition, the discriminant validity was confirmed (see Table III). The model appears to have no validity or reliability issues.

Insert Table III about here

Structural model

The authors adopted an incremental model building approach (Cheng, 2001; Hair *et al.*, 2010) by sequentially adding groups of variables into the analysis and testing whether the addition of

these variables improved the model fit. Four models were tested. In the first model, the authors specified a relationship between control variables (industry sector, age of business, and location) and microbusiness performance (Model 1). In the second model, the authors included the direct impact of the crisis on microbusiness performance. In Model 3, the authors specified the impact of the crisis on entrepreneurial commitment and entrepreneurial perseverance. In Model 4, the authors added the impact of entrepreneurial commitment and perseverance on the level of microbusiness performance. In all four models, entrepreneurial commitment, perseverance, and microbusiness performance were modelled as endogenous variables, with error terms included for the three variables. Crisis was an exogenous independent variable, while industry sector, age of business, and location were considered covariates to control for possible confounds (Cheng, 2001; Hair *et al*., 2010) (seet Table IV).

Insert Table IV about here

Table IV reports the chi-square (χ^2) values and degree of freedom (df) of each model as well as the χ^2difference ($\Delta\chi^2$) and degree of freedom difference (Δdf) between successive models. Model fit was considered good if the $\Delta\chi^2$ were greater than the value of the 10 per cent significance threshold $\chi^2 0.10^{(\Delta df)}$. The values displayed in Table IV show that Model 2 (which included the direct impact of the crisis on the level of microbusiness performance) offers a better fit with this activity than Model 1 ($\Delta\chi^2$= 301.329 higher than $\chi^2 0.10^{(\Delta df)}$= 9.24). However, Model 3's fit is better than Model 2's ($\Delta\chi^2$ = 273.242 higher than $\chi^2 0.10^{(\Delta df)}$=10.64), while Model 4's fit is significantly better than Model 3's ($\Delta\chi^2$= 32.894 higher than $\chi^2 0.10^{(\Delta df)}$ = 4.61). Accordingly, Model 4, which specifies all the links hypothesised in the conceptual framework, offers the best fit with the data. This result suggests that the inclusion of crisis in the model, as well as its impact on entrepreneurial commitment, entrepreneurial perseverance, and microbusiness performance significantly improves the fit criteria of the model and explains the varying levels of microbusiness activity.

Test of hypotheses

Table V sets out the values and significance levels of the different path coefficients tested in the four models. To examine the validity of the hypotheses, the authors used Model 4, which provides the best χ^2. As shown in Table IV, this better fit is confirmed by other fit criteria, as Model 4 also displays the highest CFI (0.920) and TLI (0.902), with an appropriate RMSEA (0.066) between 0.03 and 0.08 (Hair *et al*., 2010). As Table V suggests, Model 4 yielded several unexpected results. The following results of the hypothesis tests are set out in Table V.

Insert Table V about here

Hypothesis 1 tested the direct relationship between crisis and the level of microbusiness activity. The findings indicated that this relationship was insignificant (β = 0.145, t = 1.859, p > 0.05). *Hence, H1 is rejected.*

H2a tested the direct relationship between crisis and entrepreneurial commitment. The results indicated a direct, positive impact of crises on entrepreneurial commitment (β = 0.204, t = 2.160, p <0.05). *Hence H2a is confirmed*.

H2b tested the direct relationship between crisis and entrepreneurial perseverance. The results indicated a direct, positive impact of crises on perseverance (β = 0.228, t = 2.587 p <0.05). *Hence, H2b is confirmed.*

H3a tested the direct relationship between entrepreneurial commitment and microbusiness performance. The results indicated a direct, positive impact of entrepreneurial commitment on microbusiness performance ($\beta = 0.234$, $t = 3.753$, $p < 0.01$). *Hence, H3a is confirmed.*

H3b tested the direct relationship between perseverance and microbusiness performance. The results indicated a direct, positive impact of perseverance on microbusiness performance ($\beta = 0.247$, $t = 2.955$, $p < 0.05$). *Hence, H3b is confirmed*.

A bootstrapping analysis (Dessi *et al*., 2014) tested the hypotheses on the indirect impact of crisis on microbusiness performance, mediated by entrepreneurial commitment and perseverance. The number of bootstrap samples was set at 2,000, and the confidence level of the biased corrected confidence interval was 0.95 (Dessi *et al*., 2014). The results of this analysis (see Table VI) show that the COVID-19 crisis had a significant, indirect impact ($\beta = 0.043$, $p < 0.05$) on microbusiness performance, and this performance was mediated by entrepreneurial commitment. *The result confirms H4a.*

Moreover, the crisis had a significant indirect impact ($\beta = 0.050$, $p < 0.05$) on microbusiness performance, and this performance was mediated by entrepreneurial perseverance. *Thus, H4b is confirmed.*

Insert Table VI About Here

Discussion and conclusion

Implications for theory

Prolonged lockdowns during the COVID-19 crisis created unusually severe economic conditions (Mukherjee *et al.*, 2023) for all types of businesses. This was especially the case for microbusinesses (Arslan *et al*., 2022) due to their resource limitations (Bicho *et al.*, 2022; Colovic and Schruoffeneger, 2022), poor training (Pérez‐Luño *et al.*, 2016), insufficient savings (Cowling *et al*., 2020), and their inability to replenish depleted resources (Ng and Keasey, 2010) quickly enough. The story in this paper is that the sampled microbusinesses survived the COVID-19 crisis because they turned the financial weakness of their businesses into a competitive strength when they were able to pivot their activities in the moments of their community's needs to satisfy those needs. The ability to turn natural weaknesses, such as limited resources and range of products, into a competitive strength was discussed in the theory and hypotheses section above. This ability was evident during the COVID-19 crisis where the sampled microbusinesses acted as essential members of the local community for mutual support to sustain a closed, self-serving ecosystem (Dessi *et al.*, 2014).

Furthermore, activities which the sampled microbusinesses conducted included services, such as delivery of household goods when lockdowns in the COVID-19 crisis banned in-store visits, in customer locations where microbusinesses had little or no previous experience. Prior research of business activity during the crisis has suggested that even the logistics of delivering household goods proved challenging for larger businesses with staff on furlough and restrictions on movement (Mao *et al*., 2021). Principally, the study's findings extend extant research on the continuing performance of microbusinesses during crises (e.g., Mukherjee *et al*., 2023; Nguyen *et al*., 2022; Waehning *et al*., 2023; Zhang *et al*., 2022) by suggesting that the sampled microbusinesses could only survive by taking on activities that their communities required. In doing so, Pinocchio's paradox applied, uniquely, in explaining why this decision was made when the core businesses of those microbusinesses did not grow. In fact, pre-COVID-19 pandemic core activities of microbusiness such as corner shops were stopped or reduced to delivery-only services during lockdowns while the strength of the new activities (H1-H3) jeopardised the viability of the microbusinesses.

The significant, positive performance of the sampled microbusinesses suggested that self-preservation was not their primary concern. Instead, the answer to the Pinocchio paradox was that the sampled microbusinesses seemed to be wedded to their communities to the extent that they continued to serve their communities in an emergency regardless of the consequences. From the perspective of the sampled microbusinesses, this was an obvious decision because their survival was bound with the survival of their local community as an independent, self-supporting unit. Simunaniemi *et al*. (2023) suggest that microbusinesses in developed and developing economies may have adopted an important role, effectively as socially responsible guardians of their community. This role filled a gap in the provision of local services that public authorities in many economies could not provide during a national lockdown. Although there is evidence of self-help communal activities in developing economies (see, for example, Carstensen *et al*., 2021), further research across international contexts is required to support observations of the public service role of microbusinesses. Following the Pinocchio paradox, the authors suggest that the risk-taking behaviour of microbusinesses during the existential crisis caused by COVID-19 arose naturally from their entrepreneurial commitment and perseverance to serve the closed ecosystem of their community regardless of the financial consequences.

The study highlights the community-oriented behaviour of microbusiness owners and managers in economic crises (see, for example, Rashid and Ratten, 2021; Waehning *et al.,* 2023) by explaining why microbusinesses may *only* choose to engage in new activities during economic crises. During these periods, maintaining local relationships governs the behaviour of microentrepreneurs who are integrated into the social and economic fabric of their community (Jack and Anderson, 2002). In contrast to non-critical periods when businesses normally make decisions based on financial rationality, the sampled microbusinesses prioritised community social welfare over financial rationality which generated significant social effects (Rashid and Ratten, 2021; Waehning *et al.,* 2023).

The economic activities of those microbusinesses were bound by the community's established social relationships, which are place-based (cf. Polanyi, 1944, 1967, 2001). Accordingly, microbusiness activities were shaped by the motivation to contribute to communal well-being beyond the accumulation of wealth (Nowak and Raffaelli, 2022). The social connections represented unique opportunities for continued survival and sustainable economic activity (Wang and Altinay, 2012).

Another explanation for microbusiness community-oriented behaviour may be that as the survival of microbusinesses is entwined with the well-being of local communities (Haq *et al*, 2024), microbusinesses saw the continuation of their business activities as a moral obligation (Simunaniemi *et al.*, 2023) to serve their respective communities during the COVID-19 crisis. Here, there may be a strategic business outcome of their activity during lockdown when the continuation of activities of microbusinesses during a crisis served as a public demonstration of their commitment as socially responsible actors.

Yet these alternative explanations seem to supplement the need to address the Pinocchio paradox, where the sampled microbusinesses performed activities at a vulnerable moment of the COVID-19 crisis for their businesses. It is suggested that this paradox makes sense by viewing microbusiness activities during the COVID-19 crisis in terms of entrepreneurial commitment and perseverance to their established communal relationships. Figure 1 presents the mechanisms of microbusiness commitment and perseverance during the COVID-19 crisis.

In sum, this study offers two intriguing contributions to theory. The study's first contribution is that entrepreneurial commitment and perseverance acted jointly in significantly influencing entrepreneurial activity. This knowledge changes the picture of what is known about microbusinesses because it suggests that they leveraged two important entrepreneurial traits of

commitment and perseverance (Irvine and Anderson, 2004) to sustain high levels of activity during an existential crisis. In contrast, prior knowledge painted a somewhat arbitrary picture of the way that microbusinesses served their communities because of their "embeddedness" in those communities (see, for example, Haq *et al*., 2021). Positive findings of Hypotheses 2 and 3 suggest that the sampled microbusinesses demonstrated entrepreneurial commitment and perseverance in continuing to serve their communities during an existential crisis contrary to "good" (orthodox financial) sense. Entrepreneurial commitment and perseverance are remarkable features of the data because of their strength during the crisis. Consistent with research in Finland (Arslan *et al.*, 2022), Sweden (Veksler and Thorgren, 2023), and New Zealand (Mukherjee *et al.*, 2023), this study's findings suggest that loyal local customers reciprocated the strength of the engagement of microbusinesses with their communities. The continued and mutually beneficial local connection may then explain why communities appear to have expected and benefited from the conduct of local microentrepreneurs' economic activities which were aimed at meeting local needs (Dessi *et al*., 2014).

However, this established connection with their community raises a question about whether it mattered at all what activities microbusinesses offered during the COVID-19 crisis, and possibly beyond the crisis. This is because microbusinesses which demonstrate entrepreneurial commitment and perseverance can be considered to be reliable partners for community survival and prosperity (cf. Granovetter, 1985). The foregoing explanation for the strong relationships in the research contributes to an understanding of microentrepreneurs' strategic actions. This knowledge offers a process in which the adoption of actions that are consistent with entrepreneurial commitment and perseverance, such as in satisfying the needs of local communities at times of crisis despite these actions jeopardising the viability of their own business performance, can contribute to the survival of local communities. The actions of the sampled microbusinesses during COVID-19 suggest that microentrepreneurs consider the survival of their communities principally in social terms. It follows that without the well-being of the community, including in times of crises, microbusinesses cannot survive. Furthermore, the positive results of H4 suggest that microentrepreneurs also considered "success" of their business in terms of broadening social networks of their community beyond their individual closed ecosystem (Biggeri and Braito, 2022; Haq *et al*., 2024).

The study's second contribution is that contrary to commonly understood logic that a crisis negatively affects microbusiness performance (Cowling *et al.*, 2020; Doern, 2016), the COVID-19 crisis had a direct, positive relationship in sustaining a high level of business performance (Table V). A possible interpretation is that microbusiness owners and managers who were committed to the survival of their businesses exhibited greater perseverance during the crisis. The continuation of their activities constituted uncharted territory for microbusiness owners and managers as they did not know if their efforts would generate any kind of returns. A strong level of optimism (Mukherjee *et al.*, 2023) and community engagement (Haq *et al*., 2024; Simunaniemi *et al.*, 2023) among microbusinesses successfully helped to overcome these issues. The continued commitment of microbusiness owners and managers to community engagement and their perseverance in serving their local community meant that preserving this relationship was paramount. This was Pinocchio's paradox for microbusinesses during the COVID-19 crisis. At this time, the extreme risks for microbusinesses of continuing business activities were mitigated by an increase in their social capital (Honig, 1998) which resulted from their local commitment. Evidence of this social capital was in the surprisingly strong and positive results of all tests in the research.

Implications for policy and practice

The paper contributes to policymaking by suggesting that deepening relationships of microbusinesses with their local communities during economic crises can generate social benefits for the local community in addition to economic benefits for the businesses. These

activities support local community well-being and national and regional policymaking aimed at local community engagement and their long-term survival. Based on local knowledge (Haq and Davies, 2023) and social skills (Haq *et al.*, 2021), these local business-community relationships may yield consistent and positive financial as well as social outcomes for the local community, including for microbusinesses. Persistent community engagement during a crisis needs to be supported, for example, by the provision of professional advice and financial incentives offered to microbusinesses which are prepared to continue business operations even during crises.

Findings from the current study have signalled that microbusinesses contribute to the sustainability of communities during crises by serving communal needs when these needs are at extremely high levels (Alves *et al*., 2020; Hill *et al*., 2022). The strength of the relationship that a microbusiness retains with the local community (Van Praag, 2003), alongside volitional actions (Stephan *et al*., 2023), are reflected in entrepreneurial commitment and perseverance (Davidsson and Gordon, 2016). This may enable microbusinesses to exploit community relationships in existential circumstances (Veksler and Thorgren, 2023). Such relationships could involve an indulgence among microbusinesses in Pinocchio's paradox as a discrete means of managing their core business tension between the competing logics of community engagement and profit-making. The research has demonstrated how these logics need not compete against each other and may in fact form a homogenous agenda for the survival of small, closed communities. Ironically, however, these communities require financial support to be able to remunerate microbusinesses. Suitable regulations are also needed to connect microbusinesses that only work communally with government agencies such as the UK's Department for Levelling Up, Housing and Communities that have been created at a national level.

Limitations and further research

This study drew on a small dataset to explain the Pinocchio paradox. Alternative explanations for the sampled microbusinesses maintaining business operations during crises include the aim of turning over at least some cash. The sampled microbusinesses took extraordinarily risky decisions to continue serving their local communities during long lockdowns in the COVID-19 crisis. Further research is needed to compare pre- and post-COVID-19 data.

The COVID-19 crisis did not negatively affect all businesses equally. Local grocers thrived while others with little scope for innovation, e.g., local bed-and-breakfasts, struggled to survive (Nguyen *et al.*, 2022; Zhang *et al.*, 2022). Future studies could compare innovative and non-adaptive microbusinesses during crises. Further research could adopt mixed and comparative methods with samples in different geographical and industry contexts to address inequalities in supporting local creative activities and their communities during crises.

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Figure 1. Conceptual framework

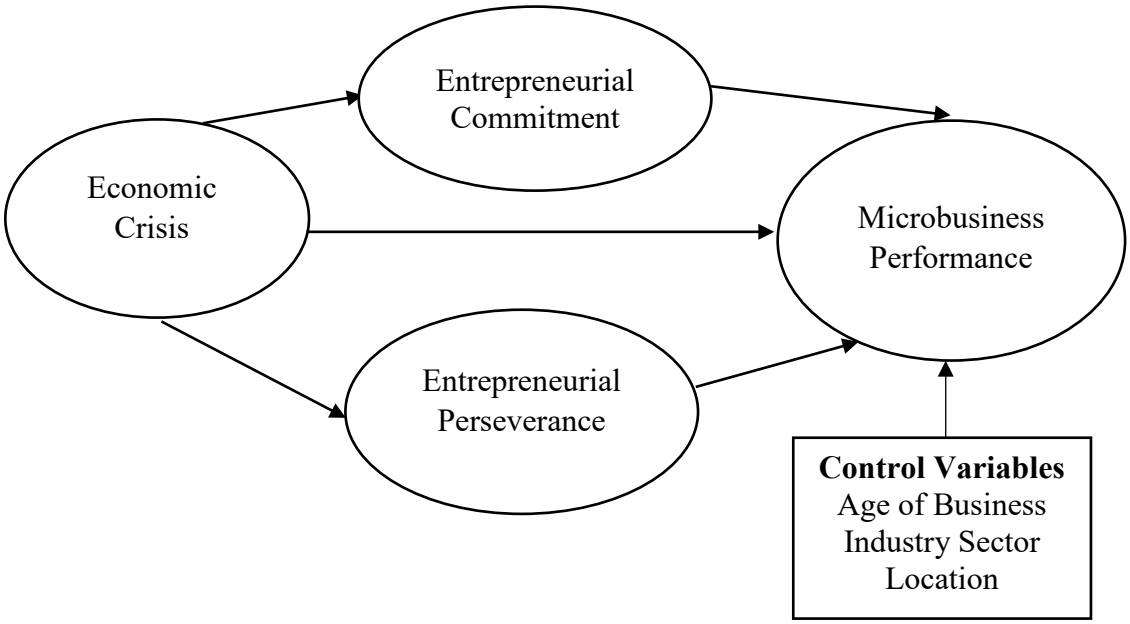

Table I. Characteristics of respondents and organisations

Variable	Characteristic	N	(%)
Sex	Male	155	76.7
	Female	47	23.3
Age group	18-30 years	1	0.5
	31-40 years	12	5.9
	41-50 years	44	21.8
	51-60 years	90	44.6
	> 60 years	55	27.2
Role	Owner	182	90.1
	Manager	20	9.9
Industry sector	Manufacturing	34	16.8
	Retail	16	7.9
	Tourism/leisure	9	4.5
	Services	88	43.6
	Other	55	27.2
Age of business	≤5 years	31	15.3
	>5-10 years	31	15.3
	>10-15 years	39	19.3
	>15-20 years	34	16.8
	>20 years	67	33.2
Revenue	<£2m	197	97.5
	£2m-10m	5	2.5
Number of employees	None	32	15.8
	1-9	170	84.2
Location	West Yorkshire	96	47.5
	York-Humberside	21	10.4
	Lancashire	56	27.7
	South Yorkshire	29	14.4

Table II. Results of statistical measures

Constructs	Items	Factor Loading	α^*	CR	AVE
Performance (PERF)	Quality of product and services (PERF4)	0.81	0.833	0.606	0.509
	Development of new products and services (PERF5)	0.65			
	Ability to attract and retain essential employees (PERF6)	0.62			
	Satisfaction of customers or clients (PERF7)	0.82			
	Increase in competitive position (PERF8)	0.64			
Crisis (CRS)	Direct revenue loss (CRS1)	0.80	0.821	0.620	0.550
	Loss of sales (CRS3)	0.83			
	Recovery costs (CRS5)	0.57			
	Company survival (CRS6)	0.74			
Entrepreneurial Commitment (EC)	There is no limit to how long I would give maximum effort to establish my business (EC3)	0.78	0.830	0.764	0.736
	My personal philosophy is to "do whatever it takes" to establish my own business (EC4)	0.93			
Perseverance (PER)	Setbacks do not discourage me from pursuing my business ambitions (PER2)	0.78	0.792	0.702	0.657
	During crisis, I persist in achieving my goals despite seeing others give up (PER3)	0.84			

Table III. Descriptive statistics and correlation matrix

	PERF	CRS	EC	PER
PERF	**0.713**			
CRS	0.227**	**0.741**		
EC	0.428**	0.135	**0.858**	
PER	0.410**	0.187**	0.483**	**0.810**
DUR	0.062	-0.113	0.049	-0.046
IS	-0.108	0.007	0.052	0.060
BL	-0.061	0.015	-0.067	-0.080

Notes: Diagonals represent the square root of the AVE.
Other entries represent the correlations *p ≤ 0.05, ** p ≤ 0.01.

Table IV. Sequential model comparison

Model	χ^2	*df*	$\Delta\chi^2$	Δdf	Significance threshold (10%) = $\chi^2 0.10^{(\Delta df)}$	Fit Improvement
Model 1	791.713	111	-	-	-	-
Model 2 vs Model 1	490.384	106	301.329	5	9.24	Yes
Model 3 vs Model 2	217.142	100	273.242	6	10.64	Yes
Model 4 vs Model 3	184.248	98	32.894	2	4.61	Yes

Table V. Incremental model building

	Model 1	Model 2	Model 3	Model 4
Impact of the Crisis on Microbusiness Performance				
CRS → Perf (H1)		0.224** (2.898)	0.254*** (3.240)	0.145* (1.859)
Impact of the Crisis on Entrepreneurial Commitment				
CRS → EC (H2a)		-	0.179 (1.436)	0.204** (2.160)
Impact of the Crisis on Entrepreneurial Perseverance				
CRS → PER (H2b)		-	0.247** (2.576)	0.228** (2.587)
Impact of Entrepreneurial Commitment on Microbusiness Performance				
EC → Perf (H3a)		-	-	0.234*** (3.753)
Impact of Entrepreneurial Perseverance on Microbusiness Performance				
PER→ Perf (H3b)		-	-	0.247** (2.955)
Insertion of Control Variables				
Industry Sector→ Perf	-0.033 (-1.215)	-0.030 (-1.114)	-0.030 (-1.124)	-0.044* (-1.699)
Age of Business→ Perf	0.041 (1.226)	0.054 (1.621)	0.055* (1.651)	0.038 (1.184)
Location→ Perf	-0.015 (-0.654)	-0.020 (-0.870)	-0.020 (-0.875)	-0.007 (-0.366)
Model Fit Indices				
Chi-Square (χ^2)	791.713	490.384	217.142	184.248
Degree-of-Freedom (*df*)	111	106	100	98
R^2Perf	0.017	0.072	0.086	0.198
CFI	0.365	0.642	0.891	0.920
TLI	0.314	0.594	0.869	0.902
RMSEA	0.175	0.134	0.076	0.066

Notes: *p <0.10, **p <0.05; ***p <0.01

Table VI. Tests for mediation effects

			Bootstrapping 95%			
Hypothesis	**Association**	**Estimate**	$LowerBound^a$	$UpperBound^a$	$Significance^a$	**Decision**
H4a	CRS→EC→PERF	0.043	0.001	0.147	0.045	Mediation Exists
H4b	CRS→PER→PERF	0.050	0.002	0.198	0.036	Mediation Exists

Notes: $a_{Biasedcorrected\ (BC)}$