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RESEARCH
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RURAL BUSINESSES' UNDERSTANDING OF INNOVATION

Drivers, Barriers and Collaboration

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EXECUTIVE SUMMARY

This research report explores how businesses in rural areas understand and experience innovation. It is based on in-depth, qualitative interviews with senior decision-makers in businesses across sectors such as defence, pharmaceuticals, creative industries, professional services, agriculture and food manufacturing. All the businesses actively engage in innovation activity, reflecting varied forms and levels of novelty, which for some included innovations that were at the leading edge of their sector nationally or globally.

Rural businesses hold a broad, practical, and commercially grounded understanding of innovation. Rather than viewing innovation solely as scientific discovery or the creation of entirely new products, they describe innovation as something that can occur across all areas of the business, including processes, marketing, distribution, service delivery, organisational structures, and business models. Innovation is consistently associated with solving problems, responding to customer needs, and improving competitiveness. For many businesses, innovation is valuable not because it is novel in itself, but because it generates measurable outcomes such as efficiency gains, growth, profitability, and long-term business sustainability. In other words, rural entrepreneurs adopt an applied and outcome-oriented perspective on innovation, closely linked to day-to-day business realities and situated problem-solving. However, much of this reported innovation activity remains marginal to innovation policy discourse, even though it is central to how rural businesses create value in dispersed and resource-constrained contexts.

Innovation in rural firms is shaped by a combination of internal capabilities and external pressures. At the firm level, skilled employees, technical knowledge, creativity, and problem-solving ability are key enablers of innovation. Businesses stress the importance of recruiting and retaining talented staff who can transform ideas into commercially viable products or services. Leadership is also critical. Businesses highlight the value of supportive management styles that encourage communication, trust, and calculated risk-taking. In contrast, hierarchical or overly rigid leadership approaches act as barriers to innovation. A positive organisational culture that allows staff to experiment, contribute ideas, and learn from mistakes is associated with stronger innovation outcomes.

External market forces are another major driver of innovation. Innovation is triggered by changing customer expectations, increasing competition, and the need to remain relevant in fast-moving markets. Some businesses introduce innovations in direct response to customer feedback, while others adapt products and services to meet new consumer demands. In addition, regulatory changes and technological developments can stimulate innovation activity. For instance, new legislation, digitalisation, artificial intelligence, and industry transitions create pressures and opportunities that require

businesses to adapt. Rural innovation, therefore, is not isolated from wider economic trends but closely connected to evolving markets and institutional environments.

A further important finding concerns the patterns and persistence of innovation over time. Innovation is rarely described as a smooth or linear process. Instead, businesses identify two dominant rhythms, or modes, of innovation including persistent (continuous) innovation, and in-bursts (episodic or intermittent) innovation. Some firms report ongoing incremental improvements embedded in everyday operations, while others describe periods of intense and faster paced innovation followed by slower phases of consolidation or recovery. These fluctuations are linked to available time, finance, staffing capacity, and operational pressures. Small-scale firms, in particular, note that implementing one innovation often absorbed most available resources, leaving little time or staff capacity to pursue further innovations immediately. This suggests that innovation persistence in rural firms is uneven and strongly shaped by resource constraints. Patterns of *episodic innovation* should be recognised as an appropriate adaptive response and part of a cycle through which firms exploit previous innovations before another period of experimentation.

Cost is one of the most significant barriers to innovation, but this is rarely confined to R&D expenditure. Financial challenges are reported across all stages of the innovation process, from initial idea development and research to equipment purchase, staffing, scaling, and commercialisation. Many businesses remain cautious about investing in innovation because of uncertainty regarding returns and future market conditions. For some smaller enterprises, innovation had to be developed gradually, using limited funds or alongside other income-generating activities. In addition to cost, market adoption barriers are also prominent. Businesses producing highly novel goods or services often struggle to convince customers or investors of the value of their innovation. In such cases, firms face the dual challenge of developing new solutions while simultaneously educating the market about the problem being solved.

Rurality functions as both a constraint and an enabler of innovation. On the one hand, the rural businesses interviewed report structural disadvantages including weak transport links, poor digital connectivity, limited labour pools, fewer networking opportunities, and greater distance from universities, investors, and innovation hubs. These factors reduce access to skilled labour, knowledge exchange, and wider markets. Staff recruitment is particularly difficult in remote areas. On the other hand, businesses also highlight benefits linked to rural locations. These include lower levels of direct competition, stronger community identity, niche market opportunities, and the ability to offer distinctive place-based products or experiences. In some cases, rural constraints themselves encourage creative adaptation and entrepreneurial resilience. Reconceptualising rural locations as both constraining and enabling highlights the need for innovation frameworks that recognise place-contingent pathways, rather than

treating rurality as purely a disadvantage, to be compensated for through policy intervention.

The study further reveals that collaboration plays a central role in rural innovation. Innovation is rarely undertaken in isolation by an enterprise. Rather, rural firms portray collaboration as a pragmatic and often informal activity, embedded in long-standing relationships with customers, suppliers, subcontractors, and trusted intermediaries, rather than as formalised participation in innovation networks or institutional partnerships. Three levels of collaboration are particularly pertinent: immediate operational relationships, regional and local networks, and national / international partnerships. Firms that combine strong local embeddedness with broader external connections often appear better positioned to innovate successfully.

Finally, access to financial support and formal innovation systems yield mixed experiences. Grants, loans, and funded programmes were often seen as valuable enablers that helped businesses recruit staff, purchase equipment, improve skills, and reduce the risks associated with innovation. COVID-19 support schemes were particularly important for helping firms adapt quickly during crisis conditions. However, many businesses criticise formal support systems for being difficult to access, poorly communicated, bureaucratic, and poorly matched to the realities of rural SMEs. Eligibility criteria, match-funding requirements, and limited awareness of opportunities frequently prevented businesses from benefitting. A key lesson for policy makers is that support mechanisms to stimulate innovation are likely to have limited take up by rural businesses, even those within IS-8 priority sectors, unless greater attention is given to access conditions, flexibility, and alignment with firms' innovation trajectories.

1. Introduction

This research report explores how businesses in rural areas understand and experience innovation. It is based on 12 in-depth interviews with senior decision-makers in businesses across sectors such as defence, pharmaceuticals, creative industries, professional services, agriculture and food manufacturing. Through the research we sought to explore business and personal perspectives, innovation triggers, enablers and barriers, innovation patterns overtime and the effect of a rural location, as well network and collaboration effects.

The report contributes to, and should be read in conjunction with, a suite of IRC reports on innovation in England's rural areas, including a state of the art review of literature (Partridge et al., 2026), a qualitative study of stakeholder perspectives on the innovation support ecosystem and its engagement with rural firms (Phillipson et al., 2026) and a quantitative analysis of national secondary data sets (Nguyen et al., 2026).

We begin this report with a presentation of the methodology for interviewing businesses. This is followed by a qualitative, thematic analysis of the findings of the research, tackling: notions of innovation and its value; innovation triggers, enablers and drivers; patterns of innovation over time; challenges across the innovation process; the effects of rurality; the role of collaboration and stakeholder engagement; and access to knowledge and support. Section 10 distils conclusions and implications from the study.

2. Methodology

The study adopted a qualitative approach to generate insights, grounded in practice, regarding rural business innovation. To support a large sample quantitative analysis (Nguyen et al., 2026), this research shares insights from 12 innovation active rural firms on how innovation is experienced, interpreted, and enacted. We undertook in-depth, semi-structured interviews, which allowed business managers to define innovation on their own terms, capturing tacit, experiential and implicit understandings. They provided the basis for addressing key themes with all interviewees while granting the flexibility to probe reasoning in follow-up questions and explore contextual influences across a diverse set of businesses.

Data collection consisted of 12 in-depth, semi-structured interviews. Interviewees were selected purposely based on their ability to provide informed explanations (Patton, 2015). All interviewees were senior decision makers of businesses in rural areas. Recruitment was tilted toward businesses operating within one of the eight priority 'growth driving' sectors (IS 8) as specified in the UK Government's 2025 Industrial Strategy. Table 1 provides brief portraits of interviewees but to preserve the anonymity of interviewees and given the commercial sensitivity of some innovations, we omit

detailed descriptions. The research team's judgment guided the sample size (Baker, 2002), with data collection ceasing after achieving conceptual and meaning saturation, when the final interviews began to yield fewer novel themes or insights. Consequently, the sample size was appropriate for the study's purposes, especially when considered alongside the parallel, large sample quantitative study (Nguyen et al., 2026).

Semi structured interviews were conducted in Winter - Spring 2026, with each interview lasting approximately 45–60 minutes. Anonymity of both participants and their enterprises was assured throughout the research process. Prior to participation, interviewees received an information sheet detailing the study's purpose, so they could provide written informed consent. No interviewee declined to provide consent. All interviews occurred remotely using video conferencing software, allowing for recording and subsequent transcription for analysis.

Appendix 1 presents the interview protocol. In responding to questions, the interviewer asked interviewees to focus on one product innovation (critical incident approach) to provide analytically rich and business specific accounts of decision making in context.

Participants were recruited from rural businesses, located in a diverse set of rural locations in rural England¹, and representing a wide range of sectors (see Table 1). All participating businesses were actively engaged in innovation activity, reflecting varied forms and levels of novelty. These included innovations that were **new-to-the-market**, **new-to-the-business**, and, in some cases new-to-the-world. The latter reflects innovations at the **leading edge of their sector nationally or globally**. The nature of innovation ranged from the adoption of advanced technologies, including digitalisation, automation, and AI-enabled solutions, to more incremental process improvements, service enhancements, product diversification, and novel business models tailored to rural market conditions.

Regarding data analysis, the reviewed literature (see Partridge *et al*, 2026) provided valuable context to the factors influencing rural business innovation but no overarching or integrative framework. Consequently, we did not employ a priori coding. Rather, investigation of interview data occurred inductively, following the approach of Braun and Clarke (2006) for thematic analysis. We began with Nvivo coding of interview transcripts to generate first-order codes that reflected the language and meaning of interviewees. Subsequently, axial coding occurred, to identify second order themes, connecting subcategories or types of concepts (Bazeley & Jackson, 2019). Attention focused on firm and environmental level factors that enable and inhibit rural business innovation. Data analysis proceeded through a discursive process involving all the research team.

¹ Noting Participant 09 had recently relocated their premises a few miles from their rural base into a neighbouring urban location. The business now essentially sits on a urban-rural boundary.

Table 1: Profile of interviewees

Participant code	Current role	Industry and sector	Number of staff	Years in sector	Rural Urban Classifications (LAD)
P01	Founder and owner	Marketing consultancy (Private sector)	1	20 Year	RUC11: Rural hamlets and isolated dwellings RUC21: Smaller rural: Nearer to a major town or city
P02	Manager and key decision maker	Aviation (Third sector)	50 members	30+ Years	RUC11: Rural village RUC21: Smaller rural: Further from a major town or city
P03	Operational manager and key decision maker	Agriculture (Private sector)	30	Not disclosed	RUC11: Rural village RUC21: Smaller rural: Nearer to a major town or city
P04	Co-founder and key decision maker	Creative industry and venue (Private sector)	2	12+ Years	RUC11: Rural village RUC21: Larger rural: Nearer to a major town or city
P05	Founder, owner and key decision maker	Event and exhibition management (Private sector)	4 permanent 120 contract-based	13 Years	RUC11: Rural town and fringe in a sparse setting RUC21: Larger rural: Further from a major town or city
P06	Co-founder and key decision maker	Professional business services (Private sector)	3	5+ Year	RUC11: Rural town and fringe RUC21: Larger rural: Nearer to a major town or city
P07	Business and commercial director	Specialised engineering production (Private sector)	32	20+ Year	RUC11: Rural town and fringe in a sparse setting RUC21: Larger rural: Further from a major town or city
P08	Co-owner and key decision maker	Agriculture (Private sector)	>5	70+ Years	RUC11: Rural hamlets and isolated dwellings RUC21: Smaller rural: Further from a major town or city
P09	Co-founder and key decision maker	Defence (Private sector)	92	10 Years	RUC11: Urban city and town RUC21: Urban: Nearer to a major town or city
P10	Founder, owner and key decision maker	Building services, engineering and consultancy (Private sector)	24	12+ Years	RUC11: Rural town and fringe in a sparse setting RUC21: Larger rural: Further from a major town or city
P11	Co-owner and key decision maker	Food and drink (Private sector)	11	10+ Years	RUC11: Rural village in a sparse setting RUC21: Larger rural: Further from a major town or city
P12	Key decision maker	Pharmaceuticals (Private sector)	1300	10+ Years	RUC11: Rural hamlets and isolated dwellings in a sparse setting RUC21: Larger rural: Further from a major town or city

3. Notions and understandings of innovation and its value

Across this sample of rural businesses, participants display a broad and applied understanding of innovation. Innovation is not only understood narrowly as the creation of entirely new products or services. Rather, participants describe it as a firm-wide activity that can occur across multiple areas of the business, including business models, processes, marketing, distribution, and organisational practices. At the same time, innovation is consistently associated with generating business value, particularly in relation to efficiency, competitiveness, growth, and commercial viability. The data suggest that innovation is valued not only for its novelty, but for its strategic contribution to business performance and long-term survival.

3.1 Innovation occurring across all areas of a business

Participants commonly describe innovation as something that extends beyond research and development or product design. Innovation is framed as occurring across the whole business, including changes to business models, channels, operations, and other forms of organisational practice. In many respects, therefore, they adopt a broad and practical understanding of innovation, grounded in the realities of running and adapting their business.

For example, one participant working in digital marketing services reflected on innovation in relation to broader shifts in “business models and types of business, how they're moving on” (P01). Another from an agricultural business highlighted that innovation operates across multiple business functions rather than being confined to one area:

“It's multifaceted for us. We need to keep innovating our distribution channels, our product offering.” (P08)

Others emphasised the breadth of innovation and its applicability beyond research spaces:

“It doesn't just have to sit in a research space, it can sit in a development or a marketing space. I see innovation as being quite broad in terms of its definition or applicability.” (P02)

3.2 Innovation increasing competitive advantage, growth and efficiency

Participants consistently describe innovation as valuable because it improves efficiency, strengthens competitiveness, and supports business growth. In many accounts, innovation is discussed not as an optional activity, but as a necessary means of responding to market expectations, differentiating from competitors, and sustaining firm performance.

The role of innovation in increasing efficiency is central to participants' perspectives. For example, Participant 6, from a professional services consultancy linked innovation to efficiency, customer expectations, and the need to remain competitive within a crowded sector:

"I believe there's about 20,000 [professional people in our sector] across the country, [...] and those that aren't innovative or at least keeping up with technology got to be left behind and die off, basically." (P06)

Innovation is also associated with product differentiation and the ability to command stronger market positioning. One participant from the events industry, for example, explained how innovation helps justify higher prices by enhancing quality and distinctiveness:

"Our price points for admission are usually at least 50% higher than that because of the quality of what we deliver [...] so kind of we're always at that edge of innovation of trying to find new stuff and high-quality stuff so that we can maintain that market point." (P05)

In sectors characterised by intense price competition, innovation is described as essential for survival, as the following participant from the food and drink sector explained:

"In the beverage industry, I can't make the final product for the price that I can buy it in the supermarket. [...] I can't match the price of the multinationals, the big brands. These are owned by a huge corporates, these are companies that are bigger, they've got a bigger turnover than the majority of countries' GDP. [...] So that's where innovation comes in." (P11)

Another participant with an engineering consultancy stressed how innovation must remain purposeful and strategically directed, rather than pursued merely for novelty:

"It's really important because [...] it keeps up with a lot of sort of committed and smart people in the business. And if you're constantly innovating and doing new things for the sake of it. That's counterproductive." (P10)

The connection between innovation, customer retention, and business growth is also evident. One participant with a creative enterprise, for example, described how the continued introduction of new and distinctive offerings was important for maintaining repeat customers and sustaining demand:

"It's very important because we have a lot of repeat customers that will come in once a week or they come to do the Christmas shopping here and they want to see new things; they want to see unusual things. So, we really try and avoid anything that you would find in a high street shop, the kind of mass-produced stuff." (P04)

3.3 Innovation for commercialisation and value creation

Participants often link innovation to commercialisation and value creation. Innovation is not viewed as complete at the point of idea generation alone. Rather, participants emphasise that innovation must be translated into commercially viable outcomes in order to create value for the business. One participant from a specialised engineering firm, for example, clearly framed innovation in relation to commercial viability:

“The way that I look at it is that it's a product and it's something that needs to be commercially viable.” (P07)

Another, this time in the pharmaceutical industry, similarly emphasised that innovation involves the development of new concepts, but that these must ultimately be translated into a commercial space:

“New ideas, and new concepts that accompany that it's not just an extension of an existing idea, it's a new concept that is built on the idea [...] I guess it's the creation of new ideas and then translating that to a commercial environment.” (P12)

Rural entrepreneurs therefore understand innovation in strongly applied and market-oriented terms.

4. Triggers, enablers, and drivers of innovation

The participants in the research have a clear understanding of the factors which trigger, enable and drive innovation. Analysis of the interviews revealed four interrelated sub themes linked to skills, market orientation, leadership and a system-level view.

4.1 Skill and internal capability

A recurring theme across participants' accounts was the importance of skilled human resource as a primary factor for triggering innovation. Participants frequently associate innovation with technical expertise, creativity, problem-solving ability, and the capacity of employees to transform ideas into commercially viable products or services. One participant, for example, described how specialist knowledge directly enabled product development:

“There were two guys that are mentioned on the patent. There is our previous technical director [...] and one of our specialists. So, they developed the prototype and came up with the patent for the device.” (P07, working in specialised manufacturing)

Another highlighted the importance of practical expertise and personal networks in accessing external technical collaboration:

“It was definitely the team member's insight and their knowledge of the machinery. He knew there were machines out there that could do this, he got in contact with somebody he's known for a while [...]. he knew roughly what he wanted. So, he went to this expert, and they designed this system for him.” (P08, from an agricultural business)

Highly capable staff are often pivotal in leading product innovation from the outset:

“Two team members led the charge on the product development within the company. And that was way back when we started [...] when we took that on, they are both experts.” (P09, from a defence business)

Beyond technical knowledge, creativity is also emphasised as a critical capability of staff. This creativity, for example, is apparent in the following quotation, where participant 5 describes the transition of ideas into an engaging customer experience in their events business:

“From inside the firm, it's that creative ability to actually take what's in the text of a book and turn that into a visual representation that everybody understands, [...] that's a real skill set that two or three people in the company have absolutely got [...] It's that innovation of knowing people that can take that creative design and actually turn that into something that works.” (P05, creative industry)

4.2 Market and customer orientation

Participants consistently portrayed the ways in which innovation is sparked, shaped and scaled by market demands when their firms engage with customers and respond to market signals or direct customer proposals. In other words, many firms describe innovation in response to external pressure. This is illustrated by the following advanced manufacturing sector participant:

“It was with a customer overseas where we, a number of years ago, [...] implemented what was to be an automated production line, but they came back to us and said ‘look, this is not an automated production line’ because the starting point of the process was that somebody has to manually [...] put a technical part of a device in [...] And so, our customer basically said, well, you haven't automated the process, go back, find something that will automate it.” (P07)

Similarly, other participants explained that innovation emerges in response to changing customer preference:

“It was market demand really. The market was looking for something that was more efficient [...] not hugely any more expensive, but could still achieve as good, if not better results with less waste. So, the market kind of dictated they were looking for it and then we went out to see if we could produce it.” (P03, agricultural business)

“Market demand. So, the more customers we got and the more specific their requirements were becoming [...] it's just the market. You need to adapt to survive.” (P04, creative enterprise and venue)

Some participants identify emerging technological trends as market opportunities and a trigger for innovation. Innovations built on AI and digital technologies were mentioned by several interviewees. For example, Participant 6, involved in business services consultancy described:

“AI is a big thing. We've got professional services, products providers who are looking at AI [...]. people want speedy answers. Clients don't want to pay [...] hundreds of pounds or thousands of pounds to get technical advice anymore. So ChatGPT and AI is a quick route. But it's not safe [...] but there is obviously a market.” (P06)

Others highlight regulation as a significant innovation trigger:

“So, it's a response to changing government legislation, new legislation, tightening regulations. It's like, right, how do we keep abreast of this? How do we solve these problems? [...] Often driven by necessity.” (P10, engineering consultancy)

4.3 Leadership and organisational culture

Leadership approaches and organisational culture play an important role in enabling innovation. Participants commonly associate innovation with supportive leadership, open communication, trust, and a willingness to take calculated risks. Several referred to how a positive work environment encourages creative outcomes:

“People enjoy their working life and they feel supported. Most people, particularly where you're bringing in, engineers and scientists of one flavour or another, lots of graduates in our consultancy team. They're all science graduates for the most part they have a certain way of thinking. If you encourage innovation there, you get some really, really, interesting outcomes.” (P10, engineering consultancy)

Innovation is often described as being embedded in the entrepreneurial identity of the leadership team:

“I think being driven by [...] the team. Being driven by a group of engineers who have cut their teeth and lived on innovation, inventing, we always say to everyone that we're a group of excitable engineers who like to design new things. That's what gets us up in the morning.” (P09, defence)

For this participant, entrepreneurial identity is connected to risk tolerance, and developing an organisational culture that supports risk-taking attitudes toward aiming for innovation:

“It's not easy [...] having a team willing to take risks. [...] There are people who work for you. That's also risk. That becomes a much bigger thing on your mind. You can lose all the money that you've put into it [...]. But having belief in yourself that you can solve this problem and that these are just a selection of problems that you've got to work your way through has allowed us to really push on hard and grow the company quickly and solve problems that larger companies can't because they are risk averse, essentially.” (P09, defence)

For some participants, leadership is also linked to communication and managing internal resistance to change. One participant from an agricultural business noted:

“Initially [a change we made] was putting one of our machines under significant pressure. So, therefore there was a time element in terms of staff resource. But once we could explain that was going to drive profitability in the business, people got behind it. But initially, I think like most things in business and most things in life, when someone suggested a change [...] there's always a bit of resistance. So internal communication, I think, is always the biggest challenge of getting into something new, of how it looks and how it's going to work.” (P03)

Similar views were expressed by other participants, such as Participant 11 from the food and drink industry, who emphasised how project management skills are crucial during the early stages of innovation:

“Initially the critical one for this one was project management. So, it was the sense of coming together and mapping this out and going, ‘well, what would this look like?’ What is the impact on core business? What is the cost to this? The financial cost and the time cost and is this feasible? [...] And building on that, before we build on the concept and get excited about it, it's like, is this achievable?” (P11)

In contrast, hierarchical leadership styles are viewed by some interviewees as barriers to innovation. As one participant with an engineering consultancy explained:

“A top-down approach where I have to think of everything and tell everybody what to do, that's not a positive, proactive culture that's going to give you a business that people turn to. We're a small SME in the region, but the kinds of clients we work for are the world's biggest premium range companies [...] People turn to us for [...] problem solving and the attitude we bring to it. So, you can't create that if you don't trust people in the business and create that culture and encourage them and sometimes to be happy to make mistakes.” (P10)

4.4 Innovation as a systemic phenomenon

Participants often describe innovation not as an isolated firm-level activity, but as a systemic and collaborative process involving multiple actors, resources, and institutions. Innovation is portrayed as iterative, relational, and dependent on interactions between internal capabilities and external support systems. One participant in the defence sector, for example, reflected on the need to combine skills, investment, and strategic decision-making:

“They [members of the team] all have their place. [...] When you're both developing (the product) and deploying it, you need to be able to do the full suite of activities [...] We were owner, founder, directors, shareholders at the time, making the decision to push on with [our innovation] was quite easy. [...] When you're developing a product, you can burn through money at a vast rate of knots, and for quite a while we didn't pay ourselves, so that was also a bit painful. [...] we had access at the time to some angel investors that came on board and helped us get through that phase.” (P09)

Another participant from the pharmaceutical industry described innovation as path-dependent through a long-term process of interrelated multiple elements, such as market research, technical development, investment decisions, and repeated adaptation:

“It takes about 15 to 20 years to get a product to market from proof of concept or from point of discovery to getting into commercial space. So, the attrition rate is low [...]. You would proceed with that with a clear knowledge that other challenges, other hurdles would have to be addressed by innovation, so it would have been a business decision to do that. There would have been some research into the marketplace to know that there was a demand for the product. Then

there would be an iterative process, because, if that market analysis said, 'well, okay, there is some demand, but it's not significant' then obviously there has to be some cost analysis in terms of the investment on that. And actually, some of the techniques and tools may, at that point, not have been available, or they may not have been fully developed. So again, there's some innovation required." (P12)

5. Persistence and patterns of innovation

The findings indicate that the persistence and patterns of innovation over time is neither uniform nor linear across rural firms. Rather than occurring as a steady, uninterrupted process, innovation is experienced through varying rhythms, intensities, and trajectories. Participants describe innovation as following two dominant patterns including continuous or constant innovation, and intermittent or burst-based innovation, where periods of active innovation are followed by temporary pauses before subsequent activity resumes. Innovation is rarely described as a one-off event. Analysis further suggests that these patterns are shaped by a combination of internal resources, organisational capabilities, market conditions, sectoral dynamics, and external policy environments.

5.1 Patterns and attributes of innovation in rural firms

Participants frequently explained that innovation in rural firms occurs in multiple forms rather than following a single predictable path. Some describe innovation as a stop-start process, where it is introduced when business performance weakens, customer interest declines, or new opportunities emerge:

"I'd say [our innovation is] stop-start really because you're looking at footfall, you're looking at your customers, you're looking at your takings for the day [...] I think sometimes things start to dip a bit or people have got a bit jaded that [...] they're not seeing anything new, you know, things tail off. So, then you have to innovate again and come up with something else." (P04, creative enterprise and venue)

"I think stop and start's probably a fair reflection." (P03, agricultural business)

However, many participants also described innovation as a continuous background activity embedded within day-to-day business operations, although its pace and intensity may vary over time. For example:

"We started using the AI quite a bit for our marketing and things like that. So, I think we've always innovated, and I think we've always been really good at innovating and always looking ahead rather than looking behind. But I do think that the pace has increased, and I think that's a good thing, but I think there's still an awful long way to go." (P08, agricultural business)

"I think there's always innovation occurring at a reasonable level. The different components may vary in terms of their intensity, but there's always innovation." (P12, pharmaceutical company)

Similarly, others describe innovation as having both a constant baseline and occasional peaks:

"I think there's been a constant level of innovation, which comes from running a business, certainly a small business that's always there. I think there are times with that constant where it's peaked, where we've had big projects on. [...], I think there's always a baseline and I think there are areas where it's peaking." (P11, food and drink business)

"So, I think we've continuously [done] [...] bits of innovation all the way along the timeline of our company." (P09, defence business)

In some firms, sustained innovation is perceived as essential to survival in fast-moving markets. As one participant from an events business explained:

"I think for the last 8 to 10 years it's been constant innovation because we've had to. The opportunities are evolving so quickly that if we don't continue to innovate and look for those opportunities the whole time." (P05)

Participants also distinguished between the persistence of innovation itself and changes in the type of innovation undertaken over time:

"I think [...] the level of innovation has been constant, but the type of innovation has been highly variable. [...] We've been involved in proprietary research and development. [...] We moved into contract research and development. And we've had various different changes throughout that period. We've really put different emphases on different parts of that journey of getting (products) to (end-user). So, there's always been innovation, but the type and the way it's been applied very different." (P12)

5.2 Slow or intermittent innovation patterns

Although many firms described innovation as continuous, participants also reported periods where innovation activity slowed, paused, or became more intermittent. These slowdowns are commonly associated with resource constraints, operational pressure, organisational growth phases, and external uncertainty.

For example, Participant 11 from the food and drink industry explained that intense innovation periods are often followed by recovery phases:

"There have been times in the business where we've done that, and those times often follow a time where it's been peak innovation and a lot happening, a lot of movements, and then we've needed that rest period." (P11)

For this participant, the scale of future innovation was linked to available time and financial capacity:

"This year that's quite a big project. I think probably next year it'll be quite a small project while we sort of recover and the size of that project is determined not just by our appetite but also by our available time, and also by our available finances and budget." (P11)

Smaller enterprises are particularly affected by the absence of resources and dedicated innovation personnel. One participant from an agricultural business, for example, described how delivering one innovation absorbs organisational attention and delays subsequent innovation:

“That takes up a huge lot of headspace for everyone involved and we need that to deliver as well in terms of staff training, productivity, profitability and also gain the funds. So that's very time consuming, very absorbing for all staff members. So, then you kind of get that embedded in the business and then try and drive the business forward in that new innovation. So, you become, as you would expect, preoccupied with that element [...] and until that new innovation product's delivered and suitably running, it's very hard to have time and headspace to then deliver something further.” (P03)

Another participant, this time working in the defence sector, linked slower innovation to rapid organisational growth, where managerial effort shifted towards recruitment, training, and scaling operations:

“We slowed down innovation as we've been growing the team, a lot of the innovation was done by the founding group and then you go through a period of rapid growth [...] This was a form of innovation in the way that we built the company, but technical innovation took a dip during the period of high growth because what you're trying to do is get people in, teach them the way that you do your thing and then release them to go and innovate the next tranche of technology.” (P09)

The external policy environment also influences innovation willingness and momentum. Participant 8 for example, representing a farm business, explained how government taxation proposals created uncertainty and temporarily reduced investment appetite:

“When the government announced that they proposed IHT changes, that did put a freeze on everything. And that is something that all farmers would tell you [...] So that definitely has dampened things.” (P08)

5.3 Factors affecting innovation persistence

Participants identified several factors that help sustain persistent engagement in innovation over time. These include strategic orientation, responsiveness to customer expectations, market awareness, technological change, internal capabilities, and the interaction of multiple enabling conditions. One participant working in digital marketing and website design highlighted the growing expectations of end users as a key driver of ongoing innovation:

“I think it's that end user's expectations as well [...] [having an online presence is] a necessity [...] I think that end-user perspective is what drives a lot of this. Now we have very different expectations as a user than we did 10 years ago, 15 years ago.” (P01)

Others emphasised the importance of people and internal talent in sustaining innovation. Participant 12, working in pharmaceuticals, explained their perspective that if they “don't get

the people at the start [of an innovation journey], then you can't move" from initial ideas to a marketable product. Strategic management and competitive awareness were also identified as important:

"I think it's down to market knowledge and it's down to understanding the competitive environment. And also, down to company vision and strategy." (P07, advanced manufacturing)

Technological transitions within sectors also create new innovation opportunities and incentivise continuous adaptation. This is something that participant 5, working in events, described as "keeping on the edge of technology and the doorways that [it opens] up."

For some firms, innovation is deeply embedded within their organisational identity. For example, participant 9, from the defence sector, described their business as "a product development company", stating "that is what we do. We make new technology." This sentiment was echoed by other participants in rapidly changing sectors, who described innovation as inseparable from everyday business practice:

"Because my particular sector [digital marketing] has been so fast-moving, innovation has become part of every day. [...]I think even without COVID, without anything, just the tech side alone you have to keep moving." (P01, digital marketing consultancy)

6. Challenges across the innovation process

Rural businesses encounter multiple challenges across different stages of the innovation process. Participants described challenges as not limited to a single phase of ideas generation or product development. More broadly, their challenges extend from early investment decision to commercialisation, operational delivery, and capability building. These findings suggest that innovation may be constrained by internal organisational limitations and wider market and locational conditions that shape what firms are able to develop, implement, and sustain.

6.1 Cost of innovation as a barrier

Participants consistently describe financial cost as one of the most significant barriers to innovation. The cost associated with innovation were reported to arise across multiple stages of the process, including research and development, raw materials, production inputs, machinery, storage, and market launch. In many cases, firms faced uncertainty over whether the scale of required investment could be justified, particularly when the long-term viability or return on the innovation remained unclear.

Participant 7 emphasised the scale of bringing an innovation to market in their specialised engineering firm, noting that the burden extends well beyond the product itself. For this participant, "the costs of bringing something to market are inordinate, without even thinking about the cost of the actual product itself", such as the raw materials. This participant felt that "people don't necessarily understand" the costs of "all of that stuff that you need to do around" an innovation, such as human resourcing, testing, collaborating, and marketing.

Similarly, participant 3 described capital expenditure as the first and the most immediate barrier to pursuing innovation in their agricultural business:

“The first barrier is always the capital expenditure, even if it's a large enough business, but if it's 20,000 pounds, it's still a significant spend of CapEx to then spend on a new project which might or might not have a sustainable future [...] Whether we generate those at a profit or whether we borrow the money, that's always a significant barrier to how you then go forward with innovation. If there's going to be an increase in cost and invariably being an agricultural type business, we just kind of wing it and hope and then as it develops, we'll then look at how we invest further.” (P03)

The rising cost of supporting infrastructure around innovation was also identified as a barrier by the same participant:

“We always constantly ask ourselves whether we should invest in further storage capacity for the finished product. Like everything, that cost was going to be initially 25,000, I think today it's 45,000 and I think with improved management we can get around that that capital expenditure. So, we're relatively comfortable, but if we were to grow that business any further, we would probably have to look at more capacity really.” (P03)

Cost pressures continue into the later stages of innovation, particularly where firms must decide when to stop refining a product and move towards commercialisation. One participant from a specialised engineering company explained:

“Sales have to outweigh the costs and all of this kind of stuff. And also, because of the nature of the product and because of the nature of development teams is that they'll always want to tinker. [...] You can always do it better, better, better, better, better. And so, I think one of the key things that I learned was when to say, ‘right, stop. The product is good enough’ [...] in order to now properly grow the market and properly make a profit, we need to get off the R&D cart and turn it into just a regular product.” (P07)

6.2 Infrastructure and operational constraints

Participants reported that innovation is often constrained by operational realities, particularly where business depend on physical production, logistics, specialised handling, or complex supply chains. These were especially visible in firms whose products were bulky, time-sensitive, or reliant on global sourcing and transportation systems. One participant with an agricultural business, for example, explained how logistics and staffing flexibility directly constrains the capacity to innovate and scale:

“We produce very bulky products [...] that have to travel in consignments of 30 tonnes and have to travel in excess of 100 miles normally. So that's a challenge in itself, then as I've mentioned already that human resource element is ‘what is possible?’ And how we have to flex it.” (P03)

This participant refers to long travel distances, exacerbated by their rural location. In some cases, wider geopolitical disruptions created additional barriers by delaying equipment and

affecting international project delivery, which was felt to disproportionately affect rural businesses.

6.3 Skill gaps

A further challenge identified by participants related to the lack of technical and specialised skills required to implement or scale innovation. Skill gaps were described both in relation to missing in-house capabilities and to the difficulty of accessing suitable external expertise, particularly in regions where innovation ecosystems are perceived to be weaker.

One participant in the food and drink sector, for example, reflected on a capability gap related to digital content production and explained how the business had to rely on outside support:

“So, part of what we've decided to do was posting video clips alongside each product release [...] which is better on the algorithms on social media. [...] And I haven't got the skills in-house. I haven't particularly got the time in-house. I can do a superficial level of task, but we've started to draw upon some external support for that as well. So, there's a cost implication for that, but it's the right thing to do.” (P11)

Another linked skill shortages to geography and existing high-tech innovation clusters, suggesting that rural or peripheral locations may limit access to specialised talent in their engineering firm:

“It would have been a lot easier to do it [to innovate] if we were based down in Cambridge or somewhere like that, where there's real tech corridors and a lot of innovation happening all of the time. [...] You kind of take it for granted that that's what you're going to have to do, get out of the (region) to find the skills and the people that you need.” (P07)

7. Rurality as a constraint and an enabler

Rurality operates in a double-edged way within the innovation process, functioning both as a constraint and, in some cases, as an enabler. Participants described rural location as a structural condition that shapes access to networks, knowledge, talent, infrastructure, markets, and institutional support. For many firms, rural remoteness created barriers to collaboration, recruitment, transport, service delivery, and digital connectivity. At the same time, some participants identified ways in which a rural location could generate opportunities, particularly where place-based uniqueness, lower competition, or local embeddedness supported innovation and market differentiation. The findings also show that businesses do not passively accept these constraints but develop adaptive strategies to mitigate the disadvantages associated with rural location.

7.1 Rural locations as a structural barrier and an enabler

Participants frequently described rural location as a structural barrier to innovation, particularly where remoteness limited proximity to universities, research centres, like-minded firms, and business networks. In this sense, rurality was not presented simply as a matter of distance, but as a condition affecting access to the relationships and institutions that support knowledge exchange and innovation development.

One participant, from the pharmaceutical industry, explained that location becomes especially important depending on where a business is situated within the innovation pathway:

“If you're in the discovery aspect of innovation, and you're not anywhere near universities or centres, and you're not associated with a company that's engaged in research or discovery, then clearly that is going to be a factor.” (P12)

Others contrasted rural settings with urban innovation ecosystems, emphasising the relative loss of informal interaction and collaboration which participants felt limited knowledge exchange and idea generation. Participant 01 for example, from a marketing consultancy, described how in an “urban scenario you would be a lot more business park-based [...] You have a lot of opportunities to work locally.” Participant 7 (specialised manufacturing) described not having “as many people to bounce ideas off” as “there isn't the culture to go out and integrate with other tech businesses” in their rural area. Participant 9, in a defence business, felt their rural location did not disadvantage them substantially in terms of collaboration, except when it came to access to universities, stating “the only time that being [...] geographically located in a rural environment has been an issue with collaboration would be, I guess, access to universities.” (P09)

Participants also linked rurality to practical transport and mobility constraints, which intensified difficulties around recruitment, logistics, and market reach. Discussing their experiences in the pharmaceutical industry, participant 12 pointed to a lack of public transport affecting recruitment, stating, “there's no bus route that comes past our site, either site. So, recruitment is a challenge.” This was reinforced by another participant with an agricultural business, who explained that even proximity within a ten-mile radius did not resolve the visibility and accessibility issues created by rural location: “even people within a 10 mile radius [...] don't know where we are because we're in a rural location on the outskirts of a rural village” (P03).

The cost implications of distance for deliveries (both incoming and outgoing) were also emphasised. One participant discussed “the skyrocketing diesel prices at the moment” which they felt “has a disproportionate impact on us because we are putting more miles, we're using a lot more fuel as a business.” (P11).

Participant 8, who is involved in selling fresh produce direct-to-consumer, framed the challenge of geographical remoteness in terms of market access, or “miles to market”. Another participant with a creative enterprise including an arts and crafts venue added that rural location also

affected attendance patterns and customer willingness to travel, especially under poor weather and seasonal conditions, or where there is limited public transport:

“People mostly have to drive to us and then it's sort of working out the timings, what day of the week works for more people. [...] Some people don't want to come out in the dark, and we've had such bad weather, people are a bit hesitant to book anything.” (P04)

Digital and basic infrastructure deficits also emerged as central barriers in remote rural settings. Broadband limitations, weak mobile connectivity, off-grid conditions, and inadequate utilities constrained both service delivery and the adoption of digital forms of innovation:

“There are swathes of the area in which my business is located that really struggle with that connectivity. So, they haven't always been able to use websites as their primary drivers like maybe more urban businesses have done because they haven't got the connectivity physically in their homes or businesses. I think obviously that's improved. It still needs to be improved further. Because again, that role of a website now isn't that static thing. It's a rolling thing.” (P01, digital marketing)

“[W]e are off grid. So even though across the road the houses there have got mains electricity, we haven't and the electricity board over the years we've asked and quotes have gone from 12 grand to run a cable to. Up to about 30 grand, you think, hold on, we're wanting to buy your service, not buy your infrastructure.” (P02, aviation and leisure)

Participant 1 (from a marketing consultancy) described digital under-provision as a foundational inequality, which shapes what firms could offer and what customers could use:

“A lot of people could do a lot more online if they had the infrastructure in place to allow them to do that. But if they are a sheep farmer up high on the moors and they have no wi-fi, no internet, we're no further on in terms of what I can offer and what they can do. Often we're left to [...] sit for weeks, potentially some people up there without wi-fi.” (P01)

At the same time, participants also identified ways in which being in a rural location can act as an enabler. In some sectors, their rural location reduced direct competition, supported uniqueness, and created a distinctive local offer. Discussing their creative enterprise and venue, Participant 4 explained that this resulted in “giving local people something to come to that they can't get anywhere else. There's nothing really like our venue within 25 miles.” (P04)

Being located rurally is identified as a requirement in particular industries. For some participants, they relied on rural their geography, with their innovation context-dependent due to the type of industry:

“We are traditional farmers and we own land. We also contract farm another farm, and we do we have a share farming agreement with another farm.” (P08, agricultural business)

Another participant, involved in the defence sector, shared how a rural location offers the required remoteness and space they need for safe testing, and to protect their intellectual property:

“The stuff that we do we need to be in a bit of a rural setting. [...] We have outdoor activities, and testing. A lot of the time we need big open spaces to be able to do that and in. In places where you're not being interrupted and people can't see what you're up to [...]. that's a positive and that's why we are where we are.” (P09, defence)

7.2 Adaptive strategies

Despite the constraints associated with a rural location, participants described a range of adaptive strategies used to overcome or reduce these disadvantages. A prominent theme in these accounts was the use of digital technologies to bridge distance, widen networks, enhance collaboration, and access broader labour and customer markets.

One interviewee in the creative industry described how strengthening the online side of the business helped extend reach and improve visibility:

“Even though we're rural, we do orders online and we promote, you know, people know they can go onto the website and get updated information.” (P04)

Another participant, in event and exhibition management, explained that remote working had fundamentally changed the way the business approached recruitment and retention, allowing it to draw on talent far beyond the immediate local area:

“That's been a big innovation for us, that kind of home working, but it's enabled us to widen our pool of talent, enabling people to work remotely and having all of that IT infrastructure to make that actually work has become a really key part of our business model and enabled us to not only recruit but then retain the right people so that we're in that position where we can continue to push on all of the time. But if we'd relied on the local talent market that would have been really difficult.” (P05)

Cloud-based working and geographically distributed teams were also described as mechanisms through which rural firms could remain connected to wider expertise networks. For Participant 6 in professional business services, “that's been the other beauty” of technology developing, with their “network of colleagues [being] countrywide” as a result, rather than confined to their rural location or a substantial journey away. Similarly, one participant explained how digital service delivery enabled them to extend activity beyond their immediate locality:

“I suppose the rural aspect is again pivoting and bringing all into a digital online space because, it's a lot easier for me [...] to push out not just from the [rural town] that I was in, but now the wider [county].” (P01)

8. Collaboration and stakeholder engagement

Collaboration and stakeholder engagement play a central role in supporting innovation in rural firms. Innovation was rarely described as an isolated internal activity. Instead, participants emphasised the importance of engaging with a broad range of stakeholders to develop products, refine services, solve technical problems, access knowledge, secure market feedback, and expand commercial opportunities. These collaborations included relationships with customers, suppliers, manufacturers, subcontractors, universities, government bodies, training providers, industry networks, and professional communities. Accordingly, the findings suggest that innovation is both collaborative and relationally embedded, with firms drawing on different relationship scales to sustain innovation activity.

8.1 Collaborative innovation

Participants consistently described innovation as a collaborative process involving multiple actors across product development, service delivery, supply chains, and commercialisation. External partners are often engaged because firms do not possess all the technical knowledge, production capability, or market insight required internally. Collaboration is therefore used not only to share resources, but also to fill capability gaps and accelerate innovation. Participant 12 for example, working in pharmaceuticals, highlighted the extent to which collaboration runs across the whole innovation process, including with supply chains and technical partners “in terms of instrumentation” (P12).

Collaboration with customers is particularly important for shaping usability, product-market fit, and design refinement. Participant 7 (specialised engineering) explained their product development process, which they described as ongoing collaboration “with our customers in terms of how to use [their product] and how the software works and the usability and the user interface” (P07). Another participant, this time with an agricultural business, described a similar process of active customer involvement as a form of market testing and product validation:

“Customers definitely, we would consult and work together with them especially on a new product because we try and gain as much feedback as we can from them to see if there's a market, see if the product works etc, and take on feedback. So, there's a bit of, active market research[...] If we had a new product innovation idea, then we would run that by some of our trade customers.” (P03)

Sales agents were similarly described as an important source of practical feedback after products entered the market.

8.2 Relational embeddedness

Beyond collaboration as an activity, the findings show that innovation is shaped by relational embeddedness; referring to the extent to which firms are connected to trusted, repeated, and strategically important relationships. Participants repeatedly referred to the value of strong ties,

trusted contacts, communication channels, and communities of practice in helping them access knowledge, resources, ideas, and markets.

A clear structure emerged in the data around relationships at three interconnected levels: (1) immediate operational and firm-level relationships, (2) regional and local embedded relationships, and (3) national and international relationships. The importance of each level varied according to the firm's size, sector, innovation stage, and commercial orientation.

Immediate operational and firm-level relationships

At the first level, participants relied heavily on relationships closest to the business: internal teams, customers, suppliers, subcontractors, sales agents, peer firms, and delivery partners. These relationships were often the most immediate and practically important in shaping innovation decisions and implementation.

Participants discussed the importance of collaboration and community within day-to-day business practice. One participant in the beverage sector described collaboration with customers, competitors and suppliers:

"It's about variety [in hospitality]. Next week, they'll have somebody else's [product], then somebody else's, then somebody else's, and then they'll come back round to you. So, it isn't a case of getting in there permanently. [...] So yeah, massive amount of collaboration with, I guess, other [...] companies, what could be termed as competitors. Always with suppliers as well [...] we're working with a drink product, a big part of the dialogue there is provenance and where those ingredients come from. So that leans back to our suppliers, perhaps the environmental impacts of those products as well." (P11)

Another participant, in the engineering sector, emphasised that internal relationships, trust, and communication were essential in moving a technical idea towards a commercially viable product:

"It's very much around having the communication within the team, understanding where you're heading from a commercial perspective, not just from an innovation and R&D perspective. And I always say, it's a business, it's not a hobby, because there is always the tendency to fiddle and to do something more and do something different." (P07)

Trust was also discussed as central when engaging with financial and professional contacts, as the following participant reflected:

"It's finding people you trust who will help you, relationships, communication, community [...] [so that] you don't have to hand over £5,000 and sign up to something and then be disappointed at the end of it. [...] I would like to say that we've been lucky to know people of and some of them part of our team that have been in that world and have been guiding us." (P06)

Participants also noted that relational changes could generate innovation opportunities. Participant 12, in the pharmaceutical industry, described changes in company ownership as

something that “will usually open up opportunities because you may be interacting or interfacing with a different set of clients, whether they be internal or external.” This in turn promotes innovation “in its own right” as well as sharing best practices internally and externally to the business.

Another participant with a creative enterprise reinforced the importance of sector peers, creative communities, subcontractors, and changing customer relationships for their innovations:

“We sent out 128 artists contracts last year. So, there's 128 separate innovations and separate partnerships and that kind of big community and that's just artists. And then on top of that, there's production managers and event managers and crew [...] and that kind of huge community that we've had to build round us to make sure that we can deliver everything and then looking after those people.” (P05)

Regional and local relationships

At the second level, participants described a strong reliance on regional and local sources of knowledge, people, and market access. For many firms, regional relationships were the most visible and accessible source of support, especially in day-to-day operations. These included local customers, tourism networks, local tutors, nearby graduates, regional agencies, and area-based sector communities.

One participant with a creative business explained how local tourism linkages had become important to business visibility. This participant described working “with local tourism fairs [...] [to] have our leaflets distributed” (P04). The same participant also highlighted collaboration with local tutors as mutually beneficial and rooted in shared rural circumstances:

“We also bring in tutors from the local area to teach, and they were very keen because they're in the same position as us. They want to get themselves out there. A lot of us live in very small villages and you don't have a local group that you can bring in.” (P04)

Regional reliance was also visible in recruitment and skills pipelines, with participant 12 from the pharmaceuticals sector noting that potential new recruits may be regionally based, or moved within commuting distance of their business for university, but that “if it's an apprentice, they tend to be local” (P12).

National and international relationships

Participants also described reliance on national and international relationships, although this was uneven across firms. International engagement was sometimes limited by Brexit, scale, or capability constraints. Firms with broader commercial reach, export orientation, or more knowledge-intensive innovation activity tended to rely strongly on national and international networks. National relationships were evident where firms needed specialised manufacturers or expertise unavailable locally.

Participant 8, from an agriculture business, described national collaboration and supply: “the manufacturer of [our] equipment, I would say, is national. He wasn't local, I think he was in east Lincolnshire.” The same participant described the weakening of international linkages after Brexit: “the international stuff is just gone because of Brexit” (P08). However, other participants, particularly those working in investment, export, or advanced technology contexts, emphasised strong national and international relationship networks. Participant 6, in professional business services, explained:

“[We have] connections in India and America, and we may be funded by one or two. [...], But the majority of our work has been London-based.” (P06)

Exporting firms also highlighted the strategic importance of national departments and international contacts for breaking into international markets and developing relationships globally. One participant for example, from the defence sector, explained the role of relationships with national government departments on a selective basis:

“[We built] relationships within Department of Trade and Industry with respect to help with export financing, help with contacts internationally, getting us into embassies around the world. [...] Largely our products and inventions are self-funded, developed internally, because we sell product at the end of the day [...] we've done a few development projects with department of science and technology, UK government funding and another major government agency.” (P09)

Smaller firms also sometimes relied on international sources in a more indirect way, particularly for tracking trends and platform developments. As one participant working in digital marketing noted:

“In terms of innovation in the way the platforms change or new technology that comes along, that is often coming from the international market. I have to keep my eye on that.” (P01)

9. Access to knowledge and financial support

9.1 Capacity building role of funds

Participants frequently describe funding as an important enabler of innovation at the firm level. In some cases, this support is direct, enabling investment in projects, equipment, or new business activities. In other cases, its role was more indirect, supporting broader forms of capacity building such as staff recruitment, skills development, marketing, training provision, and infrastructure enhancement. These findings suggest that the value of funding often extends beyond a single innovation outcome and contributes to a firm's longer-term ability to innovate.

Several participants reflected on the broader influence of funding on firms' willingness to grow and experiment. Participant 8 in the agriculture sector described taking on new recruits for marketing and driving roles, as a result of accessing funding. They later emphasised that the grant functioned as a significant innovation enabler:

“Getting the grant, the 40% grant really helped us. We probably still would have gone ahead with it because we needed to do something to keep ahead, but that grant was a was a real enabler.” (P08)

Another participant, this time from an engineering consultancy, described how subsidised wage support influenced the business more broadly by changing its approach to workforce development and organisational thinking:

“It gave us new ways of thinking about the business. It made us realise that being a specialist business, we can't go to the market and recruit the people we need with exactly the skill set we need and who are in our local area [...] So, we have a bit of a 'grow your own' kind of approach to it. We take on graduates or trainees who come with the right values and attitude and then we give them the training that gives them the technical knowledge and the industry knowledge [...] They helped us think a bit differently about the business.” (P10)

For some firms, the lack of available funds fundamentally shapes how innovation is carried out, often requiring parallel employment or piecemeal progress. Participant 6, working in professional services consultancy, described “doing [innovation] on a shoestring whilst doing our daytime jobs.” This participant described the personal implications for themselves and colleagues “while [an innovation] project is working in the background”, explaining that “a couple of my colleagues have gone out and got different jobs just to support themselves.”

Participants also described funding as enhancing the quality-of-service delivery and business capability more generally. For example, grants and subsidies enable firms to invest in facilities, strengthen training environments, improve digital tools, and support more effective engagement with customers. These accounts indicate that financial support can operate as a capacity-building mechanism, strengthening the organisational foundations that make innovation more feasible over time.

9.2 Collaboration facilitated by funding

Participants describe collaborating with universities, councils, professional bodies, and sector organisations to access new knowledge, co-develop programmes, and generate new forms of value, adding capacity to the firm. One participant in the defense sector explained:

“We currently run two PhDs with [nearby universities] [...] but we haven't got a huge number of organisations like that around us that are willing to do anything with us or just that exist.” (P09)

A further example, from a marketing consultancy, relates to how collaboration facilitates design funded training offers with intermediary organisations:

“I get asked to do training with either the council or with private training companies. So collaboratively, we've put together programmes that we think that our audience will enjoy or will tick certain criteria that the funding requires.” (P01)

9.3 Crisis-driven innovation (COVID-19)

A further dimension of the findings concerns the role of emergency financial support during COVID-19. Participants described crisis-related schemes, including bounce back loans and grants, as important catalysts for rapid adaptation. In many cases, these funds helped businesses stabilise their operations under conditions of uncertainty and enabled them to pivot quickly towards new delivery models, products, or customer channels.

One participant with a food and drinks business explained how a bounce back loan supported a rapid change in business model during the pandemic:

“The bounce back loan during COVID, like of a lot of (beverage companies), we had to pivot very, very quickly. Perhaps 80% of what we were doing there was working with pubs and the pub shut down overnight, but we were a food and drink supplier, so we were allowed to continue to work through COVID but had no market. So, using the COVID bounce back loan, we pivoted very quickly into small pack, which is not particularly innovative within the sector, but doing bottles, doing cans, and then direct delivering to people and delivering free to people. So that really helps us build a community [...] which is still with us now.” (P11)

This account suggests that crisis-related funding did not merely preserve business continuity but also enabled new-to-business innovation and lasting changes in customer relationships. The importance of these schemes lay not only in emergency liquidity, but also in the freedom they created for businesses to act quickly under pressure. Covid-related support was also described as improving delivery quality and customer experience through investments in equipment and service capability. One participant working in digital marketing noted:

“Some of the grants that I got for this equipment were to help me to become a better trainer. So, the innovation [was] I could improve my training offering because if you're coming into training with me and all I've got to share is a tiny 13-inch laptop, it wasn't the most exciting of experiences for people. So, I've got a nice big Mac, [...] I've got a dedicated space in my office where we can train, we can share devices. [...] Things like that hopefully will help and inspire the people that I'm actually training with to say, well, you can also be part of this.” (P01)

9.4 De-risking innovation

Financial support plays a crucial role in helping to de-risk innovation. Participants repeatedly explained that grants, subsidies, and public funding reduced the financial exposure associated with experimentation, recruitment, scaling, and market entry. By lowering the immediate costs and uncertainties of innovation, funding enabled firms to proceed with projects that might otherwise have been delayed, reduced in scope, or abandoned altogether.

The role of funding in enabling greater creative freedom in their pharmaceutical company was addressed by participant 12:

“It allows you additional degrees of freedom because the financial contributions to that take away from some of the risks. I guess it allows you to be a little bit more creative in the approach to progressing the innovation.” (P12)

Similarly, participant 9, working in the defence sector, linked funding directly to the ability to progress innovation at the invention stage, stating that “access to funding to ‘see you through’ allows you to take that risk of developing” (P09). The same participant further explained the ways in which relatively small amounts of regional funding could have a major effect on business decisions and that without it, they “were struggling to justify that move” (P09).

Another participant described grant support as instrumental in enabling market entry and growth through an innovation already identified by their agricultural firm:

“We already had the idea. So, we knew exactly what we wanted and it was just persuading the grant awarding team that this would enable us to break into new markets, which it definitely has.” (P08)

9.5 Challenges accessing funding

Despite these positive accounts, the findings also point to important weaknesses in formal systems of knowledge and financial support. Several participants reported limited access to useful advisory services, market intelligence, consultancy, and tailored institutional guidance. In some cases, available support was seen as poorly aligned with the realities of innovative firms, while in others support was perceived as unevenly distributed across places and sectors. Participants also indicated that some training offers, networking groups, and formal business support mechanisms had limited practical value, particularly where they did not address the specific realities of the firm’s sector, innovation stage, or market context.

Participants identified market adoption and viability as a major challenge in terms of access to funding to support the innovation process, particularly when firms were developing products or services that were highly novel or unfamiliar to customers and investors. Businesses described the dual challenge of securing support for innovation while also demonstrating that a viable market existed for the offering. Participant 9, from the defence sector, for example, described how being new or ahead of the market made it harder to gain funding and broader support:

“Cash flow for a startup is king. [...] The reason we found it particularly hard in the early days was we were developing new technology that, if it doesn't already exist, if it's not an iteration on an existing technology or an existing piece of equipment, people can often struggle to come on the journey with you and believe that that's the next big thing or that's the thing that needs to be solved.” (P09)

Participants provided extensive evidence demonstrating that difficulties with funding were not limited to the availability of support alone but were also embedded in the design and accessibility of funding schemes themselves. These problems were described across the process, from awareness and information distribution to application procedures, eligibility rules,

and the practical fit of funding conditions with business needs. Five interrelated issues were especially prominent including: limited access to funding information, declining availability of funding, exclusionary eligibility criteria, bureaucratic and resource-intensive application processes, and a mismatch between scheme design and firm requirements.

Limited awareness and access to information

Several participants described the funding landscape as opaque, poorly communicated, and difficult to navigate. Awareness of opportunities was often seen as dependent on being connected to the right channels rather than on transparent and accessible information systems.

For example, one participant from the agriculture sector described the funding system as “like this little secret world of funding that we're just completely unaware of” (P08). This reflects a broader perception that funding information is not distributed evenly and that access may depend on informal networks or prior familiarity with the support environment.

Declining availability of funds

Participants also perceived that funding opportunities had become harder to access over time, particularly in recent years. Brexit, post-covid conditions, and wider economic changes were frequently cited as reasons for the reduction in available support, although participants did not always identify these factors with precision.

One participant in pharmaceuticals stated that “access to any financial support these days is really very difficult” (P12). Similarly noting a change in funding accessibility over time, participant 11 from a food and drink business described:

“5 to 10 years ago [...] it was pretty, relatively easy to find out what [funding] was available and there was stuff available and to access them. I think the last five years, it's very difficult now, just because I just don't think there's much. We've come out of the EU, there's a lot less money going around, obviously, since COVID. I [...] It's very hard to find capital for growth. (P11)

These accounts suggest that firms struggle with access procedures, and a shrinking or less visible pool of funding opportunities. At the same time, some participants noted that regional institutional restructuring had made combined authority funding and partnerships harder to access. One participant from a marketing consultancy explained:

“Our regional landscape has changed somewhat because we've lost district council level and now, we've got combined authority level. So, now they've gone, you can't get necessarily the combined authority people to have the same conversation. So, I feel like we're a bit further down the chain in terms of those decisions being made, we are on the end of that chain of when there's money available. They will pick who they want to work with and I can kind of keep jumping up and down saying ‘remember me’.” (P01)

Exclusionary eligibility criteria

A major concern raised by participants was that many funding schemes exclude firms whose characteristics do not align with predefined categories such as SME status, rural focus, sector type, or geographical priority. This meant that firms could be excluded even where they were actively innovating and had clear development needs.

For example, participant 7 in the engineering sector explained their view that “a lot of the innovation funds [...] are specifically aimed at SMEs [...] [which] kind of ruled us out of a lot of grant support” (P07). Another participant working in agriculture highlighted the perceived absence of rural focus within available schemes and the difficulty of fitting the criteria:

“It’s impossible to find and to be able to fit the criteria, and it definitely does not have a rural focus. [...]. Whatever Keir Starmer’s new thing is about supporting rural communities and struggling communities, [...] And if it was even there, we wouldn’t know how to access it.” (P03)

Another participant suggested that overt commercial orientation could itself become a basis for exclusion:

“I think predominantly it’s because our customers are really overtly commercial. It’s all about that profit and loss spreadsheet [...] and profit precludes you from a lot of grant opportunities, so, that’s probably why directly we haven’t benefited as much from them as some other [rural] companies.” (P05)

For participant 8, from an agricultural business, there is a lack of inclusive financial support for their innovation activities:

“Some funding isn’t relevant to agriculture, because agriculture is dealt with separately [...] [Our innovation] wasn’t viewed as agriculture, this was more marketing, agribusiness marketing. So sometimes you’ll approach a grant funder and they’ll go, well, that’s just a bit too agricultural and you’ll have to just look for the specific DEFRA [...] funding, it’s painful.” (P08)

Bureaucratic and resource-intensive processes

Participants also described formal support systems as administratively demanding, time-consuming, and difficult to navigate. Although this sub-theme is closely connected to the wider issue of scheme design, it points specifically to the burden of application and compliance processes, which can deter smaller firms with limited staff capacity.

“I don’t think it was something where we really considered any funding or whatever because the effort of applying for it and then having to do all of the documentation and the bureaucracy afterwards, if you’ve got the reserves and can invest in it organically, then that’s often the better way to go.” (P07)

Across participants, this suggests that accessing funding often requires significant time, confidence, and administrative effort, making it especially difficult for smaller, rural firms already under operational pressure. In practice, this means that formal support may be least accessible to those businesses that are most resource constrained.

Mismatches between scheme design and business needs

Even where support was available, participants often reported that funding schemes were too restrictive in timing, co-investment requirements, spending categories, or project fit. In such cases, the existence of support did not translate into practical usefulness.

One participant in professional business services explained that some schemes were too narrow and required levels of match funding the business could not provide:

“We did a few times look at Innovate UK, sometimes the projects or the funding [calls] that went out were just too specific and not in our remit. And sometimes, they wanted us to put in 50% or 30% and we just didn't have the means to do it. (P06)

Participant 12, in the pharmaceuticals sector, emphasised that funding categories could make support unusable in practice. For example, “if the funding is to be used solely for training, we can't raise the money for the capital outlay. Then there's no point, it's not going to work” (P12). Similarly, another participant in the creative industry described the limited value of partial grants tied to narrowly defined uses:

“I think some of it was very specific about what you could use it for [...] maybe extra staff. And obviously they weren't 100% grants, they were quite small grants and so it would have still required us to put a lot of money in for things that we didn't feel that we were going to benefit from massively.” (P04)

10. Conclusions and policy implications

This section draws conclusions relating to each of the seven themes analysed in the findings, deriving implications for innovation policy. It begins to highlight differences in perspectives between those of rural businesses, as presented in this report, and key actors in the innovation ecosystem, as documented in Phillipson et al. (2026).

10.1 Notions and understandings of innovation

For this sample of rural businesses, innovation is understood as a firm-wide, purposive, and value-creating process, encompassing integrated changes to products, processes, business models, and routes to market. Participants judged innovation primarily by its contribution to commercial viability, competitive differentiation, and enterprise survival. Innovation is considered incomplete until it is translated into marketable offerings which enhance added value. This pragmatic, outcome-oriented framing contrasts sharply with many advisor and academic conceptualisations, which often focus on a narrow range of lead metrics such as IP

protection, technological novelty, clustering, and new-to-the-world outputs (Lampe et al., 2025). Within the latter framings, value is frequently articulated in terms of system-level returns on public investment, rather than firm-level commercial resilience (Phillipson et al., 2026). Consequently, much of the innovation activity reported by interviewees, particularly incremental, adaptive and process-based change, remains marginal to innovation policy discourse (Phillipson et al., 2026), even though it is central to how rural businesses create value in dispersed and resource-constrained contexts.

10.2 Triggers, Enablers, and Drivers of Innovation

The rural businesses interviewed for this research typically describe innovation as being triggered by market pressures, customer requirements, regulatory change, and the practical challenges of operating at a limited scale and from rural locations characterized by thin local labour markets and weak infrastructure. Innovation is frequently necessity-driven with enablers and drivers perceived by rural business managers in relational and organisational terms. This contrasts with some advisor and academic accounts which emphasise exogenous, system-level drivers of innovation, such as knowledge spillovers, agglomeration economies, university–industry linkages, and formal policy interventions designed to stimulate R&D and frontier technologies (Carayannis et al., 2018). Within the latter framings, enablers are often conceptualised as institutional assets, such as clusters, research infrastructures, funding designed to enhance priority sectors (Phillipson et al., 2026). Yet, for rural businesses such assets only become meaningful when valorised through firm-specific capabilities, trusted relationships, and manageable risk profiles. Moreover, while policy discourse often treats innovation drivers as cumulative and self-reinforcing, rural enterprises typically experience innovation as episodic and capacity-constrained, shaped by fluctuating resources, time pressures, and the need to prioritise operational matters. This misalignment helps explain why rural innovation support frequently struggles to gain traction: system-level drivers prioritised by policy are weakly aligned with the micro-level triggers which initiate innovation in rural settings. For future policy, reconciling these perspectives requires recognising that rural innovation is not primarily pulled by frontier knowledge or clustering dynamics, but pushed by situated problem-solving.

10.3 Persistence and Patterns of Innovation

Patterns of innovation are differentiated across firms. Some rural businesses describe innovation as a continuous process, whereas for others innovation is experienced as episodic and uneven, with periods of greater intensity and pace of activity followed by consolidation and a focus on operations. These patterns reflect capacity constraints typical of SMEs, including limited managerial bandwidth, financial exposure, staffing pressures, and the need to balance innovative projects with day-to-day operational demands (Storey, 1994). Persistence, from the firm's perspective, does not imply uninterrupted innovation effort. Rather pauses in innovation constitute part of a cycle through which firms exploit previous innovations before another period

of experimentation. These understandings contrast with some policy conceptualisations that focus only on persistent innovation in the form of sustained R&D investment and continuous participation in 'high tech' clusters and networks (UNCTAD, 2025). Such framings risk misclassifying the episodic innovation of many businesses as irrelevant rather than an appropriate adaptive response.

10.4 Challenges across the innovation process

Rural businesses identify challenges through the innovation process as cumulative and context-specific, arising at multiple stages from ideation through development, commercialisation, and scaling. Financial constraints are prominent, but these are rarely confined to R&D expenditure; instead, firms emphasise the costs of materials, equipment, logistics, skills acquisition, marketing, and the opportunity costs of managerial time. Critically, challenges intensify at the commercialisation stage, when firms face difficulties: in securing finance for innovations that are new to the market, educating customers about value propositions, and justifying price premia. From the businesses' perspective, barriers are tightly interlinked and exacerbated by rural conditions including distance to markets, thin pools of local labour, infrastructure deficits, and limited slack resources. These difficulties are well documented in the literature (Hindle et al., 2010; NICRE, 2024). Rural firms report that bureaucratic processes, co-funding requirements, and misaligned timelines can be decisive in deterring engagement with policy support intended to address these barriers.

10.5 Rurality: a constraint and an enabler of innovation

Rural locations act simultaneously as a structural barrier and an enabler of innovation. From the perspective of the rural businesses interviewed, location introduces persistent constraints linked to distance from major markets, weak transport and digital infrastructure, limited access to specialist labour, and fewer opportunities for informal knowledge exchange or serendipitous interaction. These location-specific challenges shape not only the costs of innovation but also its form, scale, and timing, and often reinforce reliance on incremental, process-based, or customer-driven innovation. However, a rural location can also function as a distinctive enabler of innovation, particularly where limited local competition, strong place attachment, favourable access to natural resources, and closer relationships with customers or suppliers provide scope for experimentation, differentiation, and niche market strategies. For some firms, remoteness acts as a spur to innovation by necessitating alternative business models, digital solutions, or vertical integration, while the rural setting can itself constitute a core component of the business model (for example space and remoteness for defence industries). These place-based advantages typically remain largely invisible within mainstream innovation discourse (Partridge et al., 2026), which tends to privilege spatial concentration and assumes that proximity is the primary driver of knowledge creation and diffusion (Florida, 2014). Consequently, rural innovation is often interpreted as occurring despite location rather than through it (Partridge et al., 2026). This misalignment reinforces the misperception that rural

places are innovation 'laggards' rather than as active sites of innovation generation. Reconceptualising rural location as both constraining and enabling highlights the need for innovation frameworks that recognise place-contingent pathways, rather than treating rurality as purely a disadvantage, to be compensated for through policy intervention.

10.6 Collaboration and Stakeholder Engagement and its Role in Innovation

Many of the rural firms interviewed portray collaboration as a pragmatic and often informal activity, embedded in long-standing relationships with customers, suppliers, subcontractors, and trusted intermediaries, rather than as formalised participation in innovation networks or institutional partnerships. Engagement is typically driven by immediate problem-solving needs, such as refining product design, overcoming capability gaps, or accessing market knowledge. The value of a collaboration depends on its practical contribution to commercial outcomes. This contrasts with some innovation ecosystem writings that privilege structured university–industry linkages, clusters, and multi-actor partnerships (Alvedalen & Boschma, 2017; Muldoon et al., 2024; Spiegel, 2022). While formal network arrangements feature prominently in policy discourse, rural firms often find them distant, opaque, or poorly aligned with their temporal and resource constraints. Instead, innovation emerges through informal and sometimes cross-sectoral collaborations. Moreover, stakeholder engagement for rural firms is frequently multi-scalar, combining strong regional embeddedness with selective national or international ties activated at specific stages of the innovation process. This contrasts with some policy narratives that assume stable and continuous network participation is a precondition for innovation. The disparity helps explain why rural collaboration is often under-recognised within innovation policy: relationally embedded and episodic forms of engagement may remain unnoticed in formal metrics but are nonetheless central to rural innovation.

10.7 Access to knowledge, financial support and policy measures

Rural firms emphasise that public funding and policy measures to overcome informational and financial constraints are most valuable when they reduce risk at critical junctures, enable hiring or capability building, and allow flexibility in how resources are deployed across innovation and commercialisation stages. Bureaucratic complexity, rigid eligibility criteria, co-funding requirements, and short delivery timelines limit engagement with government support for innovation. Consequently, policy support is frequently perceived as overly complex or mistimed, leading firms to either disengage and rely on informal networks and self-financing strategies. These dynamics contribute to a pattern whereby rural innovation occurs largely outside of government support. A key lesson for policy makers is that support mechanisms to stimulate innovation are likely to have limited take up by rural businesses, even those within IS-8 priority sectors, unless greater attention is given to access conditions, flexibility, and alignment with firms' innovation trajectories.

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Appendix 1 (Interview guide)

1. Opening

- A. Thank you for agreeing to participate in this interview, it should take no more *than 45 minutes to 1 hour*. Before we begin, I need to go through some important information about the study and check that you're happy to take part.

2. Verbal information & consent

- This project is focused on understanding rural businesses' engagement in innovation and how this unfolds over time. It will draw out lessons for innovation support and policy.
- You are invited to take part in this project as a rural business incorporating innovation within your firm. I'll ask some questions to learn about your business, also around your experience and thoughts on innovation.
- Taking part is completely voluntary. You can skip any question or stop the interview at any time.
- The transcript will be stored securely and will be made available only to members of NICRE team responsible for this particular project only. Your responses will be kept confidential. Your name and organization will not be identified in any reports.

Can I confirm

- Have you read the information sheet, and do you agree to take part in this research?
- Do you agree to this interview being audio recorded?

3. Set of Question

Topic 1: Firm Characteristics & context	
1	Can you begin by giving a little background to your business – main activity, markets, number of staff?
2	In the context of your business, what do you understand by the term innovation? Follow-up question 2.a. and how important is innovation to your business?
Topic 2: Strategic attitude toward innovation (Focusing on a Specific examples of Product Innovation. This Core Section of the interview includes What Products, Ideation, triggers, enablers)	
3	In this project we are interested in product innovation—the introduction of new goods or services to the market. These could be products that are new to the world or just new to your business. So, could you please describe any specific examples of product innovation your business has developed or introduced over the last few years? (prob: or in recent years) Follow up Question 3.a. Who in the business came up with the new product idea(s)?
4	What triggered the product innovation, (As prompts: Was it driven mainly by market demand, competition, crisis, overcoming logistical or locational challenges, opportunity, regulation, or internal strategy)?
5	What internal capabilities were most important (skills, leadership, learning, investment)?
6	While making/developing the product(s), did you need at any point to change your processes/procedures, business model, staff, location of production etc.?

	Follow up question 6.a. Were these changes temporary or permanent?
7	What do you think enables innovation to happen in your business? (Explanation if needed e.g., Is there something about the team, the culture, decision-making etc.?)
Topic 3: Barriers (have overcome or may not)	
8	What was/were the biggest challenge(s) during development or implementation of the product/products? (skilled human resources, accessing technology, access to market, connections), and how did you overcome this/these challenge(s)? Follow-up questions 8.a. Is being based in a rural location affected the innovation process, for good or bad? 8.b. Did overcoming barriers require you to innovate in other ways/ try new ways of doing things (e.g., new processes, partnerships, digital tools)?
Topic 4: Network	
9	Did you collaborate with others during these/this product innovation(s) (customers, suppliers, universities, consultants) and why? How did being based in a rural location affect who you collaborated with? Follow-up questions 9.a. (if they named more than one, ask this, then the prompt goes as (Do you rely more on regional, national, or international knowledge/information sources? Why? 9.b. Which of these relationships were most critical?
Topic 5: Innovation Support	
10	Did you use any innovation support or finance for developing the new goods or services? Follow-up questions 10.a. What type of support schemes or funding (e.g., infrastructure, training, networks)? 10.b. How did this support influence the innovation(s)? 10.c. Were the supports easy or difficult to access or not relevant to rural firms?
11	What, if anything, would support you to innovate again/continue innovating in future?
Topic 6: Persistence and innovation transition states	
12	Looking back over the years, would you say your engagement in innovation has been constant and ongoing, stop/start (in bursts) or more a one-off occurrence? Follow-up questions Have there been times when innovative/new activity stopped or slowed down? Why?
13	Are there factors which lead to this pattern? Or which lead to less-consistent engagement in innovation? For example, is there anything about being based in a rural area which affects this?
14	Have specific product innovations led to subsequent innovations in any way?

4. Closing

Thank you again for participating in this interview; this will provide us so much insight which is a huge help.

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