IAgrE Student Awards

NOMINATION SUMMARY

IAgrE CNH Industrial Award

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Name of course studied:

MSc Business for Agri-Food and Rural Enterprise

Period studied	**From: 2023**	**To: 2026**

Qualification to be gained:

Master of Science in Business for Agri-Food and Rural Enterprise with Distinction

Project Title:

How does Social Media Influence the Spread of Information and Decision Making amongst Dairy Farmers

Details of material submitted with nomination: (Project/Exec Summary/videos etc)

During the nominee's MSc in Business for Agri-Food and Rural Enterprise, they consistently demonstrated outstanding academic ability, commitment, and intellectual curiosity. They achieved a high standard across all modules, culminating in a pioneering MSc dissertation that set them apart from their peers. Their work reflected not only strong academic performance but also a willingness to explore complex and emerging challenges within the agri-food sector.

One of the most impressive aspects of the nominee's journey has been their dissertation, which examined the use of Artificial Intelligence within the dairy sector, with a particular focus on how AI can contribute to the spread of misinformation through social media. This research tackled a highly topical and often overlooked issue, demonstrating both originality and critical thinking. The nominee showed an exceptional ability to analyse the interplay between technology, public perception, and agriculture, producing work of clear relevance to the sector.

The impact of this research is significant. By highlighting how misinformation particularly when amplified by AI can influence consumer attitudes and trust in dairy production, the nominee has contributed valuable insight into a growing challenge for the industry. Their work encourages greater awareness among producers, stakeholders, and policymakers, and underlines the need for more informed and proactive communication strategies within the agri-food sector.

The nominee's approach to learning and collaboration is particularly commendable. They consistently displayed professionalism, strong attention to detail, and an openness to engaging with others. They made valuable contributions to discussions, approached new ideas with curiosity, and responded constructively to feedback. Their

clear communication of complex concepts significantly strengthened the overall quality and impact of their work. I see in this nominee not only a highly capable graduate but a future leader within the agri-food industry. Their forward-thinking mindset, particularly in recognising the implications of emerging technologies such as AI, positions them strongly to address future sector challenges. Their enthusiasm, innovation, and commitment to continuous improvement make them an outstanding candidate for this award.

I wholeheartedly support their nomination and am confident they will continue to make a meaningful and lasting contribution to the agri-food and rural enterprise sector.

SIGNED BY PROPOSER:	**DATE SUBMITTED:**
D Wilson	**28/10/26**

If you wish to provide any additional information to support this nomination, please do so in a covering letter. When complete, return this form, together with the supporting documents, to

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How does social media influence the spread of information and decision making amongst dairy farmers?

This thesis is submitted in partial fulfilment of the requirements

for the Award of

MSc Business for Agri-food and Rural Enterprise

By

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MSc Business for agri-food

Declaration of Original own work

DECLARATION

I confirm the following:

(i) The dissertation is **NOT one for which a degree has been or will be conferred by this or any other university or institution; The work has NOT been part of a BSc submission**. The content, methods and analysis were **approved by the supervisor** at the appropriate stage.

(ii) This work submitted for assessment is my own and expressed in my own words. Any use made within it of works of authors in any form (e.g. ideas, texts, figures, and tables) are properly acknowledged at their point of use. A list of references employed is included.

(iii) The composition of the dissertation is my own work.

(iv) I am aware of the penalties for word count stated in the Module documents

Signed ……  ……..

Abstract

The purpose of this study was to investigate the influence of social media (SM) on the spread of information and influence on decision making among dairy farmers in the UK. There was a particular emphasis on susceptibility to misinformation and Artificial Intelligence (AI) generated content. A mixed methods approach was used, combining quantitative data with qualitative responses within the survey, to examine farmers' knowledge, attitudes, and behaviours towards SM use. Data was collected from 75 respondents involved in dairy farming across the UK, using an online questionnaire on Microsoft Forms.

It was found that SM is widely used but still functions primarily as a supplementary source of information rather than the key driver of decision making. Traditional influences, including peer networks and professionals within the industry, are still the main motivators for change. However, SM still plays an important role in supporting decision making and reinforcing beliefs. The study also identified a disparity between farmers' self-belief in being able to identify credible information and identify AI content and their actual ability to do so. This overconfidence presents a significant risk for the acceptance and therefore spread of fake content and misinformation. Additionally, the study found which SM platforms are used most by dairy farmers and within certain sub demographics.

This research highlights the need for targeted training and information sharing with UK dairy farmers to improve digital literacy. Moreover, it highlights the areas where SM is most and least effective for reaching dairy farmers. Furthermore, it contributes to a limited body of literature on SM use among UK dairy farmers and UK farming in general, and provides practical implications for industry stakeholders aiming to improve information delivery to farmers.

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Chapter 1 – Introduction & project proposal

1.0 Introduction

The purpose of this study is to examine the influence of various social media (SM) platforms on decision making by Northern Irish (NI) and Great British (GB) dairy farmers compared to traditional influences. The study also aimed to identify the risk of misinformation spread through SM.

This research was motivated by discussions with animal nutritionists and stakeholders within the ruminant nutrition sector. A common theme identified in these discussions was around combatting misinformation on farm and increasing effectiveness of SM usage. Research by the marketing firm Hillsgreen (2023) found that 83% of UK farmers use SM regularly. Whilst a survey the following year found that 41% of farmers report being influenced by SM in buying decisions (Hillsgreen, 2024). However, there is a lack of academic research into this area and especially research which focuses specifically on UK dairy farmers.

1.1 Background to social media in UK farming

There are over 319,000 dairy cows in NI, across over three thousand farms, producing 2.5 billion litres of milk a year (Northern Ireland Statistics and Research Agency, 2023; Stevenson, 2024). The NI dairy industry exports about 80% of its dairy products, making it an important part of the global dairy market (Twinberrow, 2024). In Great Britain, the milking herd is 1.63 million dairy cows (Behera, 2026), producing around 13 billion litres a year (Behera, 2025).

The average dairy farmer works more than double the number of hours a week compared to the average member of public in the UK (DAERA-NI, 2022; Office for National Statistics, 2026). These long hours combined with labour shortages, unpredictable milk prices, sustainability measures and an aging workforce, means the stress on dairy farmers is increasing (DAERA-NI, 2018; Carroll, 2022; Ulster Farmers' Union, 2023; Rainey, 2024). Mental health is a key factor in farmers deciding if they should stay in farming, so protecting farmers' mental health is vital to ensure future UK generations continue to farm (Hansen, 2022). SM has been shown to be a key tool in building relationships between farmers and creating a sense of belonging (Holton, et al., 2023). Research has also found that SM could be a tool to grow the accessibility of support to farmers especially young farmers (Rose, et al., 2024).

Milbourne & Kitchen (2014) found SM is used more by young people in rural communities so its effect on them is better researched, in contrast only 7% of dairy farmers in NI are under 40 (DAERA-NI, 2018) meaning there is limited research on dairy farmers. Whilst for the whole agricultural work force of England, only 15% are

younger than 45 (DEFRA, 2025). Therefore, it is vital to understand how SM influences the main decision makers on farm. Nonetheless it's important to acknowledge that the usual dynamic of dairy farms involves several people, with on average there being 7 workers including 3 family members working on a dairy farm, including the owners (Smalley, 2023). Whilst 88% of dairy farmers are married or in a relationship showing the importance of family on farms (DAERA-NI, 2018). Studies have shown the importance of social pressure on farmers' decision making, particularly the influence family members can have (Hayden, et al., 2021; Dilleen, et al., 2023; Wicklow & Shortall, 2024). Therefore, the influence of SM on anyone within the farmer's family can be consequential.

1.2 Problem definition

SM can provide significant benefits to farmers, studies have highlighted how it can be an effective means for farmers to share knowledge, build social networks and learn from others (Karmruzzaman, et al., 2018; Munthali, et al., 2021; Chowdhury & Odame, 2014). However, the issue of misinformation online and in particular on SM has grown in recent years and is a major threat to the public (Denniss & Lindberg, 2025). Chowdhury et al. (2023) highlighted several instances of misinformation involving farmers, observing that farmers are often the targets of this misinformation. Chowdhury et al. (2023) concluded that to combat misinformation farmers must improve their digital literacy. Consequently, it is imperative to understand where farms with issues are, so that vulnerable groups can be supported around this issue.

SM use is widespread among farmers (Hillsgreen, 2024). Despite this, the research around how SM impacts their decision making is minimal. Therefore, it is important to better understand the ways farmers use SM and the content that influences them. Doing so will help governmental organisations and companies better tailor their content, to interest their chosen demographic and can support them to combat misinformation.

1.3 Aim and objectives for the study

1.3.1 Aim

To assess how UK dairy farmers use social media, their susceptibility to misinformation, and how SM influences their decision making.

1.3.2 Objectives

1. To identify the most used social media platforms by NI and GB dairy farmers and which forms of content they are most influenced by when making decisions on farm.
2. To measure NI and GB farmers knowledge of how to identify genuine sources of information on social media.

3. To determine NI and GB farmers attitudes towards social media and traditional media.
4. To establish NI and GB farmers belief and trust in information they see on social media.

1.4 Benefits of study

This study will be pioneering research within the field, being the first academic study to examine UK dairy farmers relationship with SM, AI and misinformation. This will benefit farmers, through the potential to counter the spread of misinformation by raising awareness to them. As well as increasing levels of content that is beneficial to farmers by demonstrating the forms of content, they find most engaging. The study also aims to show the benefits and risks SM poses as a source of information, in relation to decision making on farm.

The study will benefit governmental organisations through identifying the SM platforms farmers use and the content they will most likely engage with, allowing for more efficient targeting of information campaigns. The study also aims to highlight areas where farmers might be vulnerable to misinformation and aid the creation of leaflets and workshops, advising farmers on how to counter misinformation. As well as helping organisations counter misinformation on SM platforms.

Chapter 2 – Literature Review

2.0 Introduction

There is limited academic research on UK dairy farmers and their relationship with SM, although there is research on its influence on the UK population as well as farmers in other countries. Both were used to understand the potential influences of SM on farmers as well as factors which may influence how UK dairy farmers interact with SM. This literature review will highlight these dependent and independent variables, and explain the social science models used in this study.

2.0.1 Definition of social media

Creating a definition which covers all the various aspects of SM is exceedingly difficult which has led to a range of definitions (Treem, et al., 2016). Davis (2015) described SM as interactive internet applications which allow for the sharing of content that is created by the user. However, Treem et al. (2016) found definitions shared similarities in three characteristics which were used to define social media in this study,

"1) they are web-based, 2) they provide a means for individuals to connect and interact with content and other users, and 3) they provide the means for users to generate and distribute content on the respective platforms."

For the purpose of this study, platforms such as WhatsApp and YouTube were considered as SM as they meet these three criteria. They were included alongside seven other platforms including those highlighted by Hillsgreen (2024), as being the most used by farmers.

2.0.2 Definition of misinformation

Misinformation and disinformation are both considered to be inaccurate information however, disinformation is usually considered to be created and spread purposely (Brooks, 2026). The key difference being that in disinformation the information is intentionally spread knowing it is inaccurate, this intention would be very hard to prove meaning for this study the focus will be on misinformation.

A study by Vraga & Bode (2020) noted a difference between misinformation and misperceptions with misinformation exclusively referring to just the information rather than beliefs people hold. Vraga & Bode (2020) also noted that as some informations accuracy can be debatable, its accuracy should be based on the "best available evidence from relevant experts at the time".

Therefore, in this study misinformation will be considered to be any information that is inaccurate regardless of perceived intentions of its creation or spread. It will also exclusively refer to information rather than views and be considered information that is "considered incorrect based on the best available evidence from relevant experts at the time" (Vraga & Bode, 2020).

2.1 The relationship between farmers and social media

A study on SM use among Welsh farmers found several factors influenced the usage of SM: age, education level, broadband access, technology access and diversification of the farm into non-agricultural enterprises (Morris & James, 2017). Rice (2014) found that NI females were more interested in SM than males, so this was also considered as a factor.

Research in Canada by Chowdhury & Odame (2014) found that farmers used different SM platforms for different purposes, with Twitter seen as useful for quick updates and exchanges, Facebook used for longer communication and relationship building. Whilst video and audio were seen as useful for demonstrations and spreading new ideas but was hampered by the lack of digital connectivity in 2014 (Chowdhury & Odame, 2014). As internet is increasingly available in recent years, even in rural areas (Office of Communications, 2022b), it is unlikely that this barrier to entry still exists on most farms.

Research by Chowdhury & Odame (2014) has shown that SM is seen by farmers as a tool to build relationships within agriculture and share information between other farmers, particularly when the topic isn't commercially competitive (Mills, et al., 2019). SM is also used to communicate with the public to spread positive messages about the industry (Rodak, 2020; Riley & Robertson, 2021) and raise awareness of challenges farmers face (Lundgren & Johansson, 2017). The reasons for SM usage are supported by research on female farmers in the US, who reported using SM to seek information, maintain relationships with other farmers and reach consumers (Daigle & Heiss, 2021). This was also the case for Indian farmers who saw SM as a way to keep up to date on the latest farming innovations and expand their knowledge (MadhuShekar, et al., 2023).

The use of SM to spread positive messages about the industry can be seen by the actions of the National Dairy Council (NDC) and Agriculture and Horticulture Development Board (AHDB). The NDC hired a professional SM agency to target under 35-year-olds through SM and highlight positives of the Irish dairy industry (O'Donoghue, 2024; Duffy, 2024). The AHDB have also used SM to reach a younger audience with farmer's stories, recipes, and factual evidence (Halleron, 2021; Agriculture and Horticulture Development Board, 2024).

A survey in the USA of more than eight hundred farmers by McKinsey and Company (2021) found that since 2018, there had been a substantial increase in the usage of the web and mobile devices to do research, from less than half to two-thirds in 2020. The same study found that the number of farmers who prefer researching via digital devices also increased and is now in the majority. However, only 12% of farmers prefer to buy through digital interactions rather than in-person, down from 29% in 2018 (McKinsey and Company, 2021). Amongst UK farmers, it was found that 83% use SM

weekly, with 74% checking it daily, the most used SM platform other than WhatsApp, was Facebook, with 62% of respondents using it daily (Hillsgreen, 2024). A 2024 study, which didn't count WhatsApp as SM, found in NI that among 16-24 year olds, Facebook was the fifth most popular SM behind Instagram, Snapchat, YouTube, and TikTok (Monson, 2024). Despite this, Monson (2024) also found that Facebook was the most popular SM for every other age group, given the age demographic of NI farmers, this supports the findings of Hillsgreen (2024).

Among Indian farmers, messaging platforms such as WhatsApp were the most popular form of SM with 82% using them several times a day or constantly (MadhuShekar, et al., 2023). The same study found looking exclusively at platforms which are used for media sharing, YouTube was the most popular, followed by Facebook, Twitter and then Instagram (MadhuShekar, et al., 2023). This demonstrates that SM preferences will vary between countries, showing the importance of studies focusing on UK farmers.

2.2 Independent variables

2.2.1 Age

SM usage amongst farmers in the UK has increased rapidly from just 33% using it in 2015 to 85% in 2020 (Brindley, 2021). However, SM usage is higher among younger people in the UK population (Office of Communications, 2022a). In NI, 1% of people aged 16-44 hadn't used SM in the last three months compared to 29% of those over 65 years of age (Monson, 2024). This was consistent with both UK and international studies, where younger age groups consistently demonstrated a higher level of SM engagement among farming populations (Rice, 2014; Morris & James, 2017; MadhuShekar, et al., 2023)

Age has also been shown by the Pew Research Center to influence trust in news from SM, with 52% of US adults aged 18-29 trusting news on SM compared to 22% of adults aged over 65 (Eddy, 2024). Moreover, it was found that age influences who people in NI follow on SM, with 87% of those under 27 years old who have used SM in the last three months, following a SM influencer, compared to just 25% of those aged 60-78 (Monson, 2024). Older people have a negative opinion of influencers as well, when asked to choose three words to describe influencers, the most common words used by those aged 60-78 were "fake", "annoying", and "superficial" (Monson, 2024). In GB, age has a large influence on SM use, with 43% of those aged 16-34 believing they are addicted to SM, compared to 8% of those aged 55-75 (Jones, 2025). Trust in news on SM is also higher in 16-34 year olds (62%) compared with 55-75 year olds (13%) (Jones, 2025).

UK farming has a substantial proportion of older workers, with 36% of farmers in NI being over 65 years of age compared to 40% in England (DAERA-NI, 2018; DEFRA, 2025). However, both figures are far higher than the 4.6% of people who are aged 65 or over, amongst all working adults in England and Wales (Office for National

Statistics, 2023). Therefore, the influence age can have on SM use, is of utmost importance in UK farming, because the effects will be more acutely seen than other demographics.

2.2.2 Education

Morris & James (2017) found the lowest level of SM adoption was among those with a school only education level, whilst the highest adoption was among those with higher education. Despite this, a key limitation of this study is that it didn't look into if age may have distorted this, as younger people are more likely to have stayed in education longer than older groups, this may have skewed these results (Office for National Statistics, 2019). However, MadhuShekar, et al. (2023) found higher levels of education improved Indian farmers utilization of SM. Chan (2022) found that unexpectedly education level has no impact on the influence that SM influencers have on decision making.

These studies conflict with the findings of Ardelia & Jaroah (2023) who found those with the lowest education level surveyed (High School) had the best ability to integrate SM into their daily routines. Ardelia & Jaroah (2023) only used participants aged between 18-29, which limited the influence of age distortion on the results but, means their findings may not be reflective for the age demographic of NI dairy farmers.

2.2.3 Gender

Ardelia & Jaroah (2023) found females were better at being able to integrate SM into their daily routines indicating a better understanding of it. These findings are consistent within NI, where females have been shown to be more interested in SM than males (Rice, 2014). Although, this appears to result in more (32%) NI females' mental health being negatively affected by SM influencers, than males (22%) (Monson, 2024).

However, a survey of Irish farmers found males were more confident using technology (51%) than females (38%) (Irish Farmers' Association, 2019). Despite men's extra confidence in being able to use technology, it does not always mean they are better at using it. One study showed men were more likely to believe they could identify misinformation and yet not be able to (Office of Communications, 2022a).

White et al. (2014) found there were gender differences in how farmers designed their SM posts, with males being more general, whilst females targeted their communication towards a specific audience. It was also found that males were content with their SM usage, whilst females were open to increasing their SM presence (White, et al., 2014). With males making up the majority (91%) of NI farmers and English farmers (84%), the way men interact with SM will represent a large population of UK farmers (DAERA-NI, 2018; DEFRA, 2025).

2.2.4 Internet and technology access

As expected, it has been found that farmers with access to broadband were more likely to use SM (Morris & James, 2017). Internet access in NI has improved in recent years

particularly for rural areas with the coverage of superfast broadband (>=30 Mbit/s) up from 82% in 2022 to 93% in 2023 but, this is still behind the urban area coverage of over 99% (Office of Communications, 2023).

In the USA, 97.4% of Facebook users use a mobile phone to access the platform, and 68.7% use only their mobile phone to access Facebook, meaning access to a smartphone would mean there is a higher chance of using SM (We Are Social, 2022). A survey of Irish farmers found that 84% had a smartphone, whilst 75% of farmers over 55 years old had a smartphone (Irish Farmers' Association, 2019).

2.2.5 Diversification into other enterprises

Morris & James (2017) found that farmers who had diversified into non-agricultural enterprises were more likely to use SM, perhaps due to its use as a tool for marketing. A follow up qualitative study by Morris & James (2017), found that 40% of the farmers interviewed, who used SM had started using it due to their non-agricultural business. The importance of SM in farm diversification is shown through organisations such as Farmers Weekly and Teagasc, creating guides for farmers using SM, for this purpose (Teagasc, 2020; Meredith, 2020).

2.3 Dependent variables

The research on the influence of SM on UK farmers is limited, however findings from research on the public and farmers around the world, but particularly in Europe, can allow for a hypothesis to be formed.

2.3.1 Knowledge and attitudes on technology and the environment

Dilleen et al. (2023) found that SM was seen by farmers as a useful tool for researching technology, because some believe farm advisors may not be as up to date on new technology, as SM influencers, although they still prefer seeing the technology in person. Farmers use SM for getting help with problems or queries, around technology, from a wider audience (Dilleen, et al., 2023). Therefore, it appears that SM is positively linked to farmers adopting new technology through helping research new technologies, as well as getting help with technical advice.

SM has been found to reduce the general public's belief that they can make a difference in fighting climate change (Tuitjer & Dirksmeier, 2021). Whilst Anderson (2017) found that SM can spread knowledge of climate change and encourage action but, is also a platform for scepticism. Mavrodieva et al. (2019) supported these findings by showing that SM can change public perception on global warming, although this change can be for either increased trust, or scepticism. This suggests that amongst the general public, SM appears to polarise views on climate change, rather than unify them in a singular direction. There is limited research on the impact of SM on farmers beliefs around climate change but, NI farmers have said that they have seen misinformation around climate change on SM (DAERA-NI, 2024).

The findings of Ohme (2020) suggest that SM can create feedback loops which can fortify and intensify beliefs. Valenzuela et al. (2023) found SM is more likely to reinforce conspiracy theories to users who are predisposed to believe them, rather than converting users into being conspiracy theorists. This was believed to be due to SM promoting content consistent with the users beliefs and a lack of fact-checking on SM (Valenzuela, et al., 2023). Therefore, it is hypothesised that SM users are likely to have stronger beliefs about topics especially political or contentious ones.

2.3.2 Attitude and trust towards traditional media & SM

Mont'Alverne et al. (2022) found the trust in news on SM is lower than trust in traditional media, although those with the least trust in news on SM, were also those who had the least trust in mainstream news. SM users said they often encountered criticism of journalists and traditional media on the platforms, although it's not the only place people hear criticism of traditional media news (Mont'Alverne, et al., 2022). This suggests that SM users may view news from both SM and traditional sources with more scepticism, than those who use rarely, or never use SM. This contrasts with the findings of Park & Lee (2023) who found that those who get most of their news from SM, have a higher trust in SM news and lower trust in traditional news, compared to those who get news from traditional sources. However, Park & Lee (2023) also found the way people are exposed to news on SM influences their trust in it, with incidental exposure having much lower trust than intentional. This may be due to those having intentional exposure having curated their own feed and so trust the news they are seeing online. Among Indian farmers, mobile phones & SM was the most popular way to get information (84%), ranking ahead of newspapers (68%), TV (63%) and neighbouring farmers (54%) (MadhuShekar, et al., 2023). However, the wording of this answer may have skewed results as including mobile phones in the option will include people who use news apps or search engines on their phone but may not use SM for information.

In NI, 41% of people aged 16-44 believe SM influencers to be a more reliable source of information than traditional media, compared to 31% of those over 45 years old (Monson, 2024). This indicates that although trust in SM decreases with age, there is still a large level of trust among older people in SM news. In GB, 71% of those aged between 16-34 get the majority of their current events news from SM including YouTube (Jones, 2025). Whilst only 11% of those aged between 55-75 get the majority of their news from SM & YouTube, preferring TV (60%) and radio (13%) (Jones, 2025).

Irish and European farmers have been shown to be distrusting of SM, this was found to be due to misinformation on platforms (Dilleen, et al., 2023). Nonetheless, Dilleen et al. (2023) established farmers find SM helpful in discovering what areas are topical and should be researched more. There is limited research on how SM usage influences UK farmers views on traditional media, which is why this study aims to shine a light on it. The research on the general population has found mixed outcomes of SM

usage, on views on SM and traditional media, although factors such as how the information is encountered, is likely to be an influence.

2.3.3 Influence on behaviours & decision making.

A study on shoppers in Edinburgh found SM can influence buying decisions through adding value to a product, by previous customers sharing their experiences, via reviews and recommendations (Al-Shawakbeh, et al., 2021). This study highlights the weight consumers place in other customer's unbiased feedback, when deciding whether to buy something. One study found that not only was trust in influencers high, with 70% of participants trusting them, this trust was transferable to brands the influencer was promoting (Almahdi, et al., 2022). Although, this study by Almahdi et al. (2022) shows influencers can have a significant effect on consumer perception, it was based in Bahrain and didn't explore other factors such as age or gender and therefore may not reflect the views of this study's demographic. However, Chowdhury et al. (2024) found strong correlations between SM usage and how much influence advertisements and influencers have on a person.

The type of product makes a difference as well, 37% of NI respondents had bought clothing and beauty products from seeing sponsored posts on SM, compared to 10% who had bought digital services (Monson, 2024). However, there were gender differences in these purchases, for men, only 32% had bought clothes and 17% had bought beauty products (Monson, 2024). Monson (2024) found age also made a large difference to if people buy something because of a sponsored post; 47% aged over 45 hadn't bought from a sponsored post compared to 15% aged 16-44. As only 8% of NI farmers are under 40 years of age, it's unlikely the average NI farmer will buy from sponsored posts (DAERA-NI, 2018).

A study on farmers in India found that SM and brand awareness both significantly influenced farmers buying decisions (Panda, et al., 2023). A study in Sri Lanka found product information availability on SM had a positive impact on purchase decisions (Jayatillake & Weerasekera, 2023). These studies show that SM can positively influence buying decisions among farmers, with limited academic research on this topic, it is important to consider all relevant research. However, these findings must also be given a lower weighting for NI dairy farmers compared to research from the UK, Ireland, and Europe due to cultural differences.

Hillsgreen (2024) found that despite a substantial proportion of UK farmers using SM, only 41% claim it influences their buying decision, compared to 74% of respondents who would be influenced by other farmers. This could be because Irish and European farmers are influenced by the source of the information, trusting other farmers more but being sceptical of companies promoting their own products (Dilleen, et al., 2023). This supports the CRELE theory of trustworthy sources being unbiased (Cash, et al., 2002). However, Dilleen et al. (2023) found farmers saw agrimedia and agriculture

groups as the most trustworthy on SM but, still felt they needed to do their own research, rather than trusting this information completely. European farmers do see influencers as a source of information and feel they help grow brand recognition but, are cynical because they feel sponsorship deals can remove the legitimacy (Dilleen, et al., 2023). Dilleen et al. (2023) summarised their findings in figure 2.3.3 showing the difference in influence between members of the farmer's network and the channels in which they are active. These results show the value farmers place in their family and peers' opinions. Nevertheless, it also demonstrates the power SM has in allowing characters with a weaker influence to penetrate the network and diversify information farmers see.

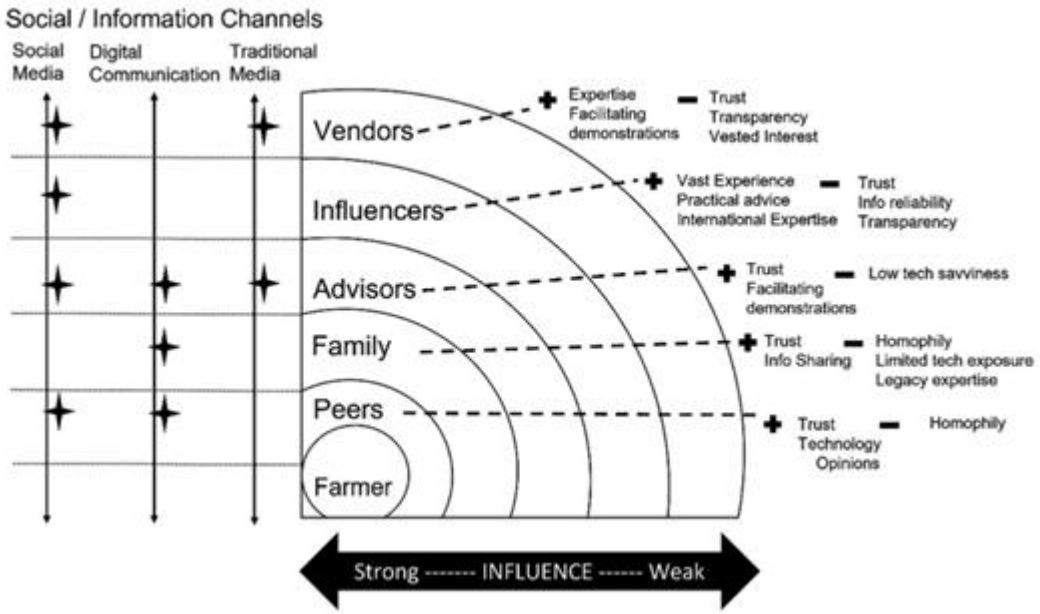


Figure 2.3.3.1 - Conceptual diagram of the farmer's network and influence strength (Dilleen, et al., 2023)

2.3.4 Attitude towards location of information

It has been shown that in the UK, people prefer accents which sound local to them, even when choosing between two accents from within the UK (Bestelmeyer, 2024). The same study also found that this preference was higher in reality compared to their self-reported bias (Bestelmeyer, 2024). In contrast to the findings of Bestelmeyer (2024) another study found that some foreign accents such as New Zealand ranked higher in prestige and social attractiveness than some UK accents, such as Belfast or general Northern Irish (Coupland, 2007). However, the study by Coupland (2007) found similar preferences for accents close to their own that Bestelmeyer (2024) found but, it also found younger participants attached less stigma to accents. Coupland (2007) also found that men show more preference for similar accents to their own, compared to females and have a higher level of pride in their accent.

2.3.5 Knowledge around misinformation on social media

The issue of misinformation in SM poses a challenge across the UK (Office of Communications, 2022a) but, particularly in rural areas, where people are more susceptible to believing “fake news” (Gomes, et al., 2023). The study by the Office of Communications (2022a) found that 63% of UK adults were able to identify a feature that demonstrated a SM post was genuine, such as a blue tick or profile name. However, 78% also believed generic features such as logo, design or number of likes, meant that the post, shown in appendix 1 was genuine (Office of Communications, 2022a). People over 65 were the most likely to identify only generic features as indicators that a post was genuine (Office of Communications, 2022a). As 36% of NI farmers are over 65 years old this could mean a large proportion of NI farmers are vulnerable to believing and even spreading misinformation on SM (DAERA-NI, 2018). More concerning is that men and people aged between 55-64, were most likely to believe they could identify misinformation and yet fail to do so (Office of Communications, 2022a). Likewise, Lee et al. (2025) also found in older people, men are more confident in being able to spot misinformation. This misplaced self-belief could result in increased confidence in trusting information they believe to be true. This is of particular concern to farming in NI, as 26% of NI farmers are men aged 55-64, placing more than a quarter of NI farmers within this vulnerable demographic (DAERA-NI, 2018).

Misinformation is also a worry to the rest of the GB population with 72% of people being concerned by it (Jones, 2025). Although this concern was higher in those aged between 16-34 (79%) than those aged 55-75 (67%) (Jones, 2025). Trust in news globally has decreased since 2015 although trust is still significantly higher amongst older people (Fletcher, et al., 2025). These findings highlight that older people may be less aware of the risk of misinformation and have a higher trust in news and so therefore, could be more susceptible to believing misinformation.

A person’s capability of smart device usage has been shown to increase confidence in being able to recognise misinformation (Lee, et al., 2025). Although, the use of digital media affects confidence differently depending on the age group, with it increasing confidence of spotting misinformation in older people and decreasing confidence in younger people (Lee, et al., 2025). However, it has also been found that older people are more cautious with information on SM and more likely to label something as false news (Sultan, et al., 2024).

The appearance of misinformation on SM has been raised by farmers in NI and they have called for greater action to counter it (DAERA-NI, 2024). Farmers must also combat misinformation on SM that may portray agriculture in a negative way to the public and use it as a tool to promote the industry. This could explain why the primary reason for farmers creating content on SM, was found to be a desire to create accurate content around agriculture, for their audience (White, et al., 2014).

2.3.6 Knowledge of Artificial Intelligence

A study conducted in 2021 found that participants were only 58% accurate in identifying a deepfake, only slightly better than the 50% accuracy that would have been achieved if they had randomly guessed (Köbis, et al., 2021). This was supported by a meta-analysis which found detection of deepfake videos was 57% for videos and therefore not significantly above chance (Diel, et al., 2024). The same study found that detection was even lower for images (53%) and text (52%) but slightly higher for audio (62%) (Diel, et al., 2024). However, Diel et al. (2024), also found that with training, the detection of deepfakes improved this to 65% which is above chance levels. One study in Singapore, found generational differences in how people identify deepfake videos, with older people (over 55) heavily using life experiences and conventional media literacy skills to analyse the flow and coherence of the videos content (Chun, et al., 2025). Whilst those aged 13 to 21 used these same methods they also use search engines to verify information and inconsistencies in the visuals of the video (Chun, et al., 2025). A German study also found a greater knowledge of deepfakes among younger people, males and those with higher education and digital skills (Bitton, et al., 2025).

Another study found that, without prior warning of there being artificial intelligence (AI) videos being shown, participants were unlikely to notice an AI video being present, amongst genuine videos (Lewis, et al., 2023). However, after being warned of the potential of an AI video, it did not improve correct identification of an AI video but, instead increased reporting of both genuine and AI videos as being AI (Lewis, et al., 2023). Showing content warnings on SM are therefore likely to improve awareness of the presence of deepfakes but, not actually improve people's ability to correctly identify them.

OpenAI (2025) claims Sora 2, their latest model, is able to create "physically accurate, realistic and more controllable" videos. With these improvements to AI media generation, it would be expected that people would find it even harder to identify what is AI generated media.

2.4 Social Science Models

2.4.1 Knowledge, Attitudes and Behaviours (KAB) Model

The Knowledge, Attitudes and Behaviours (KAB) Model has been developed based on Bloom's taxonomy (Bloom, 1956) but, the model's current form is attributed to Miller et al. (1990) and their work on care for Acquired Immune Deficiency Syndrome (AIDS) patients. Although the model was initially used for medical research, it is now widely used including on research around online behaviour (Yusnita, 2021; Li, et al., 2023). The KAB model as shown in Figure 2.4.1.1, suggests that knowledge will influence a person's attitude which will in turn influence their behaviour (Li, et al., 2023).

SM can be a large source of information, whether accurate or inaccurate (Khan, et al., 2021), this information can build a person's knowledge which will shape their attitude

and in turn influence behaviour (Schrader & Lawless, 2004). SM enhances the KAB model because algorithms have been shown to reinforce and amplify attitudes and beliefs through a feedback loop, where people are shown similar content to any that they interact with (Ohme, 2020; Metzler & Garcia, 2024). This feedback loop adds a new dimension to the traditional KAB model, where behaviour such as engagement with content, will feedback into knowledge through being shown similar content. This creation of an echo chamber, can rapidly lead to views becoming more extreme over time (Ohme, 2020).

Moreover, it has been shown that in some cases, political acrophily exists, where once a person has a political leaning, they are more likely to associate with more extreme views in this direction, rather than moderate views (Goldenberg, et al., 2023). This has been shown to exist in the context of SM as well (Zimmerman, et al., 2024), which may encourage "influencers" to post more extreme opinions, to gain increased engagement and views (Hong & Kim, 2016). This encouragement to post more extreme views will further feed into this KAB feedback loop, as shown in figure 2.4.1.1, as more information on platforms is from a polarised perspective and so users' knowledge is more likely to be influenced by this.

Within agriculture, SM has been shown to effectively influence behaviour, particularly among young people. One study found 78% of Irish students who work in agriculture had been motivated by an "agricultural social media influencer" (Heaney & Buggy, 2022). When compared to traditional sources of safety information Heaney & Buggy (2022) found that videos on SM were seen as more effective (54%) at changing behaviour by participants compared to written guidance (39%).

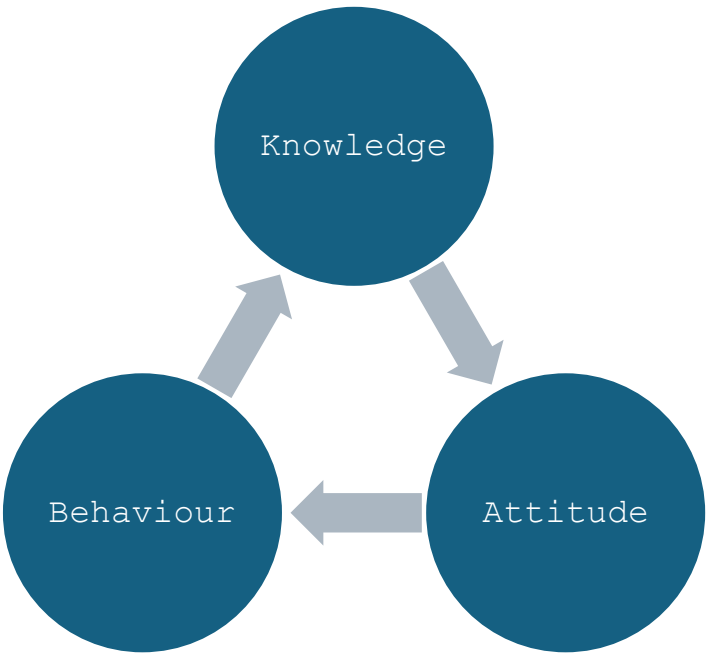


Figure 2.4.1.1 – Knowledge, Attitudes and Behaviour (KAB) Model for social media adapted from Miller et al. (1990)

2.4.2 CRELE+ framework

Initially developed by Cash et al. (2002), the CRELE Framework consists of the credibility, relevance, and legitimacy (CRELE) of policy and was developed to improve the communication of policy to stakeholders. Despite this, it has been applied to communication to stakeholders (farmers), through mediums such as videos and podcasts, by Chivers et al. (2021), and could be adapted to communication through SM. It is theorised that communicating information effectively requires the three CRELE factors to be met (Cash, et al., 2002). However, the judgement on whether these factors are met is subjective and will vary between audiences (Cash, et al., 2002).

Credibility was defined by Cash et al. (2002), as when information was seen by the audience as meeting their standards of scientific and technical believability. This relies on a trustworthy source and can be reduced if the audience believes the source has a conflicting interest (Cash, et al., 2002). Chivers et al. (2021) defined credibility as being how accurate or valid the content was. For this paper, credibility focused on the trustworthiness of the “source” by the audience as this is deemed to be the original meaning of credibility by (Cash, et al., 2002).

Relevance was originally referred to as salience by Cash et al. (2002) and relates to how relevant the information is to the audience. The information may be interesting but if it lacks usefulness and timeliness to the audience, it won’t have high relevance (Cash, et al., 2002). The relevance of content will begin to be assessed by the audience immediately through the reading of the title of content (Chivers, et al., 2021).

Legitimacy is the final component of the original CRELE framework and refers to the audience’s opinion of whether the content is unbiased and fair, and is judged, in part, based on who participates in producing the information and who doesn’t (Cash, et al., 2002). Chivers et al. (2021) interpreted this as whether farmers were included in the production of content and if the views were balanced. This paper considered legitimacy to be the inclusion of balanced views, including representing farmers.

The CRELE Framework was later further developed by Sarkki et al. (2015) who added a fourth attribute (iterativity) to the framework to develop it into CRELE+IT. This was supported by Chivers (2021), who found that adding iteration to CRELE, could increase farmer engagement with advice. Chivers et al. (2021), inspired by this, changed the fourth attribute to accessibility and referred to it as the CRELE+ Framework. The researcher has deemed accessibility to be a relevant attribute to this study, because a potential issue highlighted in the literature review, was access to content by farmers, particularly those in rural areas (Chowdhury & Odame, 2014) and those of an older age (Rice, 2014).

Accessibility was defined in relation to videos and podcasts by Chivers et al. (2021) as whether the audience deemed them as easily available, both in physical accessibility e.g. access to the internet and a device to access them on, as well as if the content met their knowledge requirements and learning preferences (Chivers, et al., 2021).

Cash et al. (2002) also showed that the three factors which make up the CRELE Framework can interact with each other in both positive (complementary) and negative (tension) ways. Overlaps between the four attributes also exist where a subject can fall under more than one of the attribute definitions (Chivers, et al., 2021). This is shown in figure 2.5.2.1 where factors are placed in between attributes, for example a video must be short in duration to achieve both accessibility and relevance (Chivers, et al., 2021).

As the CRELE+ Framework is based on the views of the information's audience, the threshold can be hard to determine, because it will vary between audiences, as well as between the information being conveyed (Cash, et al., 2002). Therefore, the purpose of this framework isn't to put a figure on where a threshold sits but, instead to highlight their existence and the importance that all four criteria must be deemed adequately met by the audience, for effective information communication (Cash, et al., 2002).

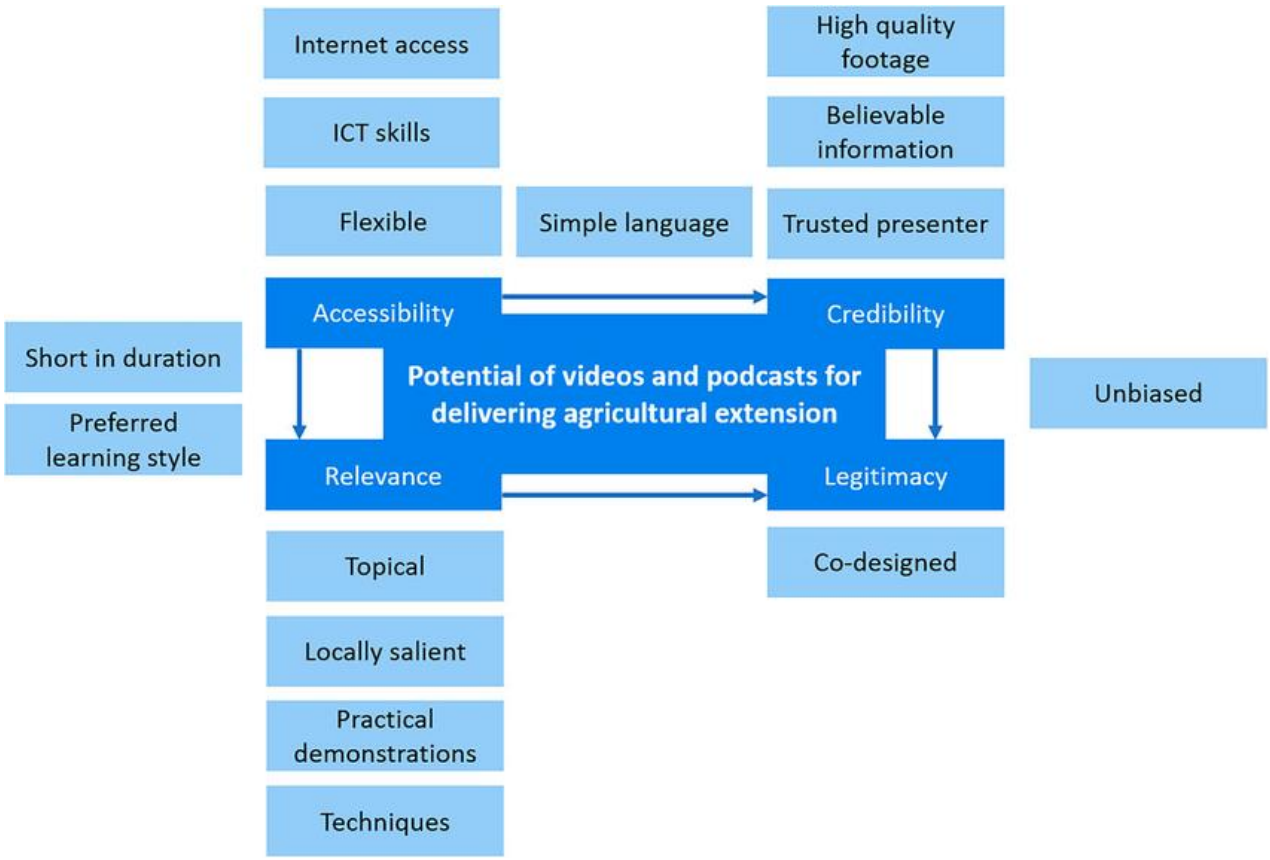


Figure 2.4.2.1 – Schematic diagram illustrating the factors influencing the components of the CRELE+ Framework in effectiveness of videos and podcasts. (Chivers, et al., 2021)

2.5 Conceptualisation

2.5.1 Table of independent and dependent variables

Table 2.5.1.1 (below) shows the independent and dependent variables that were measured and considered during this study.

Table 2.5.1.1 – Dependent and independent variables

Dependent variables	Independent variables
• *Knowledge* around misinformation and Artificial Intelligence including how to identify it. • *Knowledge and attitudes* on technology and the environment • *Attitudes* towards social media (usage) • *Attitudes* towards traditional media • *Attitudes* towards social media posts based on *CRELE+ framework*. • *Attitude* towards location of information • *Behaviours* when looking for information especially regarding purchases. • *Behaviours* around social media use (platforms, time, content, device) • *Behaviour* when seeing content of interest based on *CRELE+*	• Position on farm • Age – and its effects on *attitudes and behaviours* • Education level – and its effects on *knowledge & attitudes* • Gender • Access to adequate internet connection • Access to technology (smart phone, computer, tablet, etc) • Diversification into other enterprises

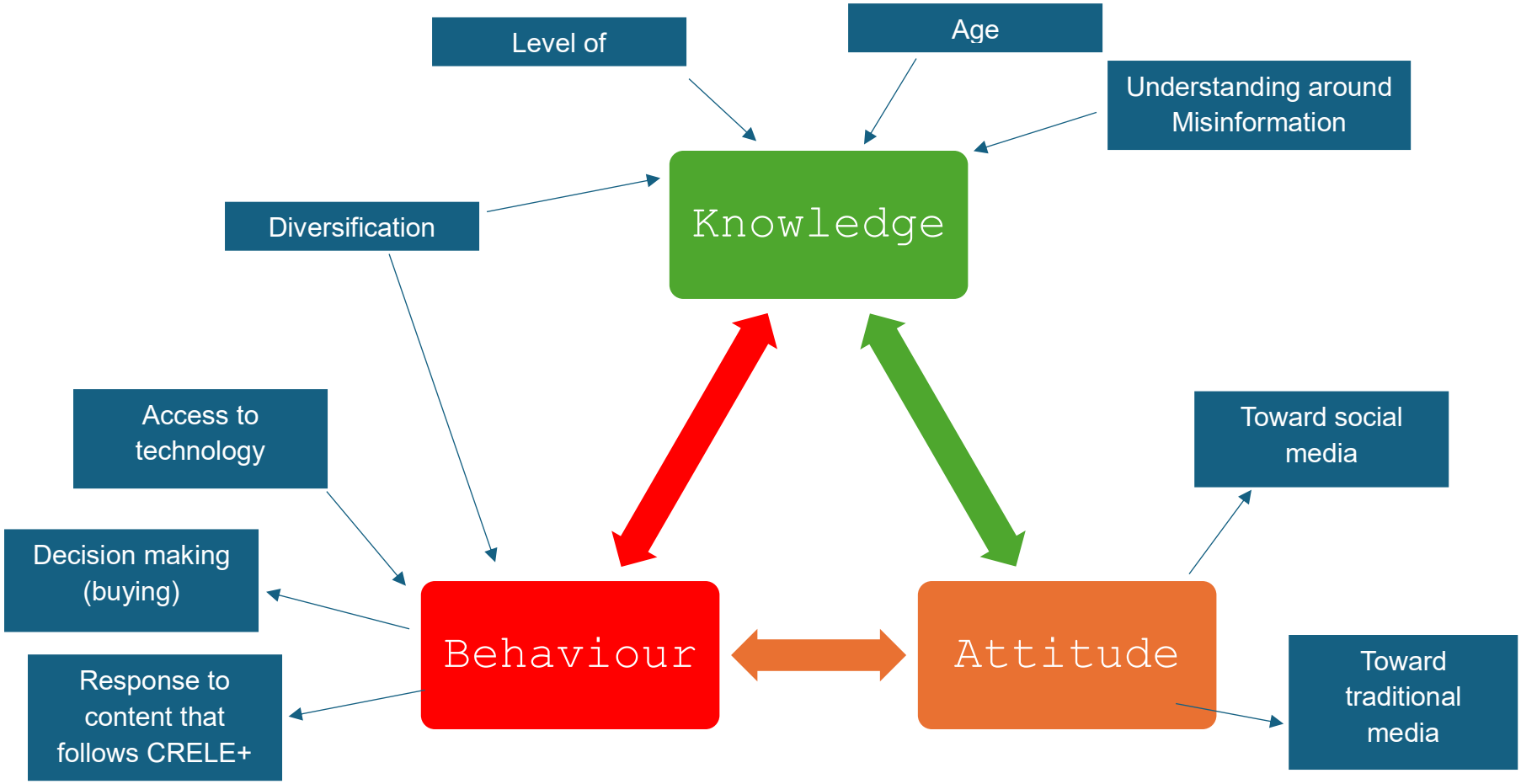


Figure 2.5.2 Research model created based on KAB models with possible factors which will affect this study (Miller, et al., 1990)

Chapter 3 – Research methodology

3.1 Research methods

3.1.1 Overview of research methods

There are two traditional types of data collection available:

Quantitative – This is conclusive research, used for objective data analysis using structured methods (Esteban-Bravo & Vidal-Sanz, 2021). It often involves large and representative samples (Esteban-Bravo & Vidal-Sanz, 2021). The method allows for simple replication of the study and results produced are numerical and are analysed statistically and presented in tables or graphs (Sheppard, 2020). An example of quantitative methods is a survey as shown in table 3.1.2.1. Quantitative methods such as surveys can be advantageous due to being a cheap and simple way to collect large amounts of data however they have a greater risk of untruthful answers or misinterpretation of the question (Scharrer & Ramasubramanian, 2021).

Qualitative – This research is exploratory and used to either build initial understanding or a deeper insight into a narrower area (Esteban-Bravo & Vidal-Sanz, 2021). It uses an unstructured approach with a smaller sample size and data analysis is subjective (Esteban-Bravo & Vidal-Sanz, 2021). Data produced is in words with themes being extracted in the analysis, but quantitative analysis can still be done (Sheppard, 2020). Case studies, focus groups and interviews shown in table 3.1.2.1 are all qualitative methods. Qualitative methods can create more in-depth answers but particularly for interviews and focus groups there can be a risk of researcher bias (Liamputtong, 2019).

Mixed methods research has been around for hundreds of years but only developed as a distinct category in the 1980s and 1990s (Mertens, 2023). Mixed methods research is the combination of quantitative and qualitative methods which aims to achieve a deeper level of understanding than using just one of these methods (Mertens, 2023). Mixed methods can involve the combination of two different methods such as a survey and interviews or the inclusion of both quantitative and qualitative questions in a survey.

3.1.2 Advantages and disadvantages of research methods

Table 3.1.2.1 – Advantages and disadvantages of research methods

Research Method	Advantages	Disadvantages
Interviews (Qualitative)	• Allows for exploratory research. • Gives participants more control to talk about what they consider to be important. • Researcher can observe non-verbal behaviour. • Can be flexible, with follow up questions. (Liamputtong, 2019)	• Can be time consuming. • Can be tricky for novice researchers to conduct to a high level. • Can allow for researcher bias. • Participants may not be representative of a community. (Liamputtong, 2019)
Focus Groups (Qualitative)	• Allows for understanding of participants knowledge/opinions. • Allows for observation of non-verbal signals. • As there is direct interaction, it allows for follow up questions and clarification. • Communication amongst the group allows for participants to compare and contrast views between the group allowing for better insights. (Liamputtong, 2019)	• Views may only represent participants not wider community. • May not allow for as in-depth responses as an individual interview. • Can allow for participants to avoid answering if not moderated effectively. • Researcher may cause bias through leading questions. (Liamputtong, 2019)
Case Studies (Qualitative)	• Can provide in-depth knowledge. • Often holds up well compared with other methods. (Liamputtong, 2019)	• Can be biased due to the researcher selecting the case study boundaries. • If the researcher is too involved it can alter participants behaviour (Liamputtong, 2019)
Survey (Quantitative)	• Can be easier and cheaper to conduct. • Can achieve a larger more representative sample. • Can collect quantitative and qualitative data. • Convenient for participants to complete. (Scharrer & Ramasubramanian, 2021)	• Can determine correlations but not causation between variables. • Can have poor response rates or elevated level of partial responses. • Greater chance of untruthful answering • Greater chance of misinterpretation of question (Scharrer & Ramasubramanian, 2021)

3.1.3 Chosen research method

After reviewing a range of quantitative and qualitative methods, the researcher deemed a mixed methods questionnaire approach to be the most appropriate. The use of mixed methods allows for measurable outcomes whilst giving context and allowing participants to share deeper opinions giving a richer set of results (Chaumba, 2013). These benefits of a mixed methods approach were summarised by (Chaumba, 2013) and are shown in Figure 3.1.3.1

Purpose	Description	Goal	Benefit
Complementarity	Different methods are used for different facets of the same phenomena	Enrichment, elaboration, or clarification of results	Increases the depth and confidence in interpretation as results from one method clarify or illustrate results from the other method
Development	Involves the sequential use of different methods in the development of the study for sampling or instrumentation purposes	Use the results of one method to inform the other method	Takes advantage of inherent method strengths for better understanding; e.g., results from a questionnaire can be used to identify issues for in-depth study
Expansion	Different methods are used for different phenomena or questions	Expand the scope or breadth of a study	Enables study to answer more questions of interest
Initiation	Different methods are used for different facets of the same phenomena with the goal of identifying contradiction	Non-convergence of results	May lead to new questions or rephrasing of the problem or phenomena under study
Triangulation	Use of mixed methods to answer the same question	Correspondence of results across different methods	Enhanced validity of results as the combined methods offset biases of either a quantitative or qualitative only study

Figure 3.1.3.1 - Purpose of mixed methods research (Chaumba, 2013)

Using a survey with open questions allows the researcher to use a mixed methods approach whilst allowing participants to retain anonymity. Keeping participants anonymous has been shown to have mixed consequences, (Ong & Weiss, 2000; Lelkes, et al., 2012). Both found that anonymity increases self-reporting of socially undesirable answers. However, Lelkes et al. (2012) found that it also reduced reporting accuracy compared to identifiable participants. Murdoch et al. (2014) found that anonymity didn't affect response rate or completeness of surveys. As the effects of anonymity are not seen as negative overall and due to GDPR regulations, keeping the survey anonymous was seen as safer by the researcher. The researcher believed

using a post-positivism approach to mixed methods, where qualitative data supplements quantitative data collection (Mertens, 2023), was the most effective way to collect data on this subject.

3.2 Participants – size and nature of the sample

As the research aimed to investigate the knowledge, attitudes and behaviours of UK dairy farmers who already use SM, rather than aiming to establish how many farmers use SM, it was deemed appropriate to target farmers through an online survey though Microsoft Forms. This was shared through SM but also a link was texted out to farmers through a dairy co-operative.

The research was targeted at all UK dairy farmers aged 18+ who use SM. These requirements were included alongside the link, which was posted on SM and sent to farmers, to avoid individuals who did not fit these criteria completing the survey. A card with a QR code linking to the survey was also handed out at Dairy Tech and on farms. As only 8% of NI farmers are under the age of 40 and only 9% are female (DAERA-NI, 2018), it was expected that many responses would be from males aged over 40. However, due to the demographic of SM users being more likely to be younger and female (Rice, 2014), it was expected that responses wouldn't exactly reflect the demographic of UK farmers.

The researcher chose to use convenience sampling of this demographic, through sharing the link via text through a dairy co-operative and sharing through SM channels. Convenience sampling is a process of data collection through easily available channels, that the responders have access to. It is a non-probability method, where sampling is based on a specific demographic, in this case UK dairy farmers (Golzar, et al., 2022). The researcher aimed to achieve a sample size of 100 to gain a representative sample for validity and reliability of results.

3.3 Pilot phase

Pilot studies are important in studies to identify any issues with the research methods and allow for refining of methods and wording of questions, before the study begins (Crossman, 2019).

Conducting a pilot study in this investigation allowed for changes to be made to the wording of questions in the questionnaire. The pilot study was conducted four times on the questionnaire to ensure the questions was written clearly and concisely, so that the survey could be easily completed, and information collected was accurate and complete.

The pilot study was conducted on four individuals, all of whom knew about the research study and its purpose. None of their answers were included in the results, but their feedback was used to guide the wording of questions as well as which questions should be included or left out.

Table 3.3.1 – Feedback from pilot study and changes made.

Feedback	Changes made
Using neither likely nor unlikely in Likert questions is confusing	Option changed to “Neutral”
What is the relevance of the location question if you are targeting UK dairy farmers	Location question adapted to exclusively be UK countries
Review age categories, remove under 18, ensure categories are distinct	The under 18 option was removed and other options made mutually exclusive
Enterprise question will be difficult to get meaningful data from	Question changed to “is dairy farming your main source of income”

3.4 Data collection & questionnaire design

The survey was sent out to participants using a link to Microsoft Forms, which was shared through SM but, also texted out to farmers through a dairy co-operative. A physical card with a QR code provided which linked to the online survey was handed to dairy farmers, on farm and at Dairy Tech. Data from returned physical surveys were transcribed into an Excel spreadsheet alongside the results from Microsoft Forms. The survey aimed to have a minimum of one hundred respondents.

Questionnaire design is important to ensure good data collection, too many questions can result in a poor response rate or too much data being collected (Bradburn, et al., 2004). Too few questions could result in not enough data being collected to draw accurate conclusions and achieve the study’s aims and objectives.

The wording of questions was designed to make them clear to participants, ensuring participants can answer confidently and results accurately reflected their opinions (Bradburn, et al., 2004). Questions used were a mix of closed and open questions, to allow for measurable quantitative results, whilst exploring more detailed opinions, including areas which may not have been considered by the researcher. The quantitative questions on the survey used a mix of nominal and ordinal data, most quantitative questions, including all questions on independent variables, used nominal measurement. Whilst the Likert scale was used to collect ordinal data on some dependent variables (Allen & Seaman, 2007; Mishra, et al., 2018). Open questions were used to collect qualitative data.

Section one was designed to collect information regarding the independent variables outlined in table 2.6.1.1. These were all quantitative questions although some questions had an option to type in responses if the options didn’t cover the participant.

Section two focused on misinformation with question 8, examining CRELE+ theories around trust of certain sources of information. The study aimed to see if the findings by Office of Communications (2022a) around identification of a genuine post, would be replicable with UK farmers. So, in question 18, 19 & 20 in appendix 2 they adapted

the post shown in appendix 1, to a DAERA post, for relevance to the survey demographic. The Office of Communications (2022a) noted that responses related to trusting a post based on information within the post, were classed as invalid, because this should not be relied upon to judge a genuine post. Therefore, responses refering to the information within the post were removed from the final analysis.

Section two focused on SM usage, aiming to identify the popular SM platforms among UK dairy farmers (question 7). Questions 8-12 examined attitudes and behaviours around decision making, based on posts which fit various CRELE+ criteria, as well as how the cost of the decision will affect how SM influences behaviour.

Section three of the survey, shown in appendix 2, was designed to test the CRELE+ theories of credibility and legitimacy in SM posts. It used three identical SM posts from three different authors. One was from AHDB and was designed as credible and legitimate, because they are a trustworthy and unbiased source. Another, was SilFast, a fictional company promoting their own product. They are credible but, would be biased and so do not meet the legitimacy criteria. The final post was from Joe Bloggs, who has no profile picture, and therefore doesn't meet the credibility criteria. Question 16 in section four, used a Likert scale to examine the strength of peoples beliefs on topical subjects, to see if social media usage and potential feedback loops, increased the strength of belief in either direction. Question 20 was used to collect extra comments from the participants about social media in the form of qualitative data.

Question 21 showed two videos, shown in appendix 3, video B was a genuine video from the Dairy NZ Youtube channel, of a person with a New Zealand accent, talking about mastitis. Video A was an AI deepfake of the same video, with the person talking in a NI accent. Question 22 was used to check the participant had watched the video by asking what the video was about. Questions 23 to 27 were used to gauge participants' preference and trust in each video and then if they believed either to be made using AI. Question 28 showed a completely AI generated video of a tractor driving through a field, shown in appendix 4. Participants were then asked in question 29 to 31 if they believed the video to be AI and their confidence in this answer.

All quantitative questions were required to be answered to ensure complete results but qualitative questions were optional as it was felt forcing completion of these questions would cause some participants to not finish the survey. Any incomplete surveys were not included in the final analysis.

3.4.1 Data analysis

Data cleansing was carried out to ensure validity of results by removing any responses that were incomplete or unreliable based on factors such as time taken to complete the survey or response patterns.

Chi-squared analysis was used to evaluate for differences between independent variables such as age and dependent variables. Chi-squared tests were used instead of other tests as survey size was large, data was categorical and often more than 2

independent groups were being compared (Kim, 2017). Null hypotheses were established and stated that there was no difference, this was rejected if the p value was under 0.05, and it was accepted that there was a significant difference between groups (Bonovas & Piovani, 2023). Qualitative data was harder to analyse; it was important to read individual answers to spot links or interesting responses, but they were also analysed using word clouds to look for themes in responses.

3.5 Study limitations

The researcher acknowledges that allowing anonymity among respondents may increase the risks of inaccurate reporting (Lelkes, et al., 2012). It may also allow for sabotage of the study or people responding multiple times. Due to the study being done by survey, there was a chance that questions may have been misinterpreted or misunderstood. Although a pilot study was conducted to evaluate for misinterpretation of questions, there was still always a chance that this may have occurred in the final survey.

Due to the survey being conducted exclusively through Microsoft Forms, it may cause survey results to be skewed towards respondents who have better access to technology and the internet. Online surveys have also been shown to have a higher level of responses from younger people (Wu, et al., 2022).

Moreover, there was a risk that convenience sampling may limit responses to certain demographics. The researcher tried to limit this through using multiple channels but due to the demographic being specific it also suited this non-probability method (Golzar, et al., 2022).

3.6 Ethical considerations

The researcher followed all ethical guidelines as outlined in ‘Queen’s University Belfast Policy on the Ethical Approval of Research’ (Queen’s University Belfast , 2019). There was no external funding provided for this study.

3.7 Risk assessment

The QUB forms for research risk assessment and H&S were completed by the researcher.

Chapter 4 – Results

4.0 – Introduction

The aim of this chapter is to present the data collected using the questionnaire. The results were collected from 75 participants across England, Northern Ireland, Scotland and Wales, who were associated with dairy farming.

4.1 – Descriptive statistics

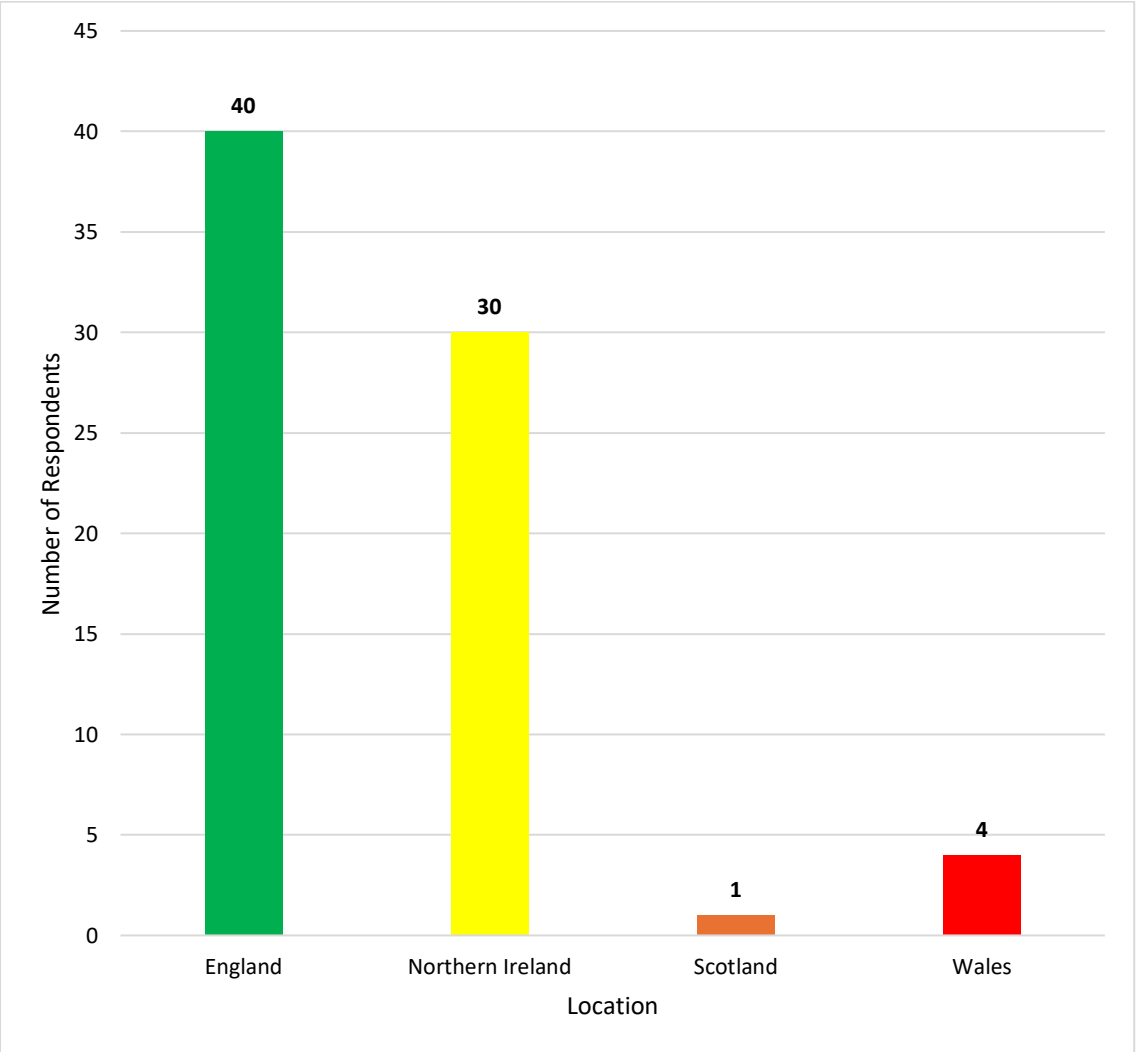


Figure 4.1.1 – Respondents' Country of Residence

The survey captured respondents from all four devolved nations. The majority of respondents indicated to be within England (53%), followed by Northern Ireland at 40%. Wales and Scotland gained a much lower response rate in comparison, with Wales equating to 5.3% and Scotland representing only 1.3% of the sample.

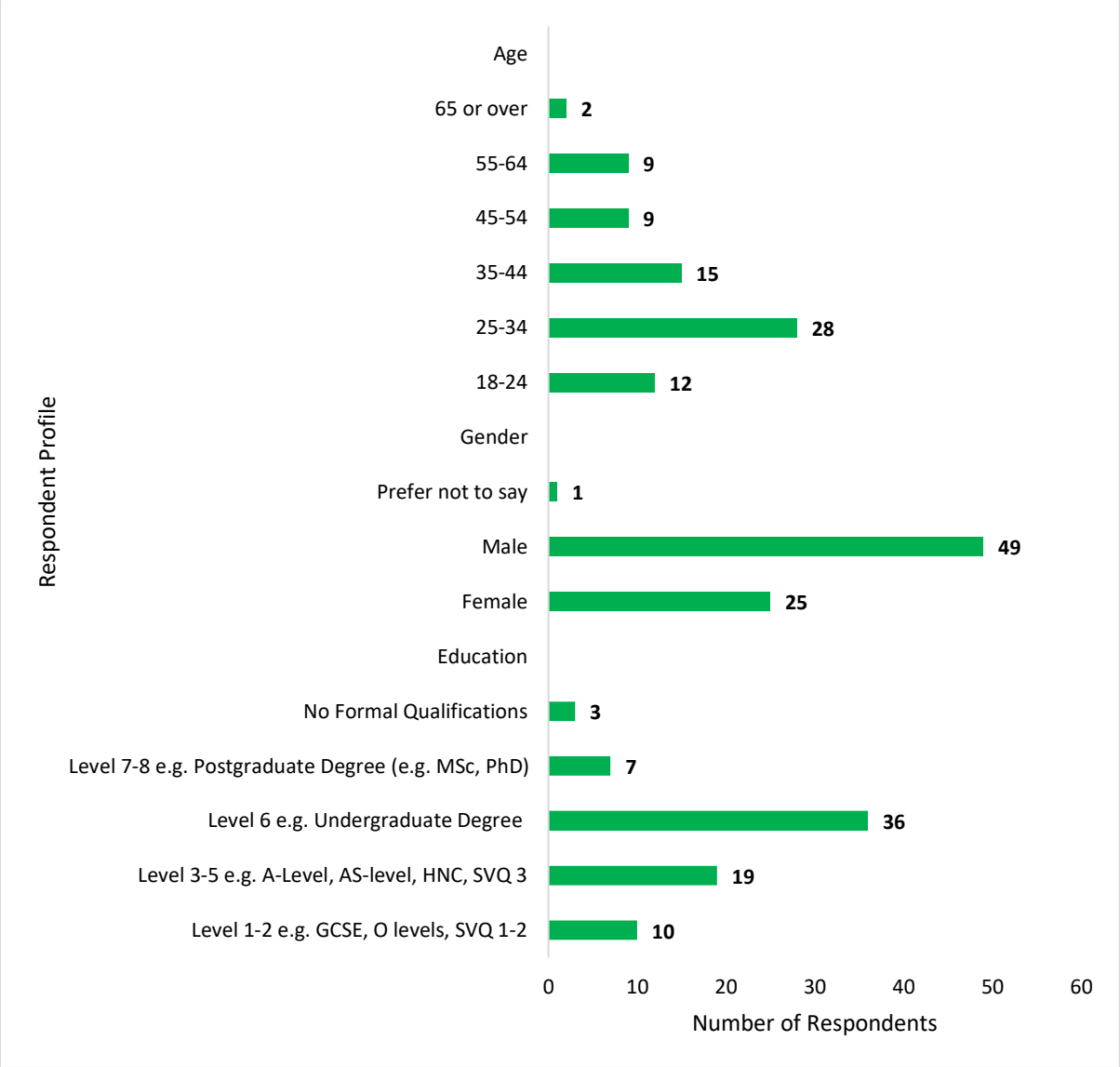


Figure 4.1.2 – Demographics of the Sampled Participants

The most common age category of respondents was 25-34 (37%), followed by 35-44 year olds (20%) and then 18-24 year olds (16%). The least amount of responses came from those aged over 65 years old (3%). The majority of respondents were male (65%) with 33% being female. Over half of respondents had at least a bachelors degree with 48% having an undergraduate degree and 9% having a postgraduate degree. 38% achieved school qualifications, with 25% of those achieving A-levels or equivalent, whilst 4% left school without any formal qualifications. Overall the sample leaned towards males below the age of 40 who had at least a tertiary level of qualification.

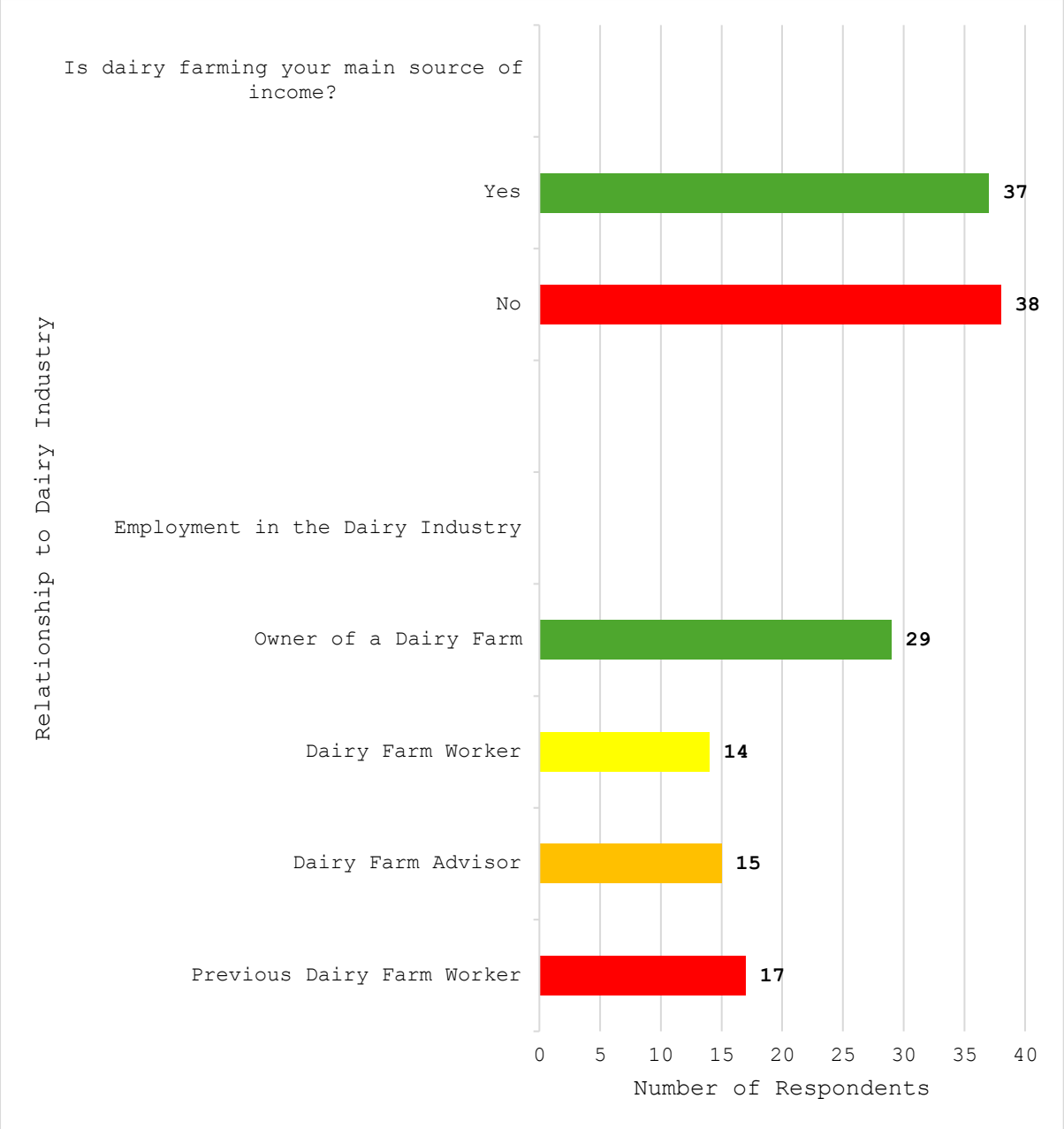


Figure 4.1.3 – Link to Dairy Farming and Main Source of Income

The highest level of responses came from owners of a dairy farm, with 39% of participants, 19% currently work on a dairy farm, 23% have worked on a dairy farm in the past, whilst 20% have not worked on a dairy farm but do advise dairy farmers. Respondents had a very even split of main income source with 49% having dairy farming as their main source of income, whilst 51% have a different main source of income. This meant the majority of responses came from people who currently own or work on a dairy farm (58%) and just under half of respondents' current main income source is dairy farming.

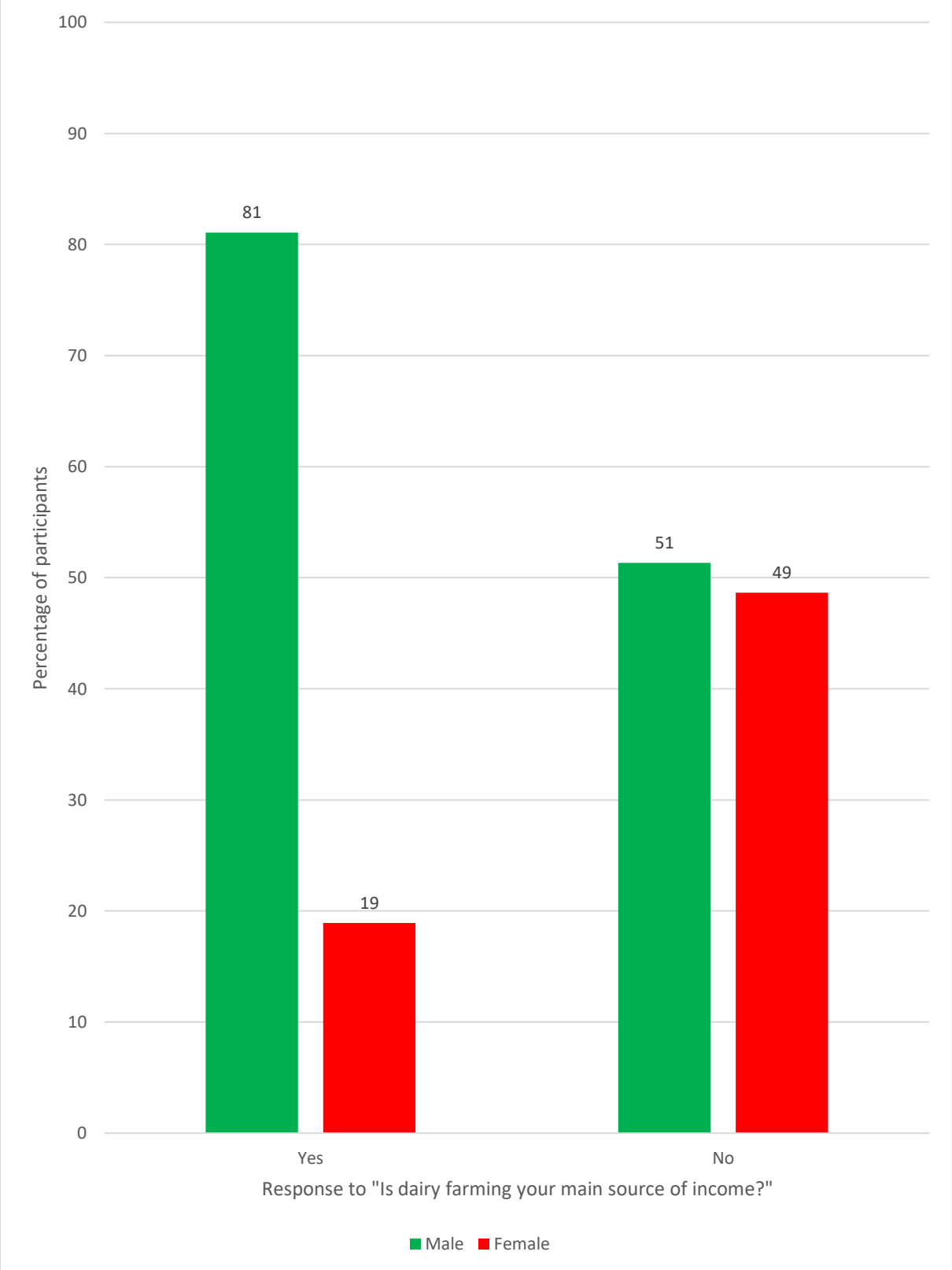


Figure 4.1.4 – Difference in Gender Between Main Income Sources

The participants whose main income source is dairy farming were more likely to be male (81%) than female (19%). However, for participants who had an alternative main

income source there was a nearly identical divide between males (51%) and females (49%).

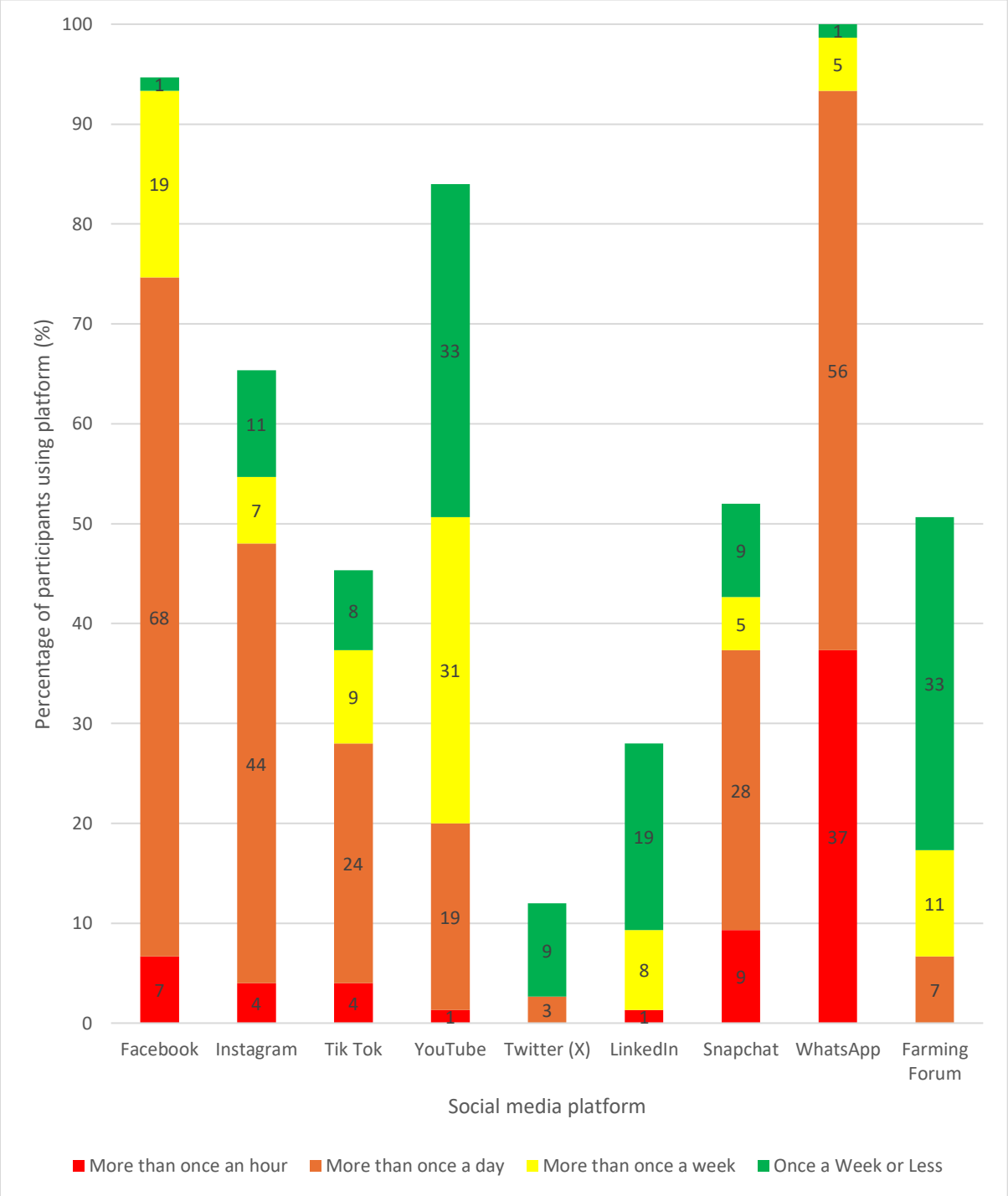


Figure 4.1.5 – Social Media Usage

Participants were asked about how frequently they use various social media platforms. WhatsApp was the most commonly used platform with 100% of respondents, using it, followed by Facebook (95%) and YouTube (85%). Whilst Twitter (12%) and LinkedIn (28%) were the least popular platforms. WhatsApp was also the most frequently used

with 93% using it more than once an hour or more than once a day. Whilst LinkedIn was the least frequently used with only 1% of respondents using it more than once an hour or more than once a day.

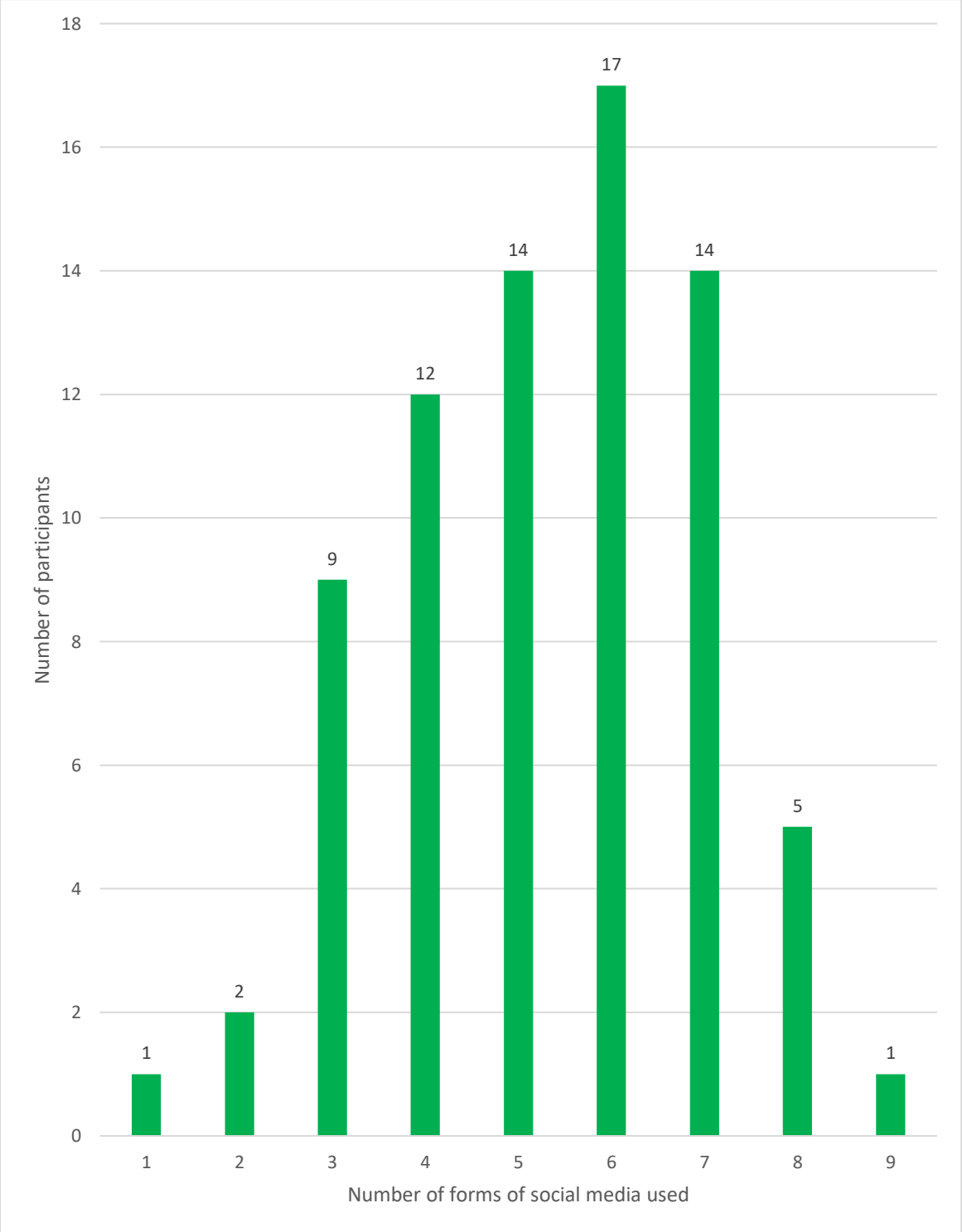


Figure 4.1.6 – Number of Social Media Platforms Used by Participants

The most common amount of social media platforms used was six, with the mean being 5.3. Only one participant stated that they used all nine platforms listed.

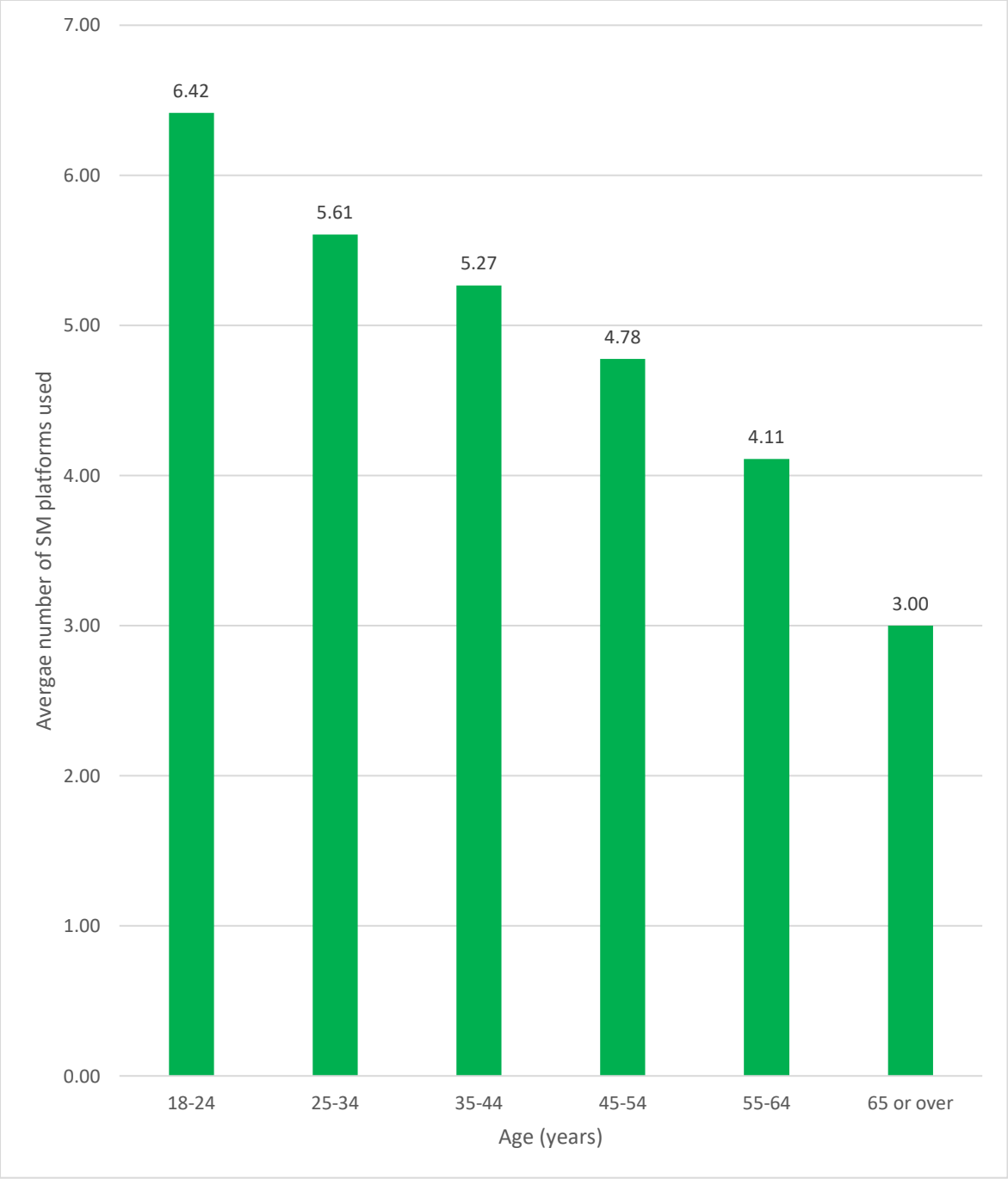


Figure 4.1.7 – Number of Social Media Platforms Used by Participants of Different Ages

There is a clear and consistent trend in the amount of SM platforms used by age, with 18-24 year olds using an average of 6.42, more than double the 3 platforms used by those over the age of 65.

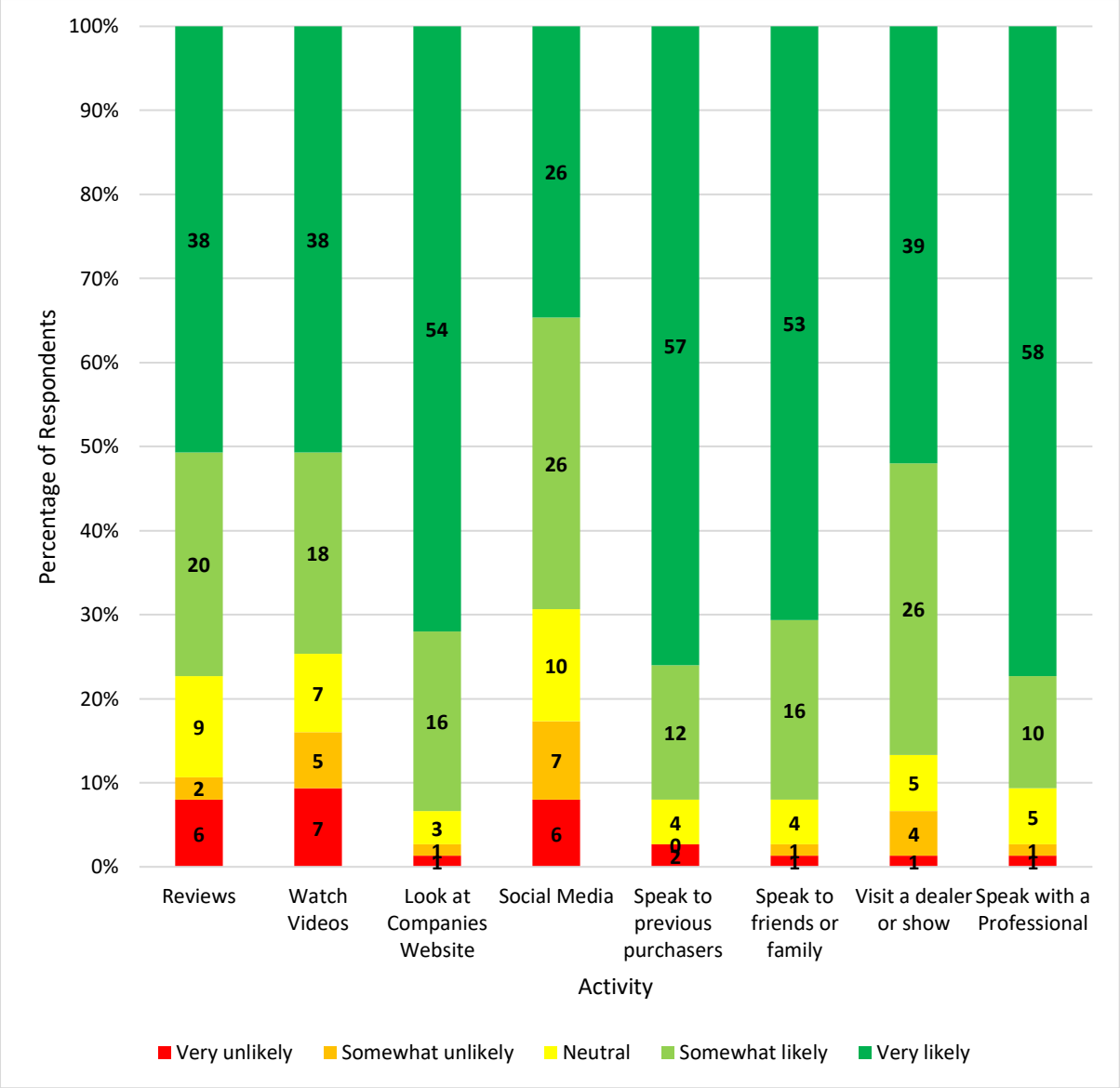


Figure 4.1.8 – How Likely Respondents would be to do Certain Actions before Purchasing Something for the Farm Costing **Less** than £10,000

To examine what influence's decision making, questions were asked in two sections, the first set asked how likely they are to do something as part of the buying process. The second set, asked how likely they were to buy the product based purely on recommendations from certain sources.

These were then subdivided into different levels of cost, for products under ten thousand pounds, farmers preferred to look at the company's website (93%, with 72% very likely and 21% somewhat likely). Followed by speaking to previous purchasers (92% with 76% very likely), speaking to family or friends (92% with 71% very likely), and then speaking to a professional (91% with 77% very likely). However, participants seemed interested in doing a variety of research, with the least popular method being using social media but still with 69% saying they would be likely to do it (35% very likely).

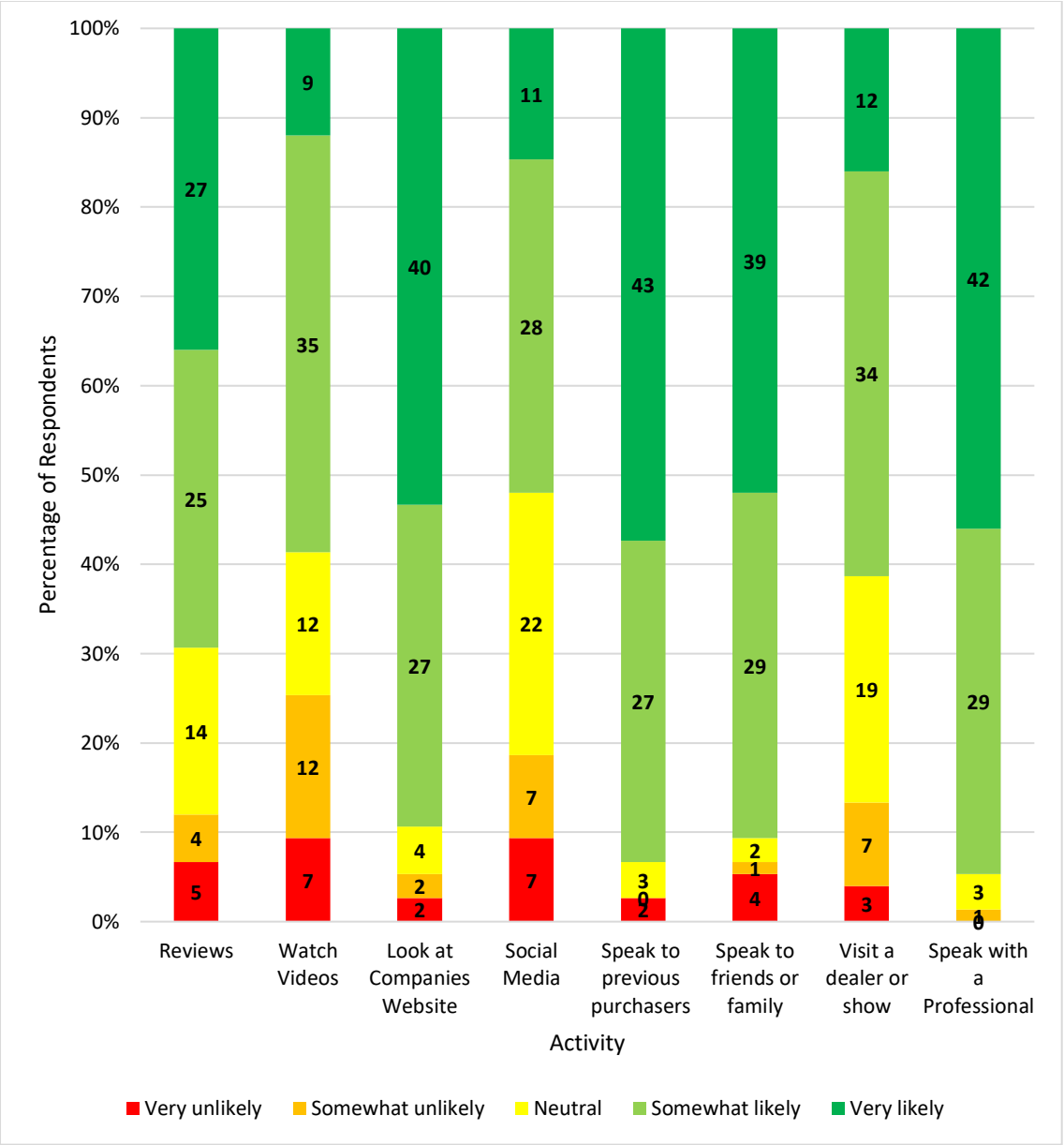


Figure 4.1.9 – How Likely Respondents would be to do Certain Actions before Purchasing Something for the Farm Costing **More** than £10,000

For more expensive products, over ten thousand pounds, participants preferred to speak to a professional (95% with 56% very likely), followed by speaking to previous purchasers (93% with 57% very likely), speaking to family or friends (91% with 52% very likely) and looking at the website (89% with 53% very likely). Using social media to research the product was still the lowest preference (52% with 15% very likely) but, methods such as watching videos (75% to 59%) and visiting a dealer (87% to 61%), were a lot less likely for the expensive product compared to the cheaper product.

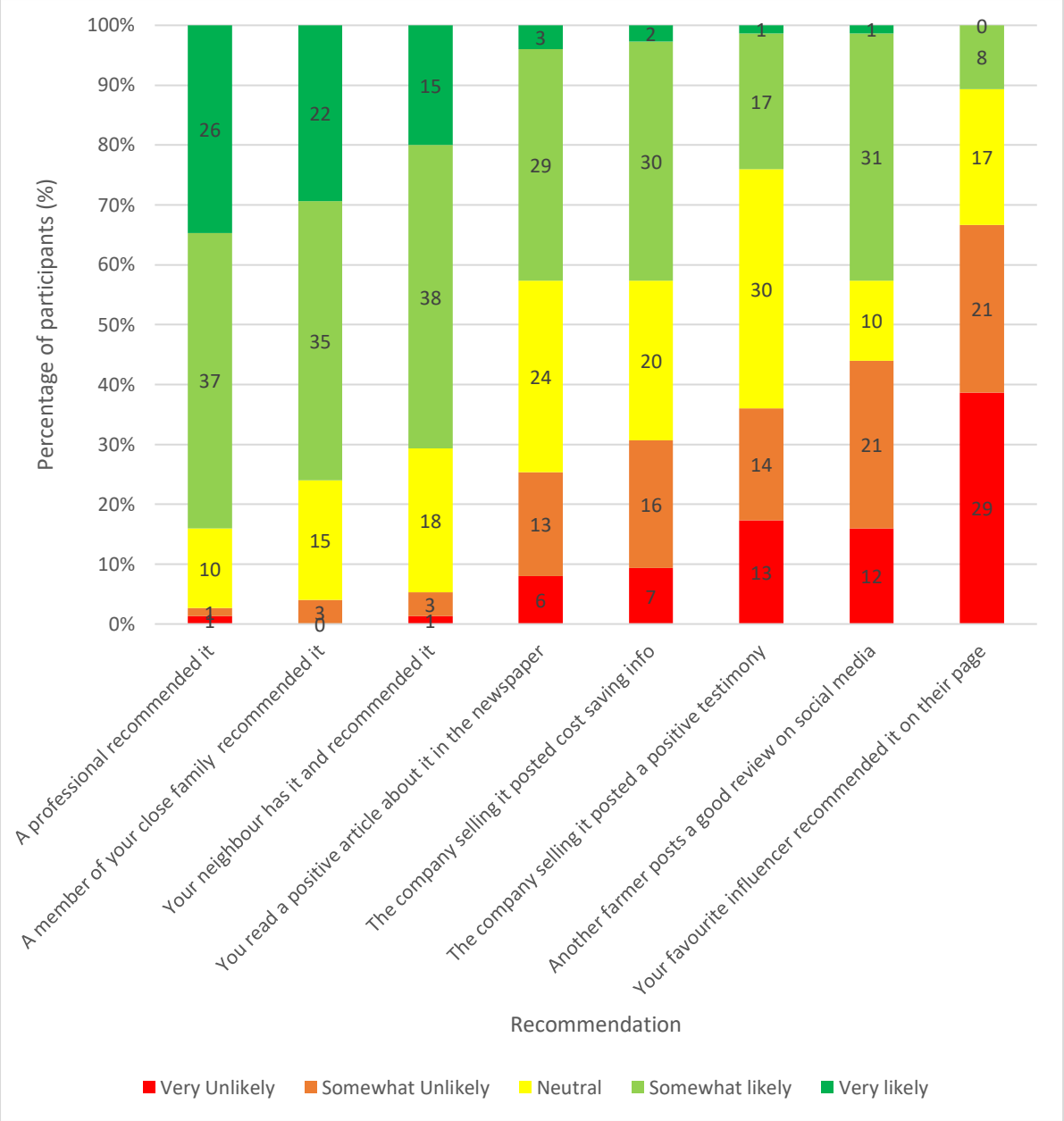


Figure 4.1.10 – How Likely Respondents would be to Purchase Something for the Farm Costing **Less** than £10,000 Based **Just** on Certain Recommendations

For cheaper products, under ten thousand pounds, based purely on a single recommendation. Participants were most likely to buy the product based on the recommendation from a professional (84% with 35% very likely), followed by family (76% with 29% very likely) and then a neighbour (71% with 20% very likely). Although recommendations in a newspaper had the exact same likelihood of causing a purchase as a good review from other farmers on SM (43%), all SM content had a much higher level of participants saying they would be unlikely to buy a product based on it. Influencers ranked the lowest for participants trusting their recommendation, with 11% likely to and 67% unlikely to (0% very likely and 39% very unlikely to trust it).

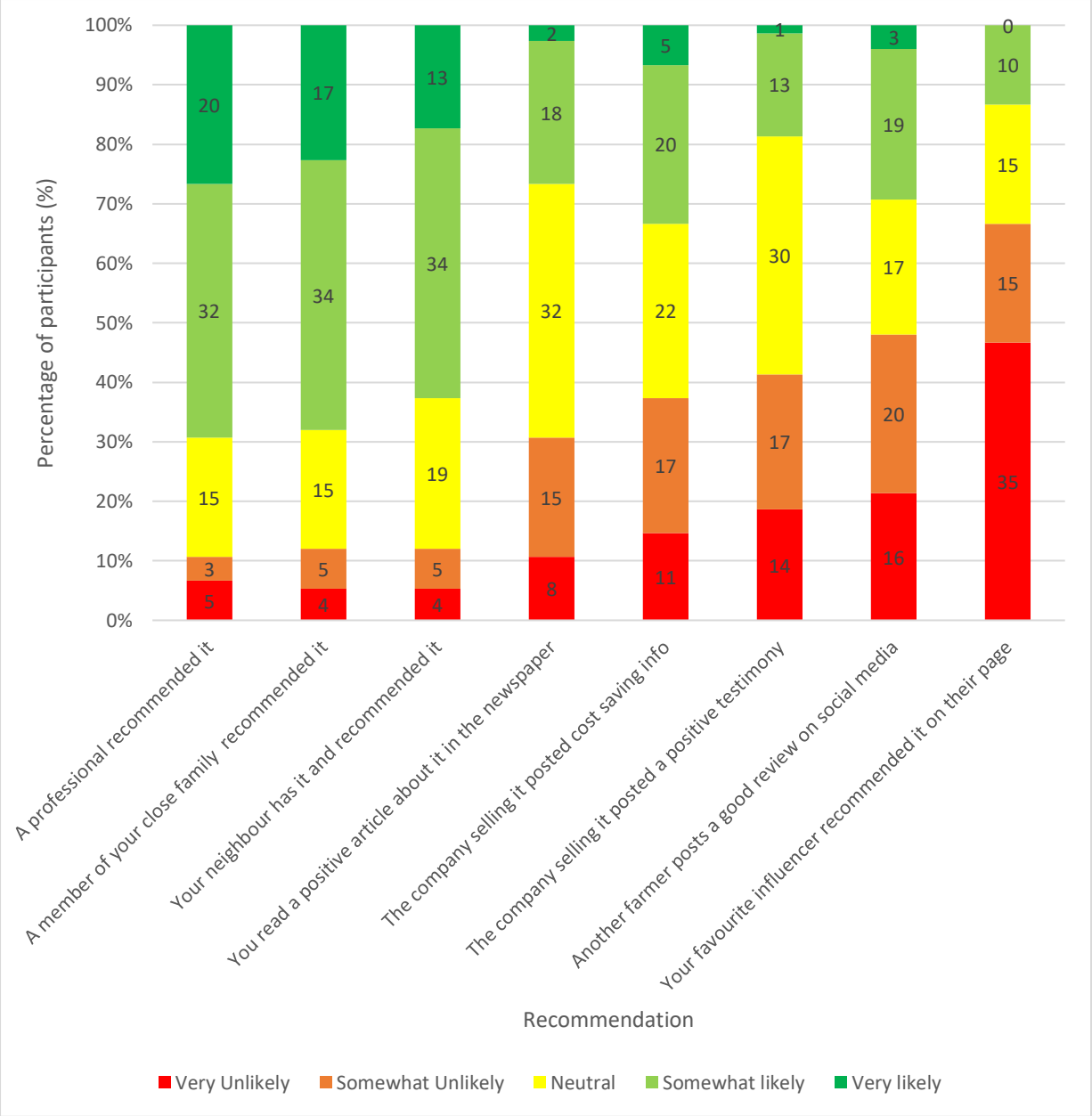


Figure 4.1.11 – How Likely Respondents would be to Purchase Something for the Farm Costing **More** than £10,000 Based **Just** on Certain Recommendations

For more expensive products, more than ten thousand pounds, based purely on a single recommendation. Participants were understandably less likely to buy from any of the recommendations than with the cheaper products, with one exception, which was a recommendation from an influencer (13% with 0% very likely). They were still most likely to buy the product based on the recommendation from a professional (69% with 27% very likely), followed by family (68% with 23% very likely) and then a neighbour (63% with 17% very likely). However, recommendations in a newspaper (27%), this time, were less trusted as the sole reason for a purchase, compared to a good review from other farmers on SM (29%). Influencers were still ranked the lowest

for participants trusting their recommendation, with 67% unlikely to (47% very unlikely).

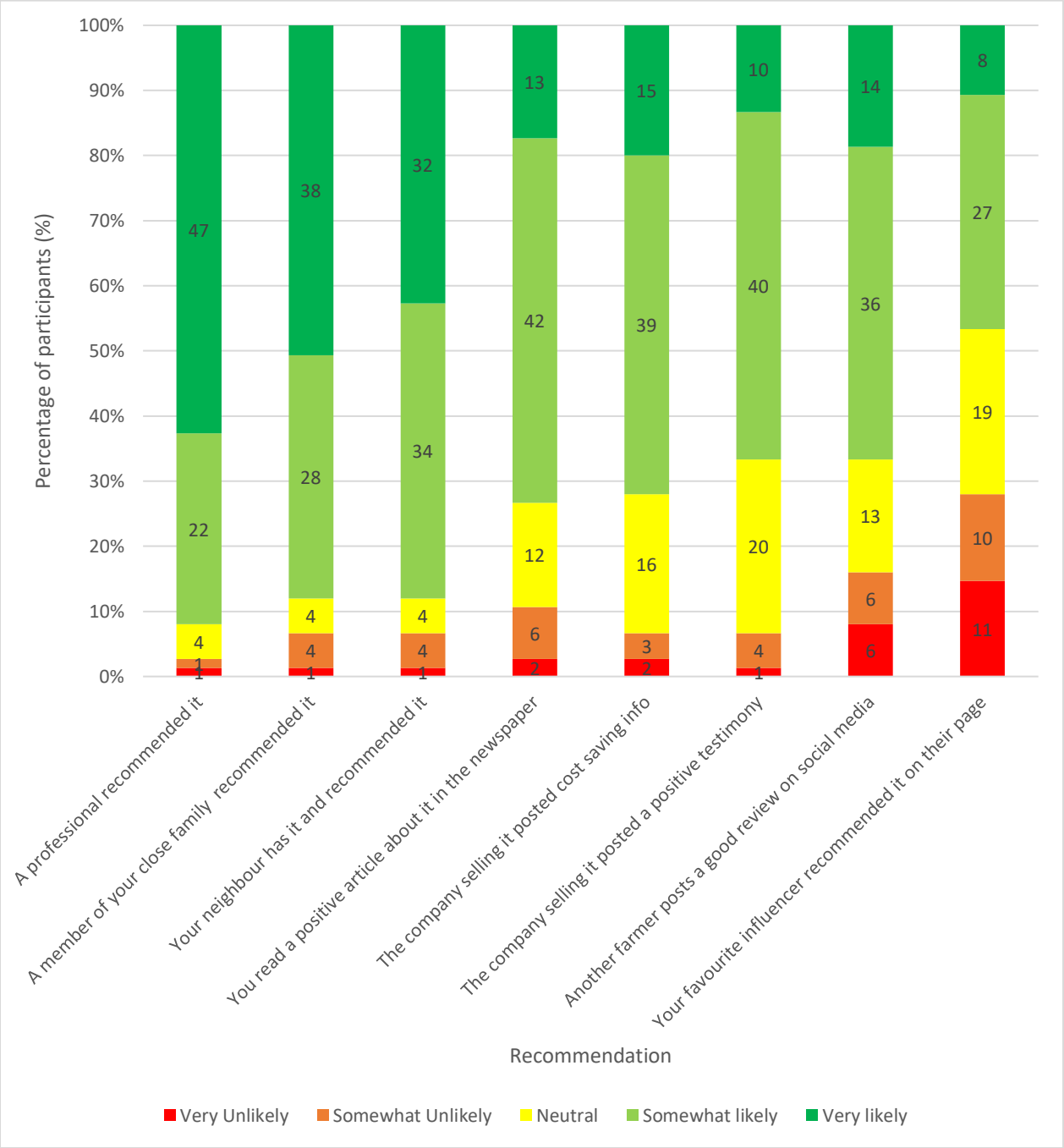


Figure 4.1.12 – How Likely Respondents would be to Purchase Something for the Farm that is **Free** Based **Just** on Certain Recommendations

For recommendations for a change to how things are done on farm which costs nothing, participants were understandably more likely to be willing, based on any single recommendation than when there was a cost to it. However, the three recommendations which were most likely to have an effect were still from a professional (92% with 63% very likely). This was followed by family and a neighbour,

both at 88% but, 51% were very likely to trust family compared to 43% being very likely to trust a neighbour. Influencers were still ranked the lowest for participants trusting their recommendation, with 47% likely (11% very likely) and 28% unlikely to (15% very unlikely).

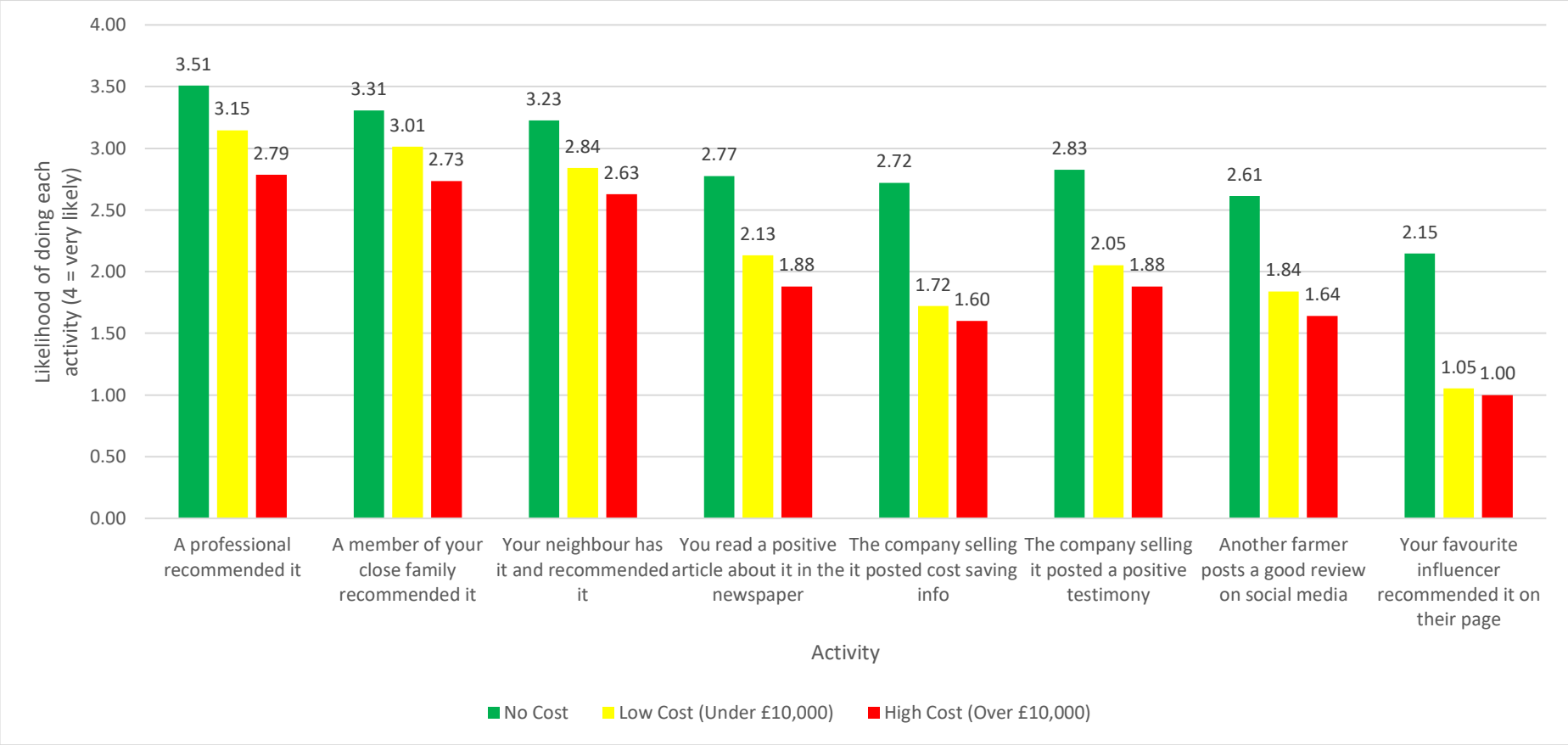


Figure 4.1.13 – How Likely Respondents would be to Purchase Something Based **Just** on Certain Recommendations

The average likelihood of trusting recommendations from all sources decreased as the cost of this decision increased, but the trend remained fairly consistent with the three most trusted sources always being professionals (3.51, 3.15 and 2.79) followed by family (3.31, 3.01, 2.73) and then neighbours (3.23, 3.01 and 2.73). Whilst, influencers were always the least trusted (2.15, 1.05 and 1.00),

however the gap in trust between professionals and influencers was lower for the free decision (1.36), than for the most expensive product (1.70).

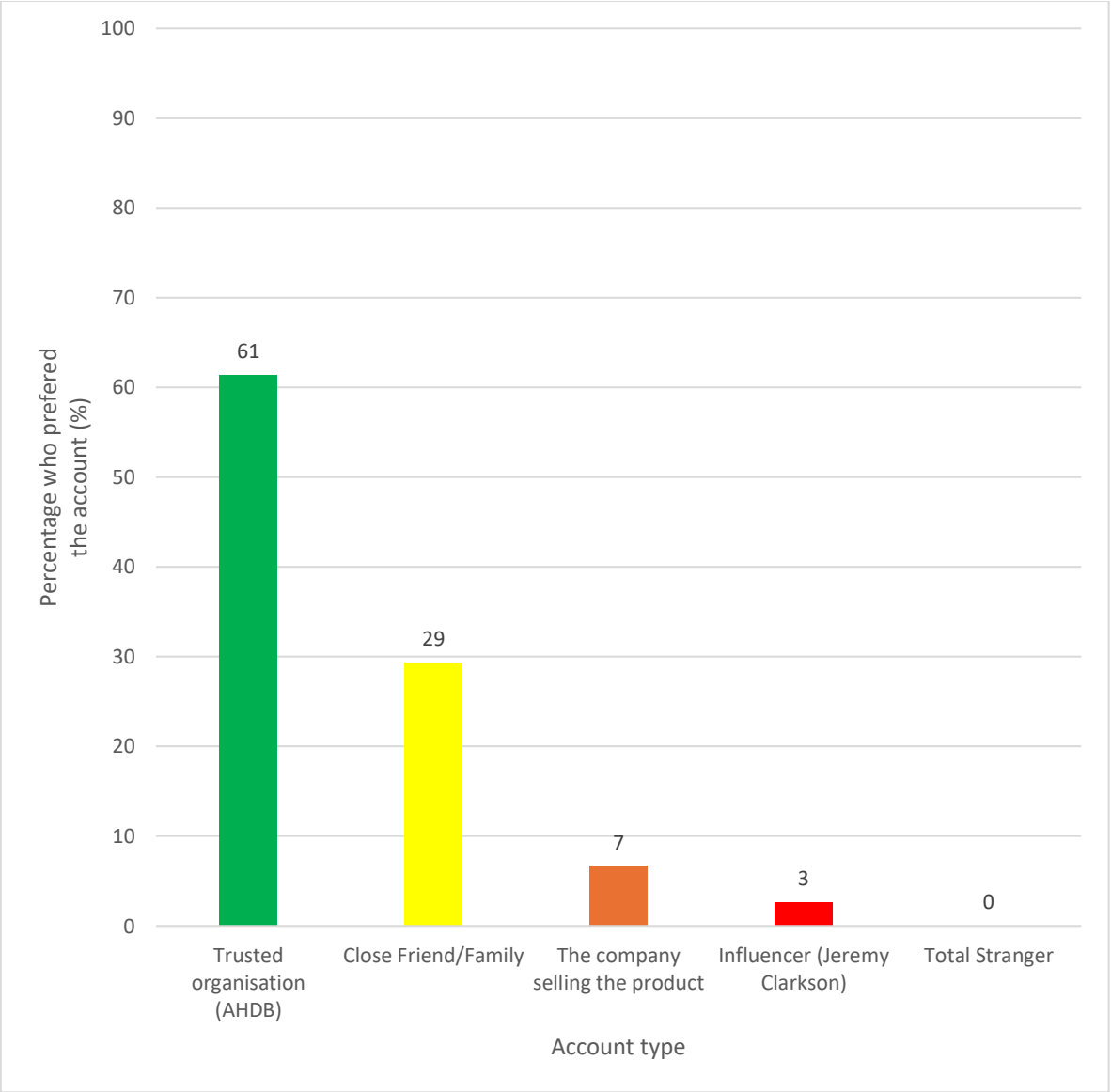


Figure 4.1.14 – Which Account is Most Likely to Make Respondents Use a Product

Participants were shown five identical social media posts talking about a silage inoculant, and asked to choose which would make them most likely to use the product. AHDB was the most popular option, with 61% of respondents choosing it, followed by close friends or family. There were no responses recorded choosing the account from a total stranger. Slightly more chose the post from the company selling the product (7%) than an influencer, in this example, Jeremy Clarkson (3%).



Figure 4.1.15 – Themes of Reasons why Participants Chose their Preferred Account from Figure 4.1.14

When asked for reasons why, themes of trust and independence were common, in the responses. With trust, independent, reputable and unbiased all being commonly cited reasons by participants. Showing participants value information coming from sources which don't appear to have an alternative agenda.

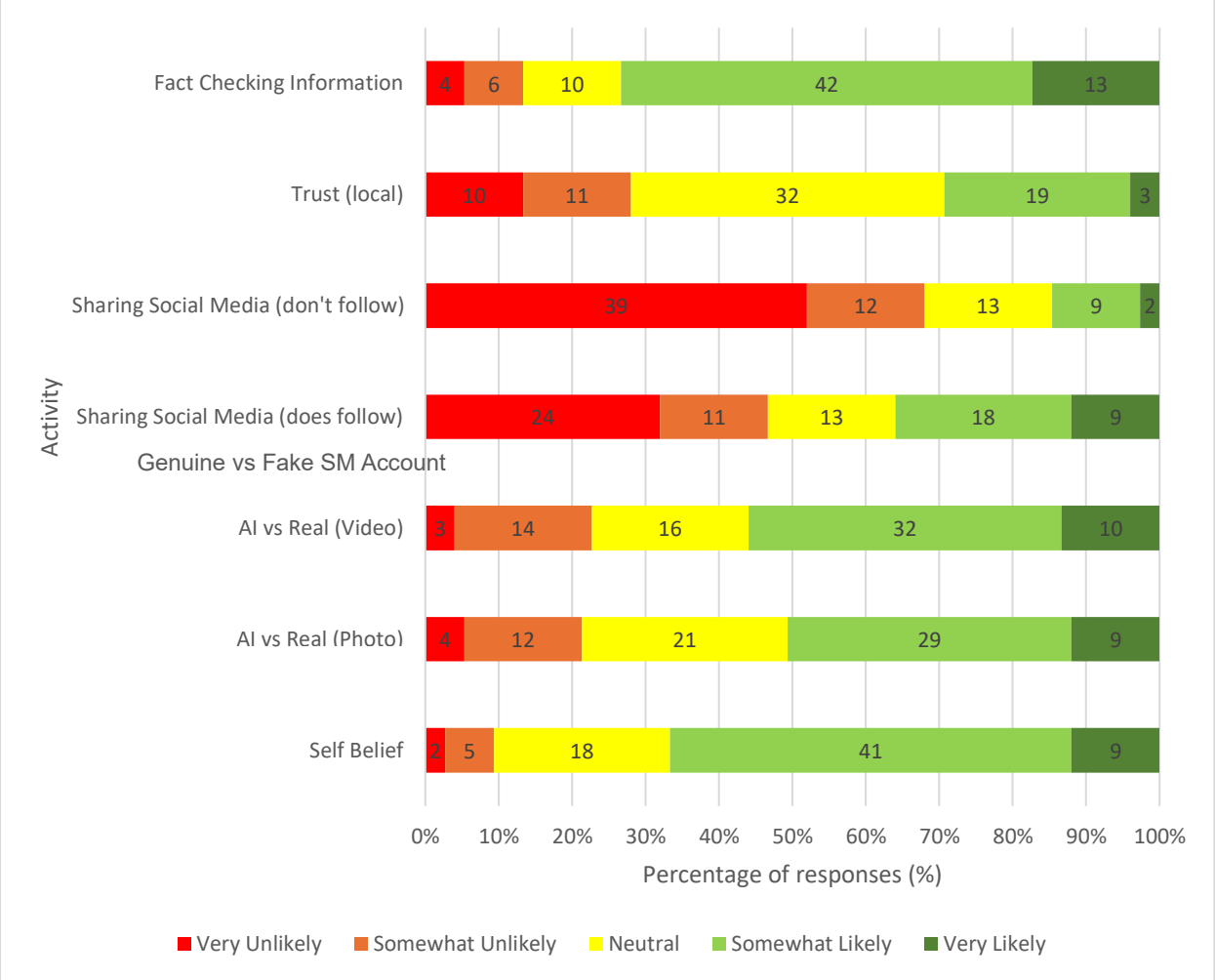


Figure 4.1.16 – How Likely Respondents Believe they are to do Certain Activities on Social Media

Participants were slightly more likely than not to believe they can identify genuine accounts, photos and videos. With 56% likely to believe they could identify an AI video (13% very likely) and 51% likely to believe they could identify an AI photo (12% very likely). There wasn't a strong opinion around trusting local accents more, with 43% being neutral. The strongest attitudes were that respondents would be somewhat unlikely to share posts from accounts they don't follow, with 68% unlikely to (52% very unlikely) and would be somewhat likely to fact check information they see on SM (73% likely with 17% very likely). Whilst 67% believed they would likely be able to differentiate a genuine SM account from a fake, with 12% believing they would very likely be able to do this.

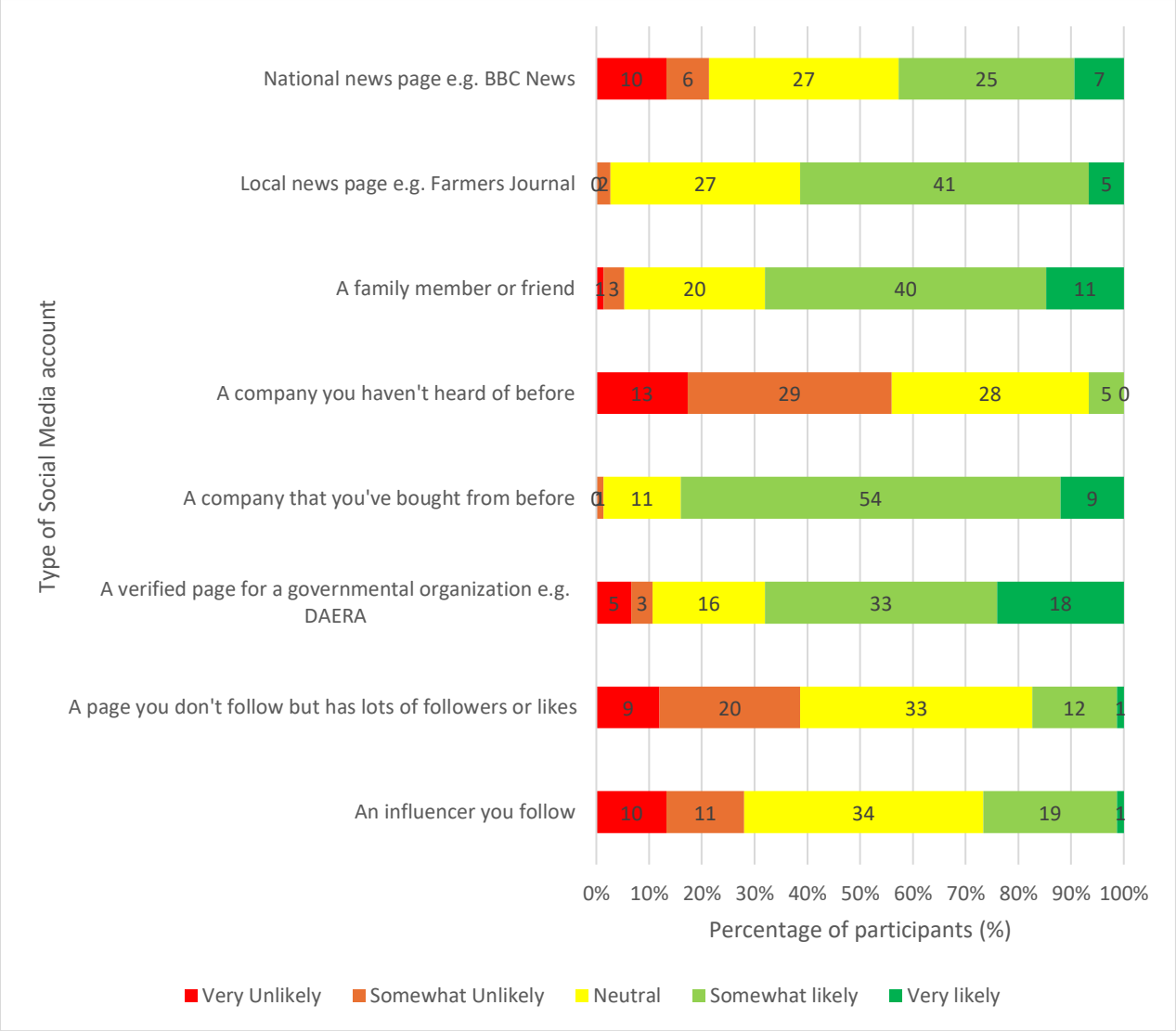


Figure 4.1.17 – How Likely Participants are to Believe Information they see on Social Media from Different Sources

Participants were asked how likely they were to believe information they saw on SM from different sources. The most trusted source was a company they had previously bought from (84% with 12% very likely), followed by a verified government page (68% with 24% very likely), a family member or friend (68% with 15% very likely) and a local news page e.g. the farmers journal (61% with 7% very likely). The least trusted sources were a company they haven't heard of before (56% unlikely to trust, 7% likely to trust), followed by a page they don't follow but has lots of followers or likes (39% unlikely to trust, 17% likely to trust). Only 32% were likely to trust a national news source but this was still higher than influencers, even if the participant followed them (20%)

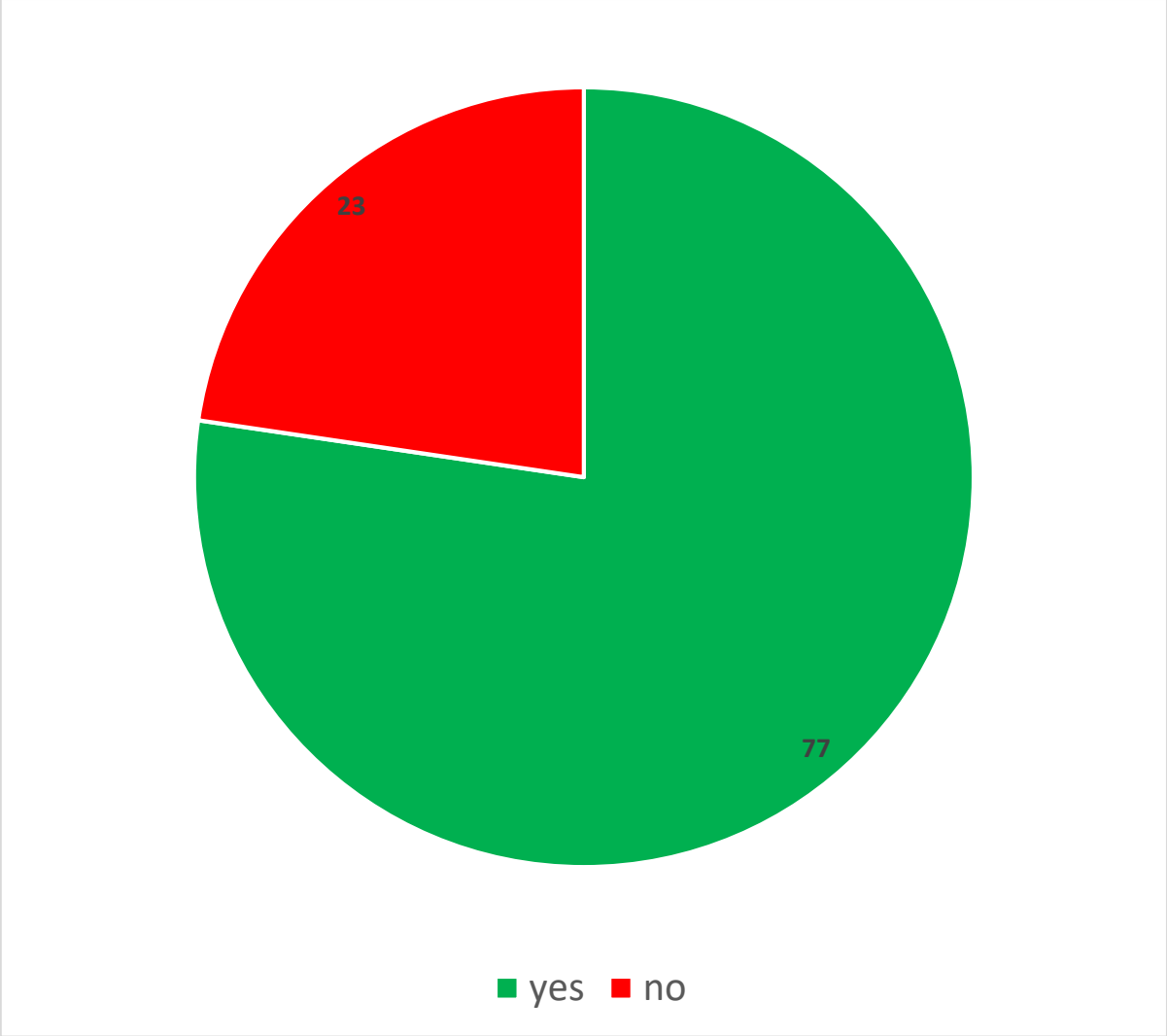


Figure 4.1.18 – If Participants Believed it was a Genuine DEFRA Facebook Account

The participants were shown a screenshot of the genuine SM account of DEFRA, showing its logo, follower count, verification tick, and link to the DEFRA website. They were then asked if they believed if it was a genuine account and their confidence in this answer. They were then asked about what features made them come to their conclusion, with their answers summarised in Figure 4.1.20.

77% of participants correctly identified the page as being the genuine DEFRA Facebook account.

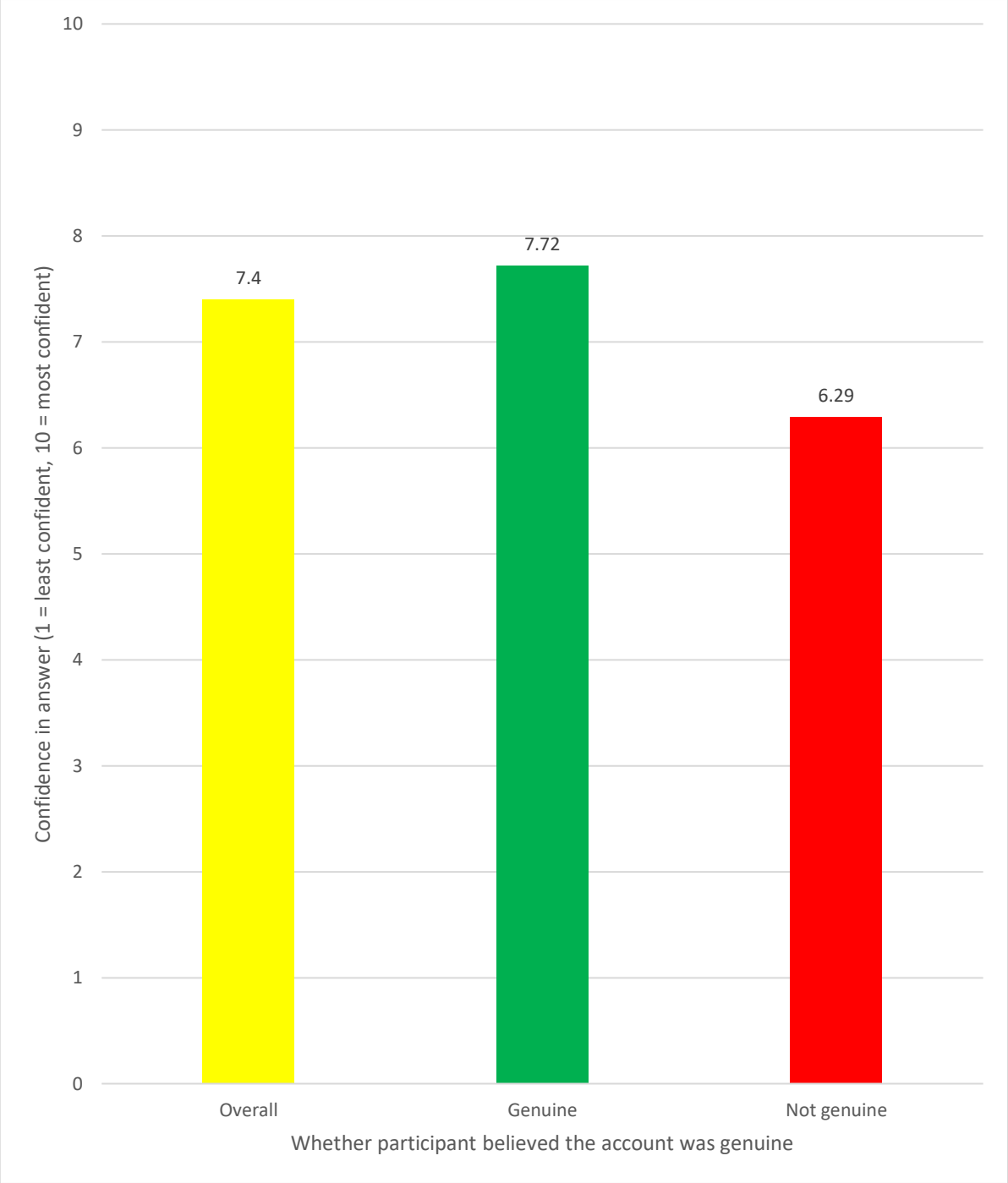


Figure 4.1.19 –Participants Confidence in their Answer about it being a Genuine DEFRA Facebook Account

Those who correctly identified it as a genuine page, were more confident in their answer (7.72 out of 10) compared to those who incorrectly thought it was a fake page (6.29 out of 10).

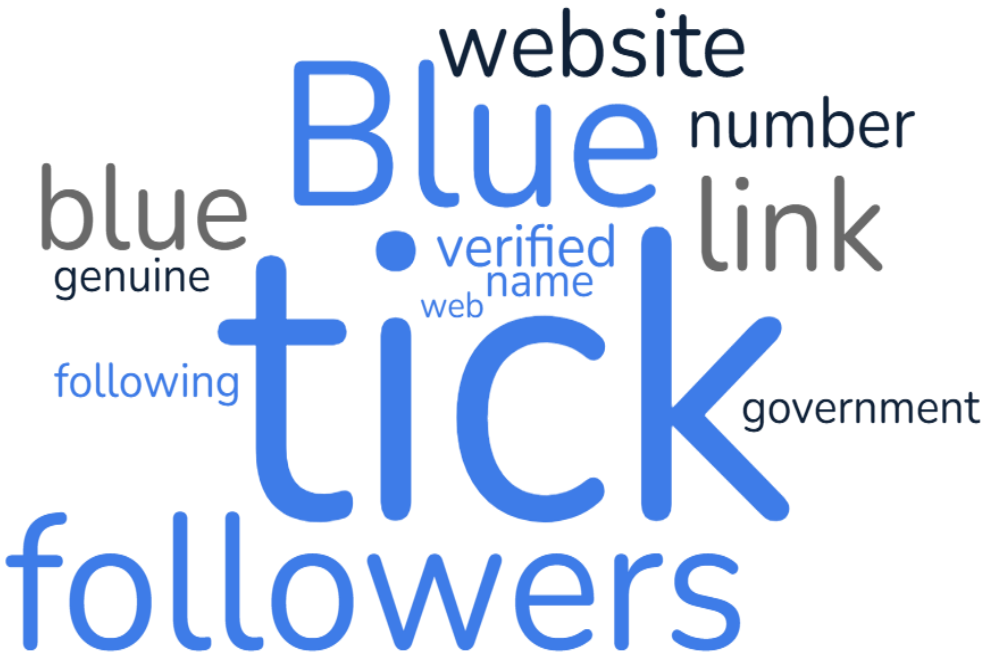


Figure 4.1.20 – Themes from Participants Reasons for their Answer about it being a Genuine DEFRA Facebook Account

Themes of participants who believed the page to be genuine, shown above, cite the common verification method, of a blue tick. High follower account and the link to their website were also common themes identified.

For the participants who didn't believe it to be genuine, the most common concern (7 out of 17) cited the logo not being correct, as the logo on the Facebook page is the government generic logo, this is a valid concern. Other reasons included poor grammar, low follower account, and the web address not being correct.

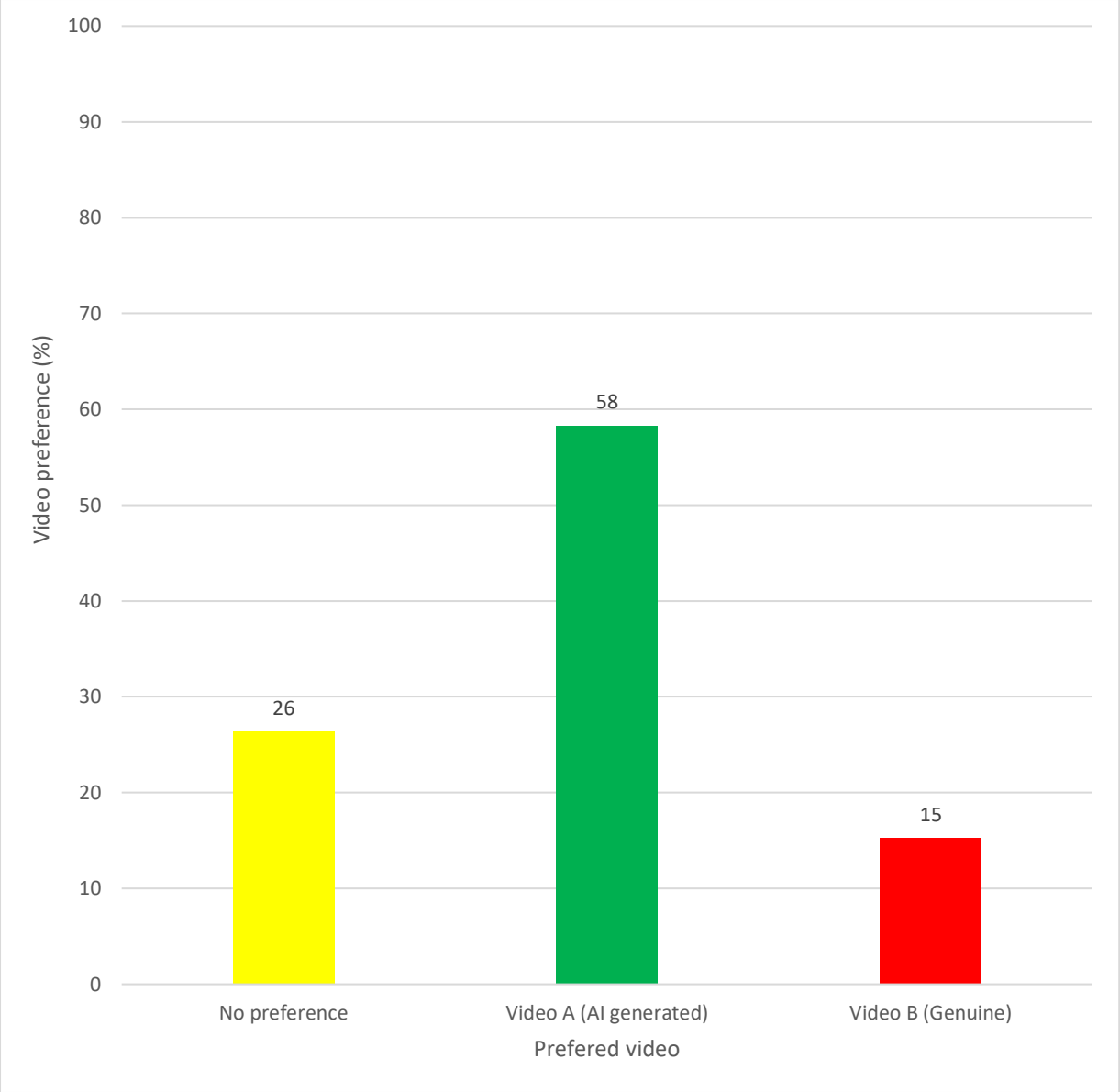


Figure 4.1.21 – Which Video Participants Would Rather Watch

Participants were shown two videos; video B was a genuine video taken from the Dairy NZ YouTube channel showing a person with a New Zealand accent talking about mastitis. Video A was an AI generation or deepfake of the same person talking about mastitis in a Northern Irish accent. The majority preferred the AI generated video (Video A), with only 15% preferring the genuine video (Video B).



Figure 4.1.22 – Themes of Reasons Why Participants Would Rather Watch a Certain Video

Above are a summary of reasons for participants choosing video A over video B. The accent being more local and finding it easier to understand were the most commonly cited reasons. Others found it more “professional”, “upbeat”, “clear” and “engaging” than the genuine video.

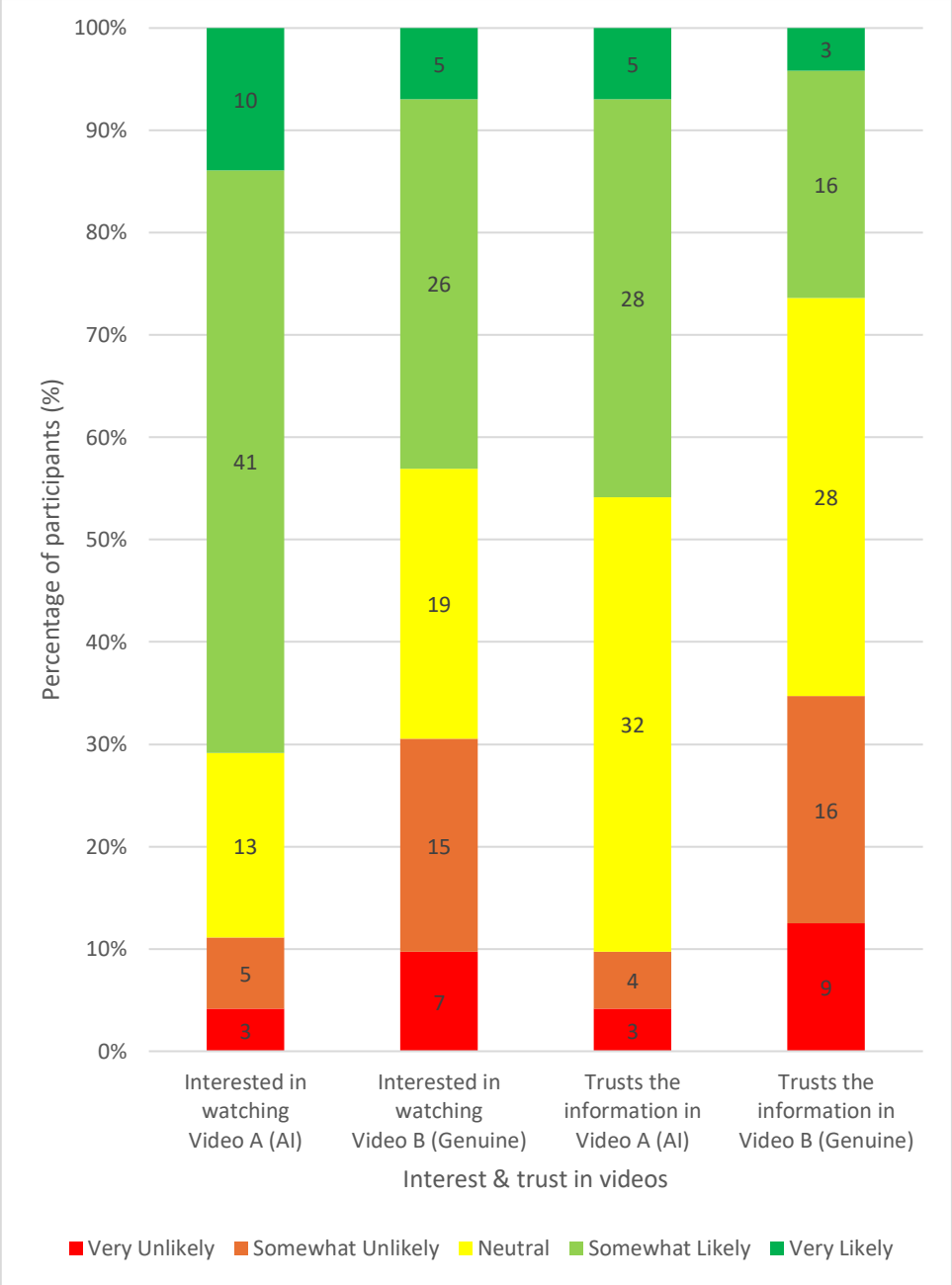


Figure 4.1.23 – Interest and Trust Differences Between Videos

The trust and interest in video A (AI) were higher than video B (Genuine), with a large majority likely to be interested in watching Video A (57% somewhat likely and 14% very likely). Whilst only 43% were interested in watching Video B (36% somewhat likely and 7% very likely). Likewise, only 26% trusted the information in Video B (22% somewhat likely and 4% very likely) whilst 46% trusted Video A (39% somewhat likely and 7% very likely).

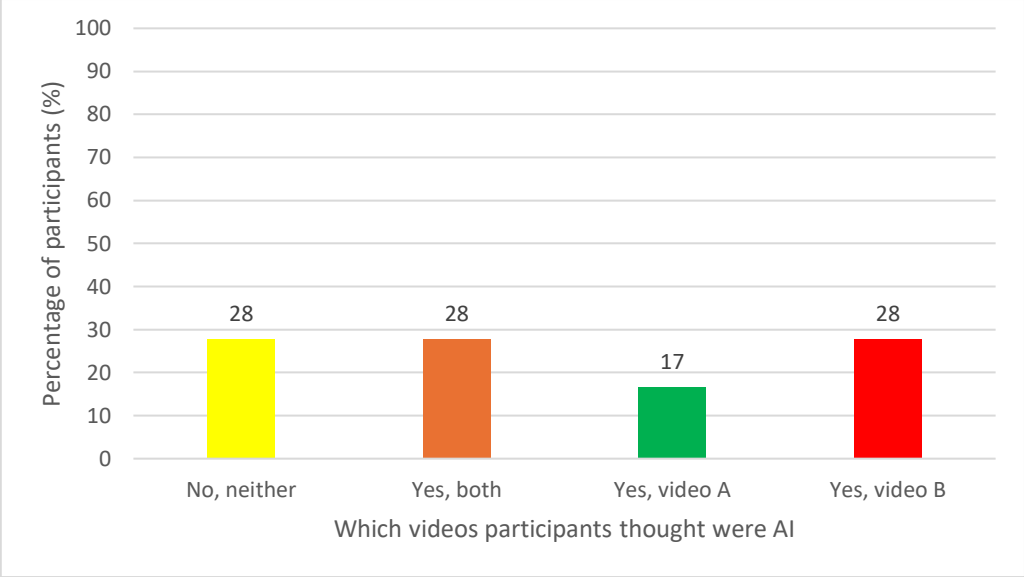


Figure 4.1.24 – Whether Participants Believed Either Video to be Made with AI

When asked if participants believed either video to be made using AI, the lowest response was just video A was made using AI, which was the correct answer, with just 17% of responses. Meaning, only 17% of participants accurately identified the AI video, the other three options were all equal on 28% of responses.

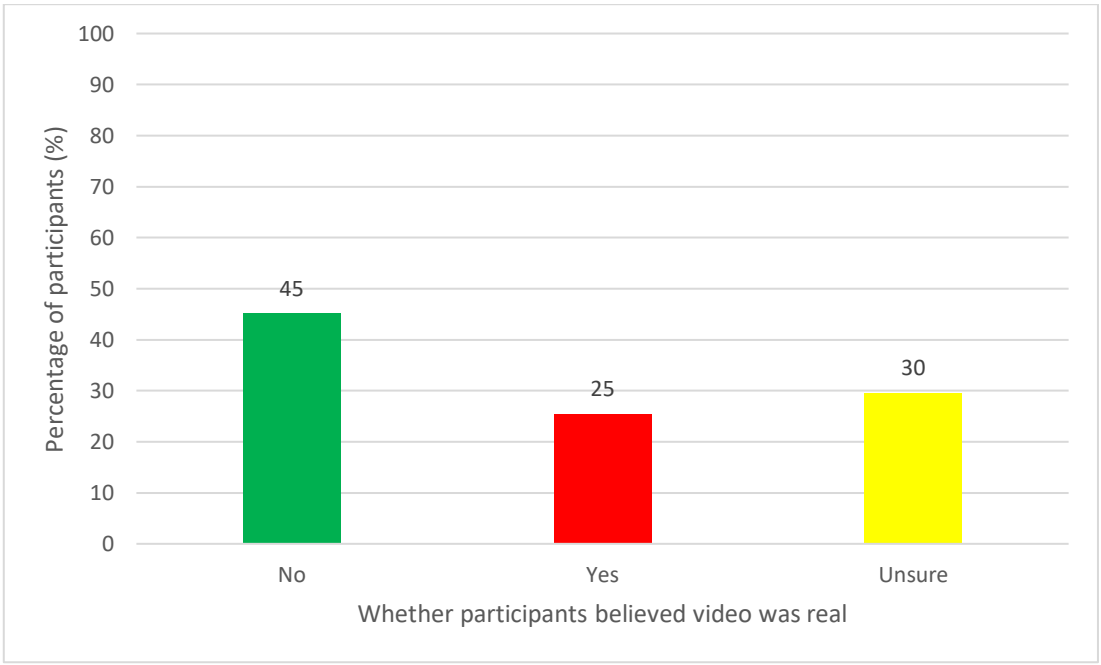


Figure 4.1.25 – Whether Participants Believed the Tractor Video was Genuine

The participants were then shown a video of a tractor driving across a field that was generated entirely using AI. 45% correctly identified the video as not being genuine,

whilst over half of participants were unable to accurately identify the video as being made with AI.

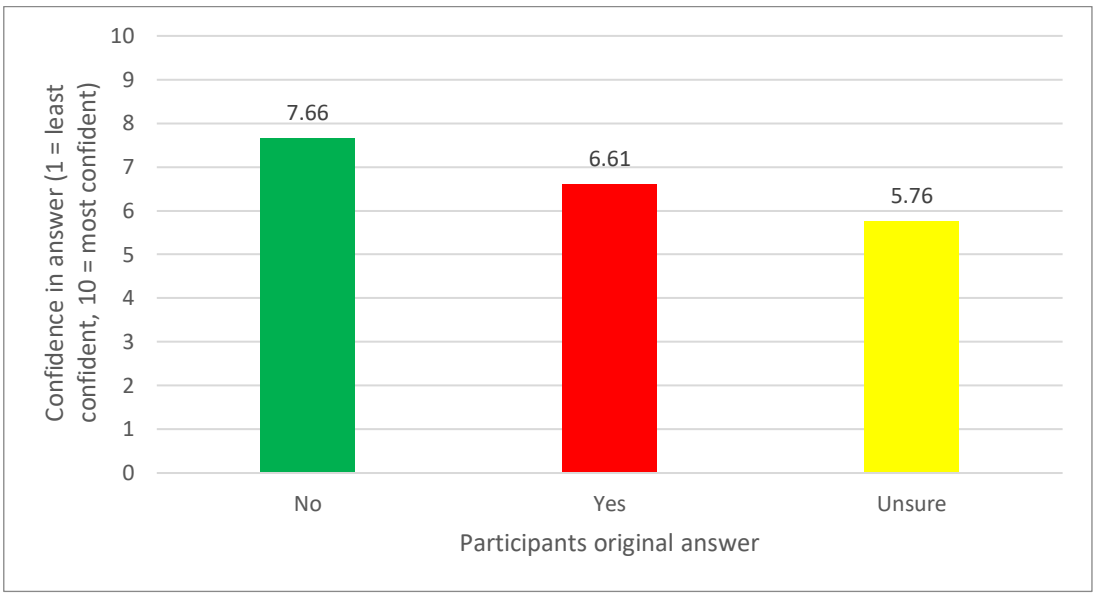


Figure 4.1.26 – Confidence in Participants Answer of if the Tractor Video was Genuine

Confidence was higher for those who believed the video was fake (7.66 out of 10) than those who thought it was real (6.61 out of 10).

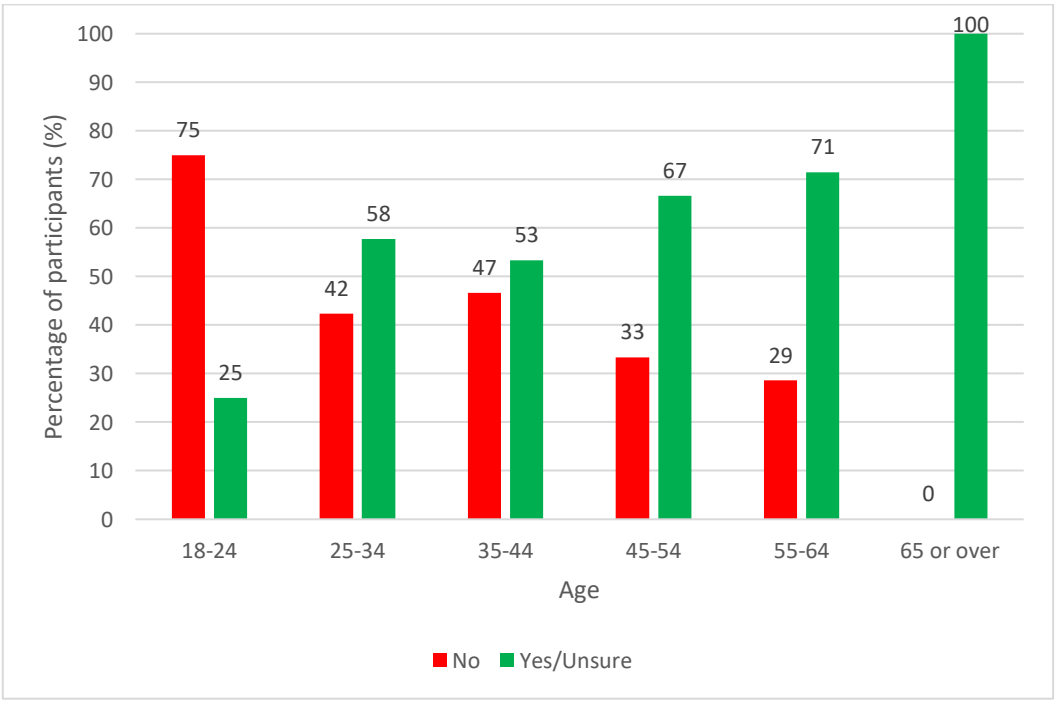


Figure 4.1.27 – Comparison Between Age and Whether Participant Believes an AI Video to be Genuine

When comparing ages there was a trend for older ages to be more likely to be unsure or believe the AI generated video was real. Both participants over 65 were unsure about whether the video was AI, whilst 71% of those aged 55-64 were unsure or believed the video to be real. In comparison only 25% of those aged 18-24 were unsure or believed it to be real. Overall as age increased, the ability to correctly identify an AI video decreased.

4.2 - Further Analysis and Inferential Statistics

Null Hypothesis 1: There is no statistically significant difference between dairy farming being the main source of income and if trust in videos is influenced by the person sounding local

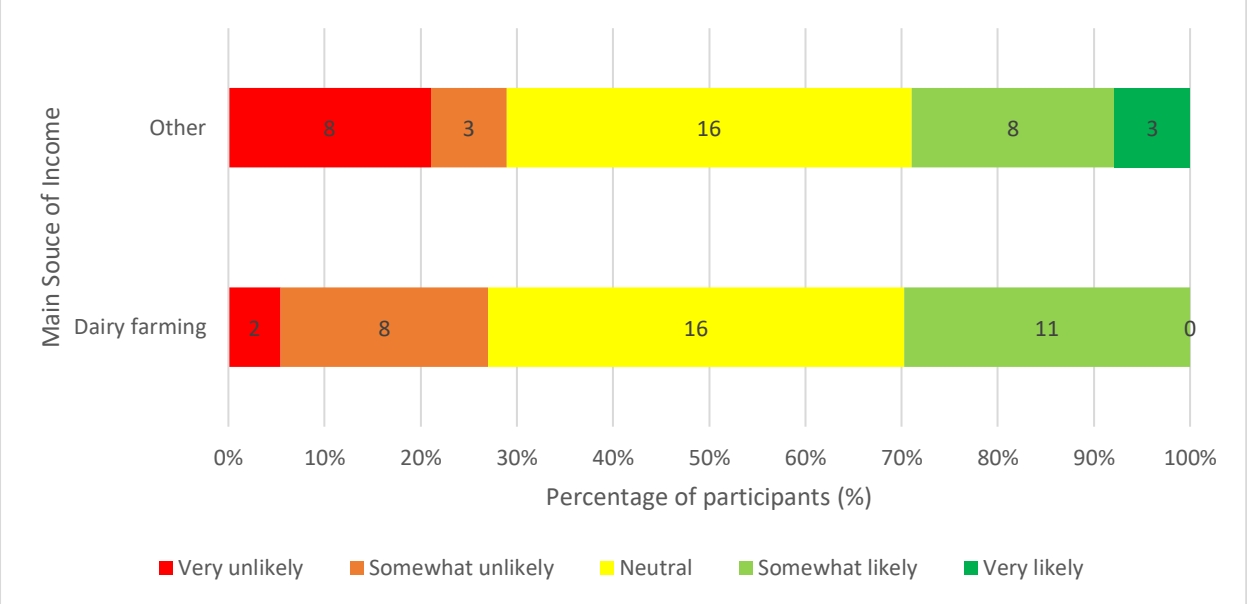


Figure 4.2.1 – A graph showing the comparison between dairy farming being the main source of income and if trust in videos is influenced by the person sounding local

The bar chart shows the opinions of participants whose main income source was dairy farming or other, in relation to likelihood of trusting a video more if they sound local. 30% of participants whose main source of income is dairy farming were likely to trust a video more if it sounds local (0% were very likely). 29% of participants whose main source of income isn't dairy farming were likely to trust a video more if it sounds local (8% were very likely). 27% of participants whose main source of income is dairy farming were unlikely to trust a video more if it sounds local (5% were very unlikely). 29% of participants whose main source of income isn't dairy farming were unlikely to trust a video more if it sounds local (21% were very unlikely).

Table 4.2.1 – Null Hypothesis 1 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	9.335	4	0.053	Accept Null Hypothesis
Number of valid cases	75			

Table 4.2.1 shows the Chi square results for null hypothesis 1. The P value is just greater than 0.05. Therefore, as the P value is not significant the null hypothesis can be accepted. However, as the P value is nearly significant and there is a trend, with a larger sample, it may show significance.

Null Hypothesis 2: There is no statistically significant difference between dairy farming being the main source of income and if they would be interested in watching a video B

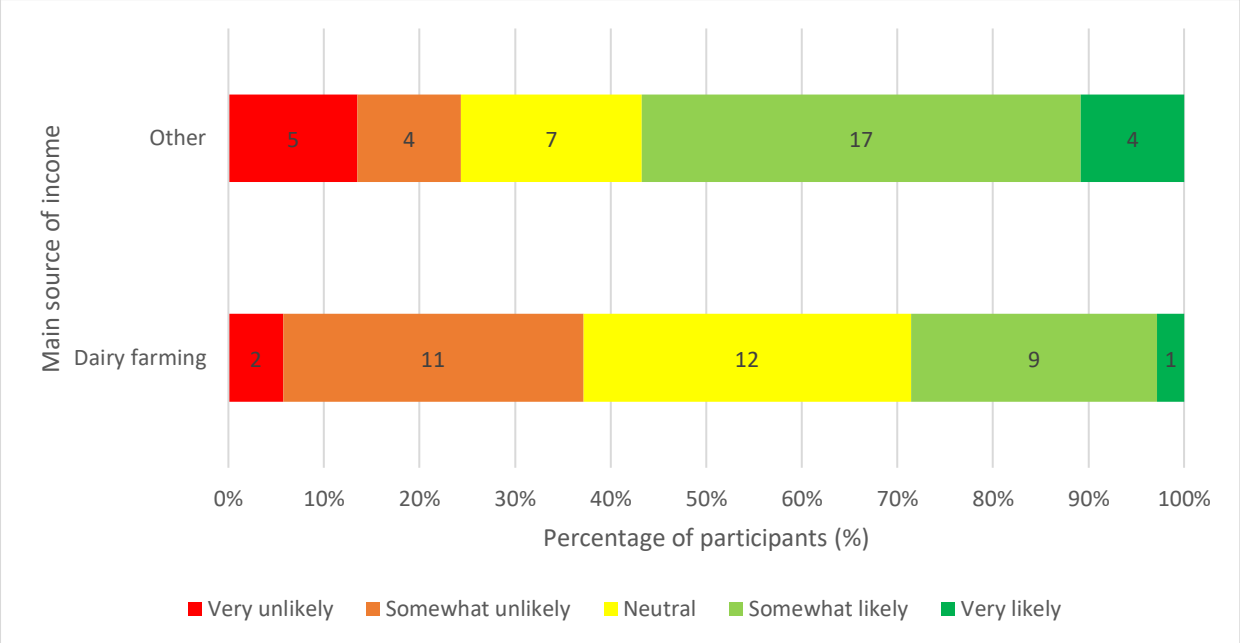


Figure 4.2.2 – A graph showing the comparison between dairy farming being the main source of income and if they would be interested in watching a video B

The bar chart shows the opinions of participants whose main income source was dairy farming or other in relation to likelihood of interest in watching video B. 27% of participants whose main source of income is dairy farming were likely to be interested in watching video B (3% were very likely). 56% of participants whose main source of income isn't dairy farming were likely to be interested in watching video B (11% were very likely). 35% of participants whose main source of income is dairy farming were unlikely to be interested in watching video B (5% were very unlikely). 24% of participants whose main source of income isn't dairy farming were unlikely to be interested in watching video B (13% were very unlikely).

Table 4.2.2 – Null Hypothesis 2 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	10.08	4	0.039	Reject Null Hypothesis
Number of valid cases	72			

Table 4.2.2 shows the Chi square results for null hypothesis 2. The P value is less than 0.05 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is no significant relationship between dairy farming being the main source of income and if they would be interested in watching video B.

Null Hypothesis 3: There is no statistically significant difference between participants' association with dairy farming and if trust in videos is influenced by the person sounding local

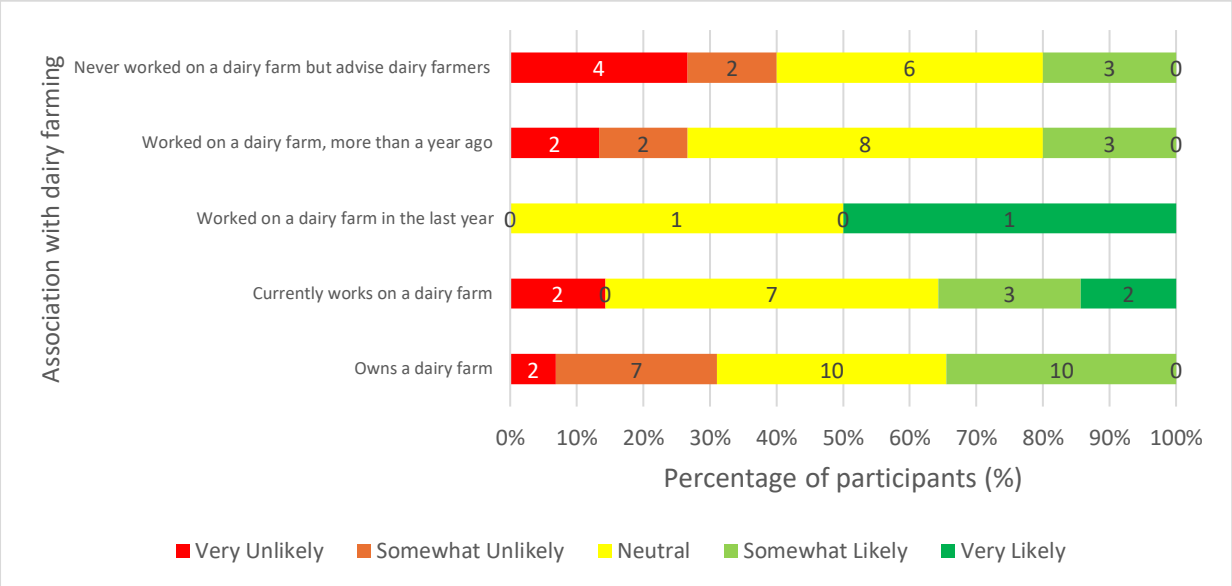


Figure 4.2.3 – A graph showing the comparison between participants' association with dairy farming and if trust in videos is influenced by the person sounding local

The bar chart shows the opinions of participants with five different types of association to dairy farming and how likely they are to trust a video more if the person sounds local. 14% of participants currently working on a dairy farm disagreed (14% strongly disagreed). Compared to 40% of participants who haven't worked on a dairy farm but advise farmers (27% strongly disagreed). 20% of those who haven't worked on a dairy farm but do advise them and those that haven't worked on a dairy farm for over a year

agreed that they would trust a video more if it sounded local. However, 34% of participants who own a dairy farm and 35% of those who currently work on a dairy farm would trust a video if the person sounded more local.

Table 4.2.3 – Null Hypothesis 3 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	26.94	16	0.042	Reject Null Hypothesis
Number of valid cases	75			

Table 4.2.3 shows the Chi square results for null hypothesis 3. The P value is less than 0.05 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between participants' association with dairy farming and if trust in videos is influenced by the person sounding local

Null Hypothesis 4: There is no statistically significant difference between frequency of TikTok usage and belief in ability to identify a genuine social media account

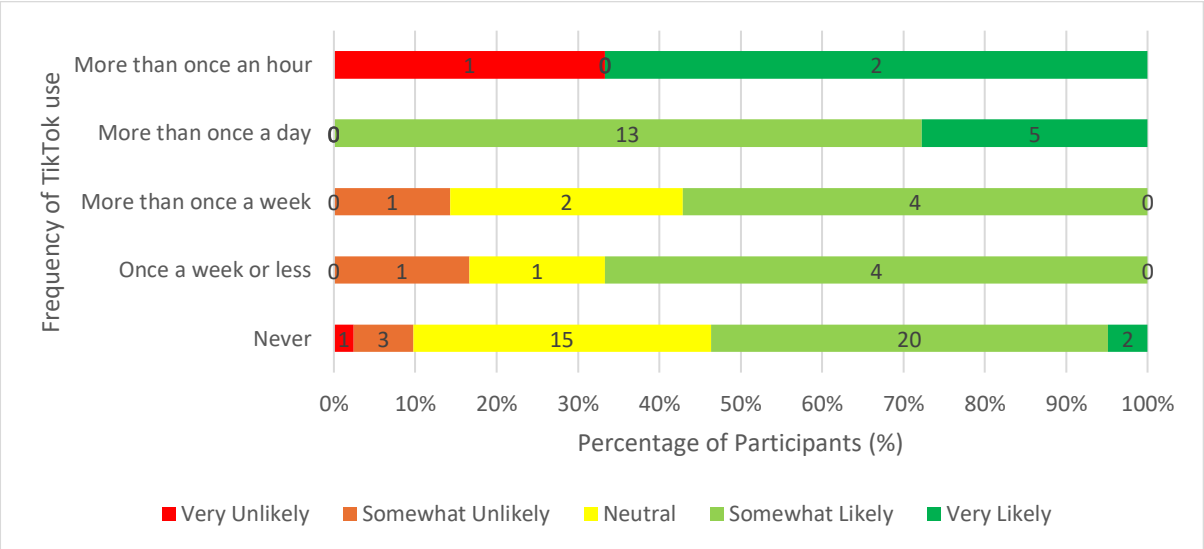


Figure 4.2.4 - A graph showing the comparison between frequency of TikTok usage and belief in ability to identify a genuine social media account

The bar chart shows the participants' belief in their ability to identify a genuine social media account compared to how frequently they use TikTok. 95% of participants who use TikTok more than once a day, including those who use it more than once an hour, believed they could identify a genuine social media account, compared to 54% of those who never use TikTok.

Table 4.2.4 – Null Hypothesis 4 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	39.87	16	<0.001	Reject Null Hypothesis
Number of valid cases	75			

Table 4.2.4 shows the Chi square results for null hypothesis 4. The P value is less than 0.001 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between frequency of TikTok usage and belief in ability to identify a genuine social media account.

Null Hypothesis 5: There is no statistically significant difference between frequency of TikTok usage and belief in ability to identify a genuine photo and a photo made by AI

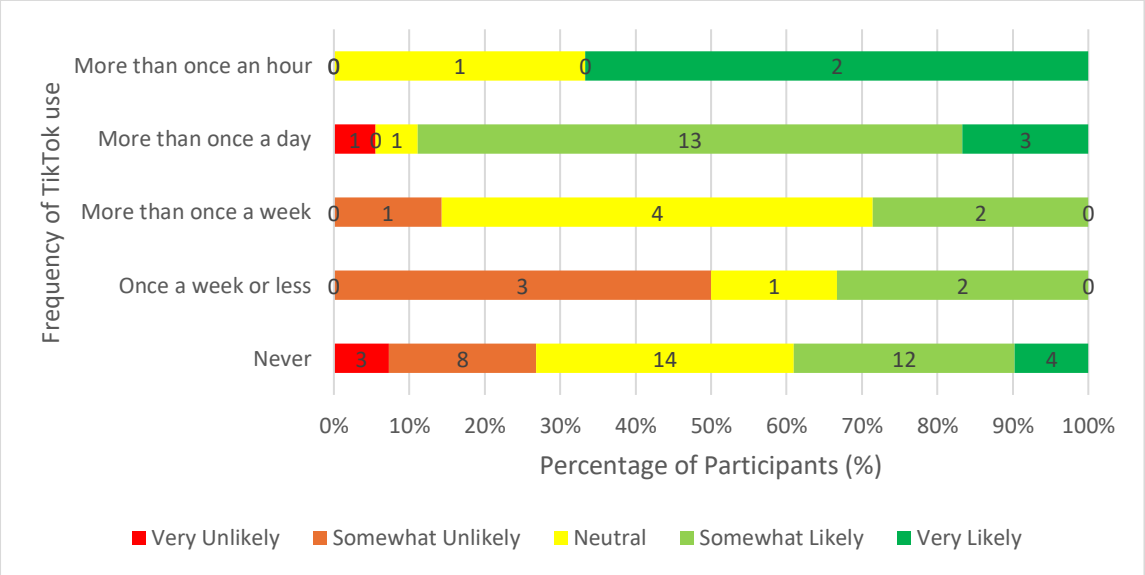


Figure 4.2.5 - A graph showing the comparison between frequency of TikTok usage and belief in ability to identify a genuine photo and a photo made by AI

The bar chart shows the participants' belief in their ability to distinguish a genuine photo from a photo made by AI compared to how frequently they use TikTok. 86% of participants who use TikTok more than once a day, including those who use it more

than once an hour, believed they could identify a genuine photo, compared to 39% of those who never use TikTok.

Table 4.2.5 – Null Hypothesis 5 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	32.50	16	0.009	Reject Null Hypothesis
Number of valid cases	75			

Table 4.2.5 shows the Chi square results for null hypothesis 4. The P value is less than 0.01 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between frequency of TikTok usage and belief in ability to identify a genuine photo and a photo made by AI.

Null Hypothesis 6: There is no statistically significant difference between gender and frequency of Facebook use

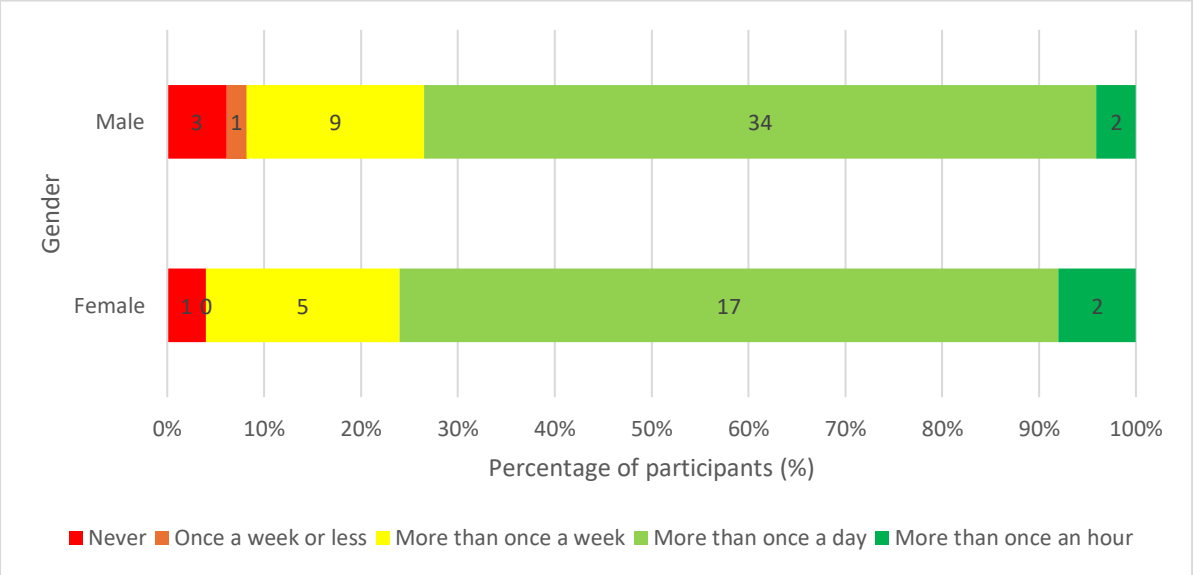


Figure 4.2.6 - A graph showing the comparison between gender and frequency of Facebook use

The bar chart shows the gender differences in frequency of Facebook use. 76% of females use Facebook at least once a day compared to 73% of men. 4% of females never use Facebook compared to 6% of men.

Table 4.2.6 – Null Hypothesis 6 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	15.26	8	0.054	Accept Null Hypothesis
Number of valid cases	75			

Table 4.2.6 shows the Chi square results for null hypothesis 6. The P value is just more than 0.05 and so is not significant. Therefore, as the P value is not significant the null hypothesis can be accepted.

Null Hypothesis 7: There is no statistically significant difference between gender and frequency of Instagram use

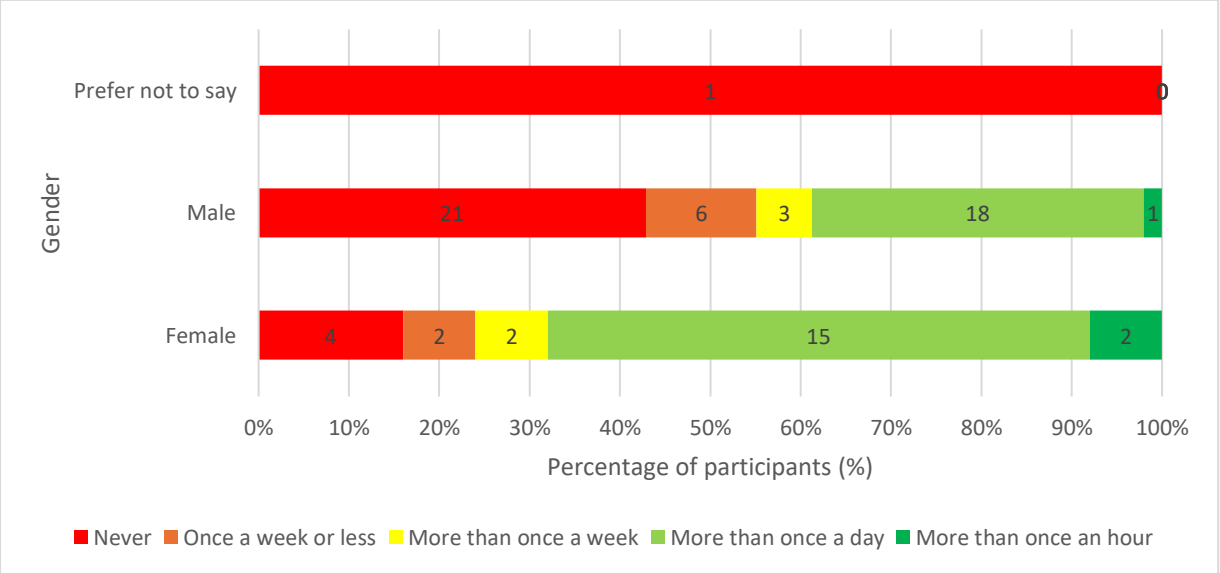


Figure 4.2.7 - A graph showing the comparison between gender and frequency of Instagram use

The bar chart shows the gender differences in frequency of Instagram use. 68% of females use Instagram at least once a day compared to 39% of men. 16% of females never use Instagram compared to 43% of men.

Table 4.2.7 – Null Hypothesis 7 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	9.228	8	0.323	Accept Null Hypothesis
Number of valid cases	75			

Table 4.2.7 shows the Chi square results for null hypothesis 7. The P value is more than 0.05 and so is not significant. Therefore, as the P value is not significant the null hypothesis can be accepted.

Null Hypothesis 8: There is no statistically significant difference between gender and frequency of TikTok use

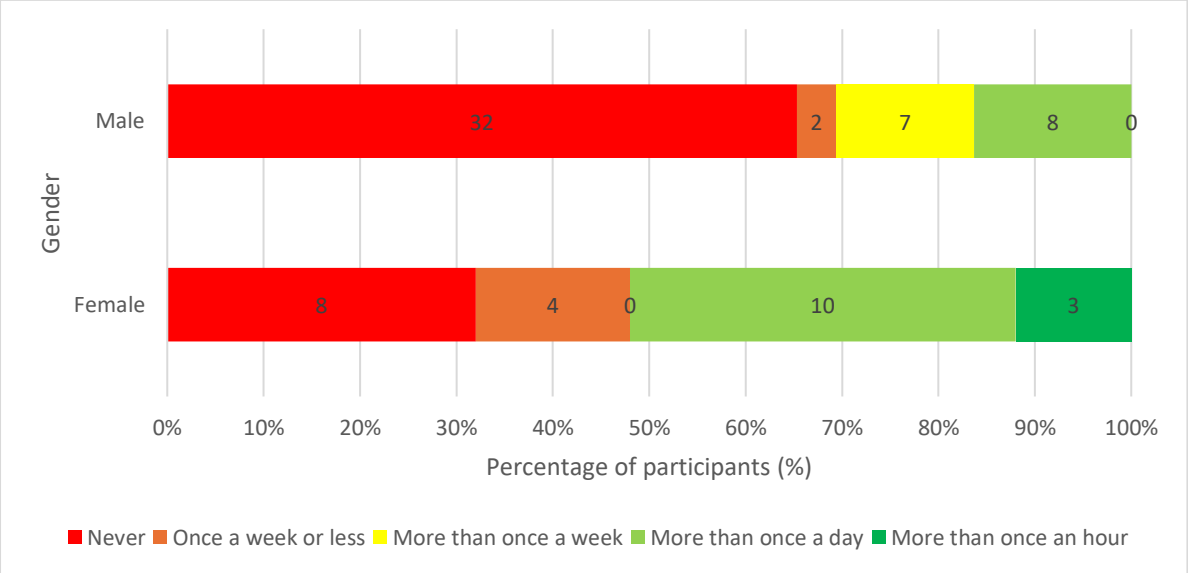


Figure 4.2.8 - A graph showing the comparison between gender and frequency of TikTok use

The bar chart shows the gender differences in frequency of TikTok use. 52% of females use TikTok at least once a day compared to 16% of men. 32% of females never use TikTok compared to 65% of men.

Table 4.2.8 – Null Hypothesis 8 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	20.58	8	0.008	Reject Null Hypothesis
Number of valid cases	75			

Table 4.2.8 shows the Chi square results for null hypothesis 8. The P value is less than 0.01 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between gender and frequency of TikTok use.

Null Hypothesis 9: There is no statistically significant difference between gender and frequency of LinkedIn use

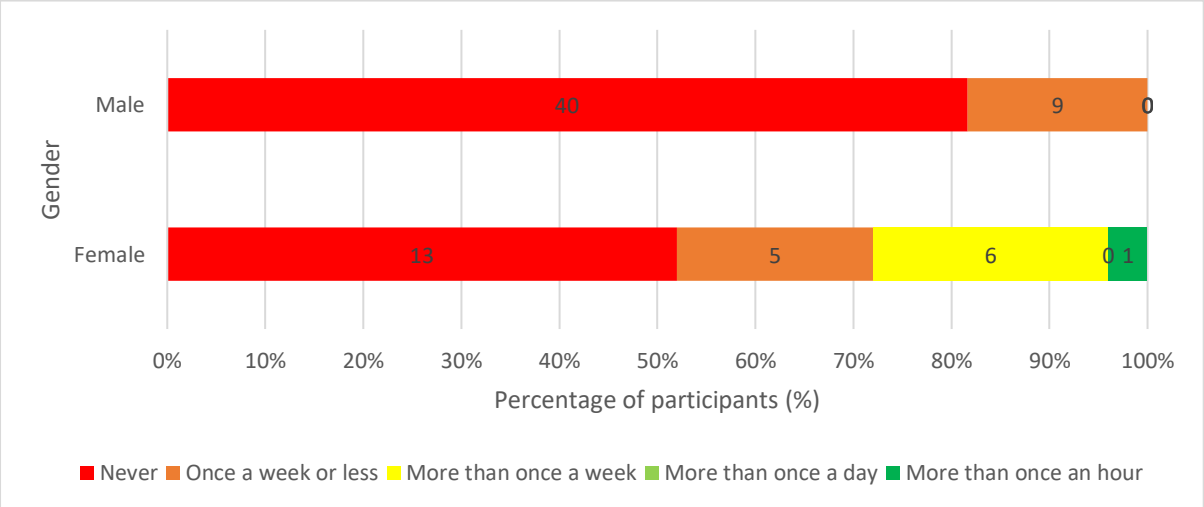


Figure 4.2.9 - A graph showing the comparison between gender and frequency of LinkedIn use

The bar chart shows the gender differences in frequency of LinkedIn use. 52% of females never use LinkedIn compared to 82% of men. 28% of females use LinkedIn more than once a week compared to 0% of men.

Table 4.2.9 – Null Hypothesis 9 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	16.34	6	0.012	Reject Null Hypothesis
Number of valid cases	75			

Table 4.2.9 shows the Chi square results for null hypothesis 9. The P value is less than 0.05 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between gender and frequency of LinkedIn use.

Null Hypothesis 10: There is no statistically significant difference between gender and ability to recognise an AI video

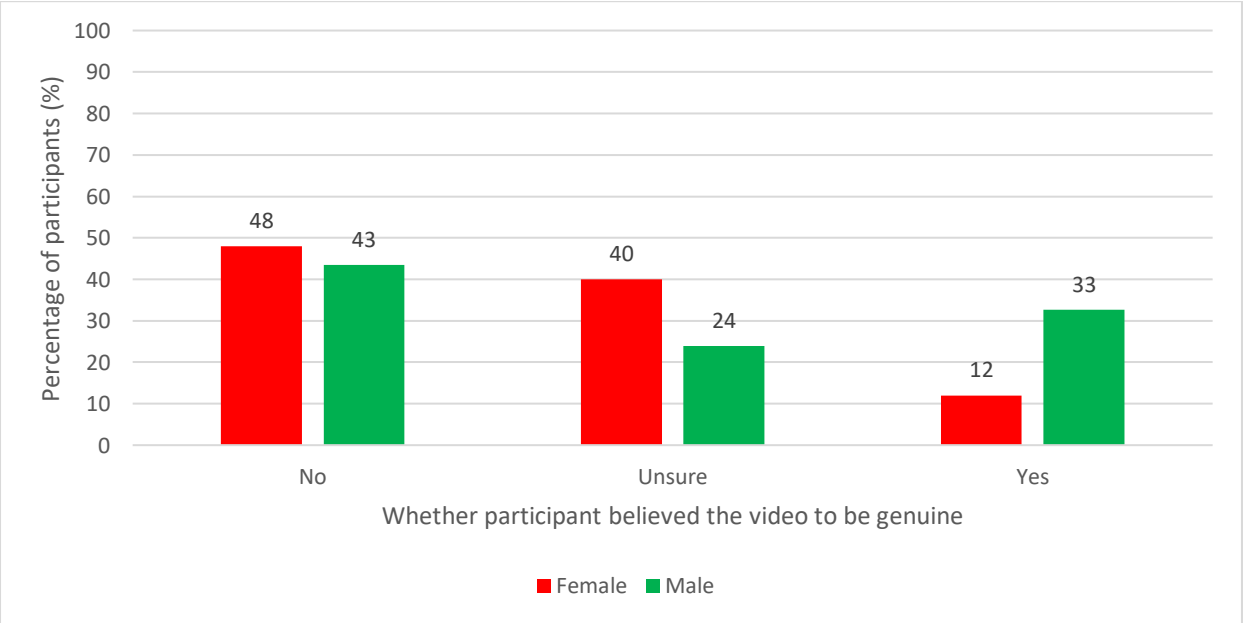


Figure 4.2.10 – A graph showing the comparison between gender and ability to recognise an AI video

The bar chart shows the gender differences in ability to identify whether the AI video they were shown was AI. There was a small difference between the percentage of males (43%) and females (48%) who correctly identified the video as AI. However, there was a large difference between males (33%) and females (12%) who incorrectly thought the video was real. Females (40%) were more likely to respond unsure than males (24%).

Table 4.2.10 Null Hypothesis 10 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	76.26	6	<0.001	Reject Null Hypothesis
Number of valid cases	72			

Table 4.2.10 shows the Chi square results for null hypothesis 10. The P value is less than 0.001 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between gender and ability to identify an AI video.

Null Hypothesis 11: There is no statistically significant difference between age and likelihood of looking at a company's social media before purchasing something under £10,000

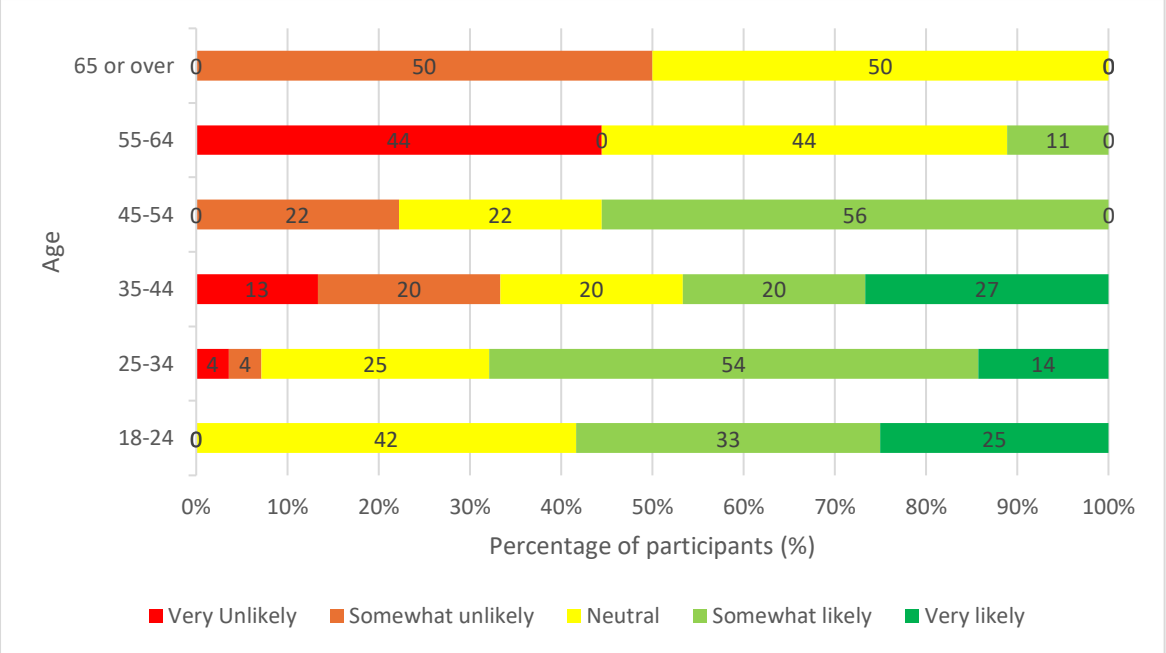


Figure 4.2.11 – A graph showing the comparison between age and likelihood of looking at a company's social media before purchasing something under £10,000

The bar chart shows the differences between ages and likelihood of looking at a company's social media before purchasing something under £10,000. The younger age groups were more likely to look at a company's social media, with 25-34 year olds being the most likely (68%) followed by 18-24 year olds (58%). 65 years old and over were most unlikely to use social media before making a purchase (50%), although there were only two responses at this age, followed by 55-64 (44%). Surprisingly, 45-54 year olds were more likely to use SM before making a purchase (56%) than 35-44 year olds (47%) but 35-44 year olds had a much higher level of "very likely" responses (27% compared to 0%).

Table 4.2.11 Null Hypothesis 11 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	39.33	20	0.006	Reject Null Hypothesis
Number of valid cases	75			

Table 4.2.11 shows the Chi square results for null hypothesis 10. The P value is less than 0.01 and so is significant. As the P value is significant, we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between age and likelihood of looking at a company's social media, before purchasing something under £10,000.

Null Hypothesis 12: There is no statistically significant difference between gender and self-belief in being able to spot a video made by AI

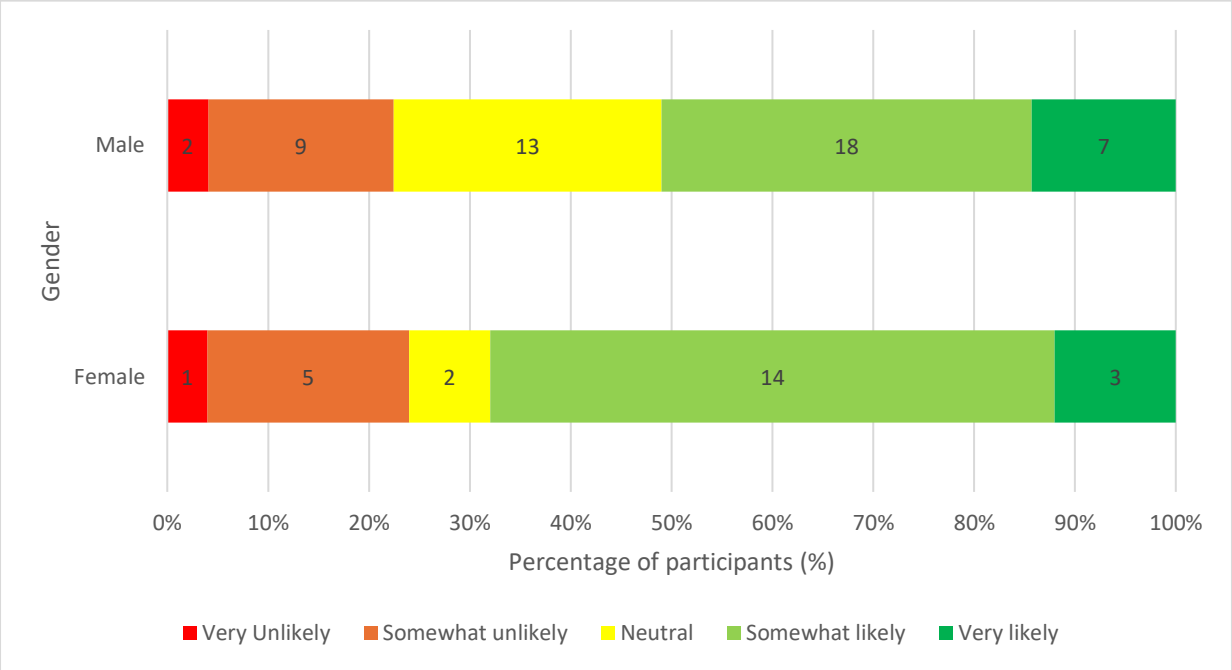


Figure 4.2.12 – A graph showing the comparison between gender and self-belief in being able to spot a video made by AI

The bar chart shows that levels of participants who believe they are unlikely to be able to identify an AI video, are very similar for males (22%) and females (24%). There is a greater difference in those that believe they are somewhat likely to be able to spot an AI video with 37% of males, compared to 56% of females.

Table 4.2.12 Null Hypothesis 12 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	7.931	8	.440	Accept Null Hypothesis
Number of valid cases	75			

Table 4.2.12 shows the Chi square results for null hypothesis 12. The P value is greater than 0.05. Therefore, as the P value is not significant the null hypothesis can be accepted.

Null Hypothesis 13: There is no statistically significant difference between dairy farming being the main source of income and ability to recognise an AI video

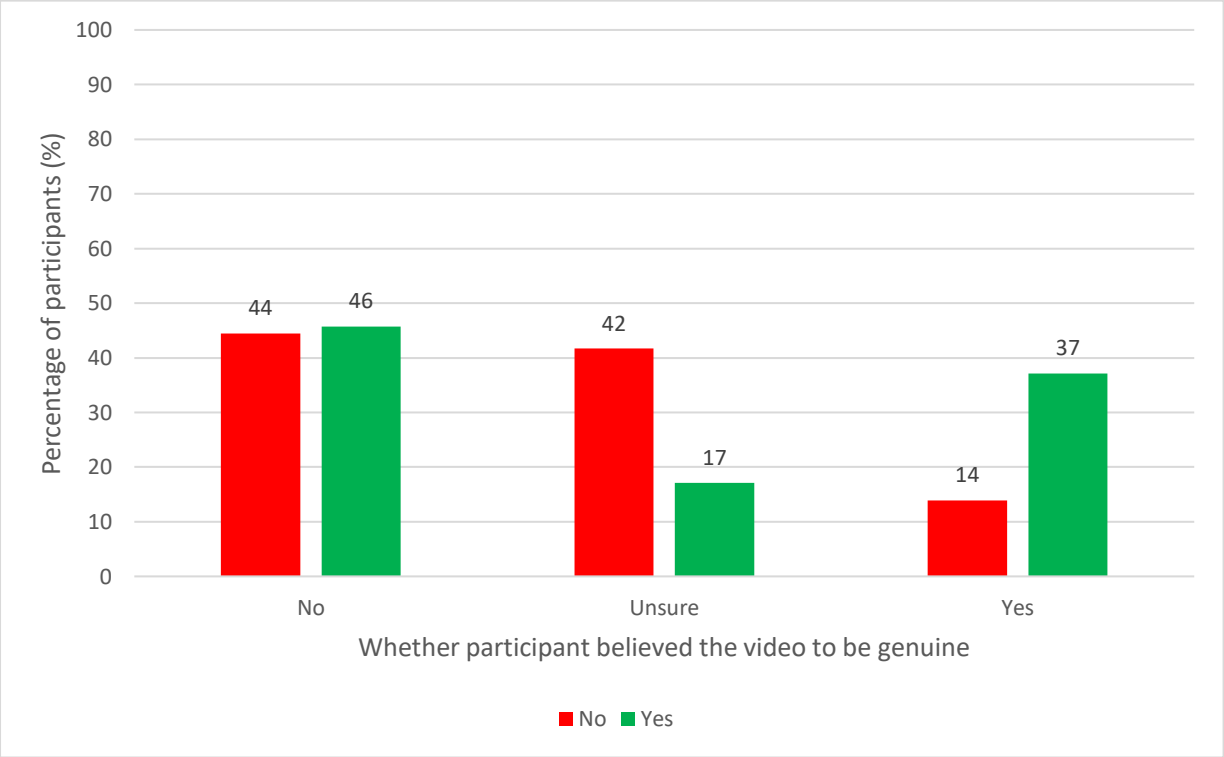


Figure 4.2.13 – A graph showing the comparison between dairy farming being the main source of income and ability to recognise an AI video

The bar chart shows the differences in ability to identify whether the AI video they were shown was AI, between those whose main source of income is dairy farming and those who have another main income source. There was a small difference between the percentage of dairy farmers (44%) and non-dairy farmers (46%), who correctly identified the video as AI. However, there was a large difference between dairy farmers (37%) and non-dairy farmers (14%), who incorrectly thought the video was real. Non-dairy farmers (42%) were more likely to respond unsure than dairy farmers (17%).

Table 4.2.13 Null Hypothesis 13 Chi-Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	8.364	3	0.039	Reject Null Hypothesis
Number of valid cases	72			

Table 4.2.13 shows the Chi square results for null hypothesis 13. The P value is less than 0.05 and so is significant. As the P value is significant we reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between dairy farming being the main source of income and ability to recognise an AI video.

Null Hypothesis 14: There is no statistically significant difference between age and trust in influencers

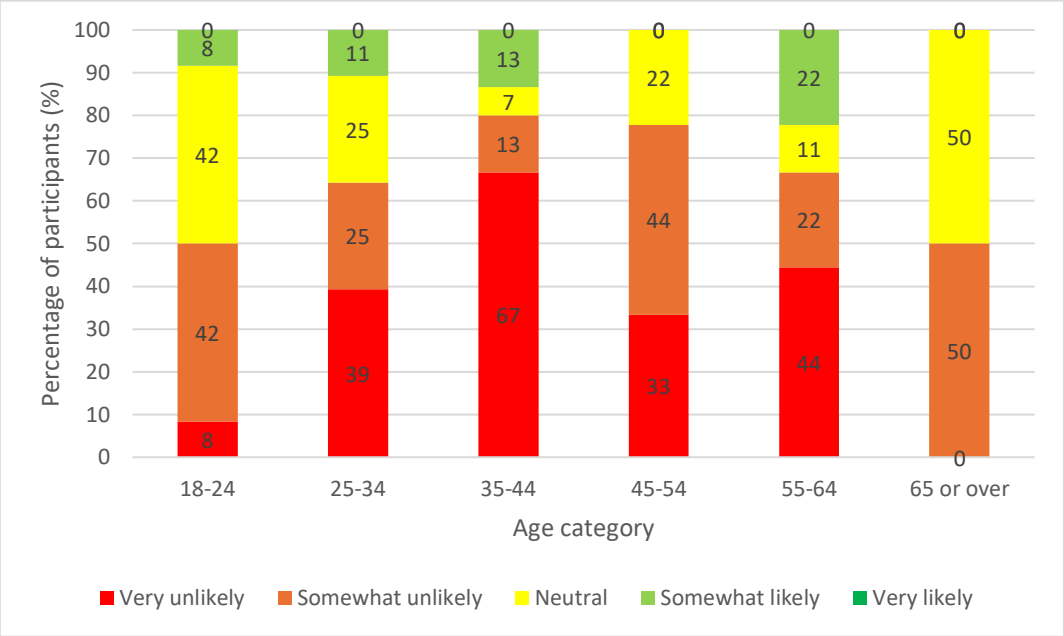


Figure 4.2.14 – A graph showing the comparison between age and trust in influencers

The bar chart shows the differences in age and trust in influencers' recommendations. Those aged 35-44, were the most unlikely to trust influencers, with 80% unlikely to trust them (67% very unlikely). Trust across all ages was very low, with the highest being 55-64-year olds with 22% likely to trust their recommendation (0% very likely). None of the 45-54-year olds or 65 or over category had a single respondent likely to trust an influencer's recommendation. 18-24-year olds were fairly ambivalent towards influencer's opinions, with 42% feeling neutral and, although 50% were unlikely to trust them, only 8% of these were very unlikely. Overall there were small differences between age groups but no clear trends and distrust was high across all ages.

Table 4.2.14 Null Hypothesis 14 Chi Square test

Chi-Squared Tests				
	Value	df	p	Decision
Pearson Chi-Square	17.51	15	0.290	Accept Null Hypothesis
Number of valid cases	75			

Table 4.2.14 shows the Chi square results for null hypothesis 14. The P value is more than 0.05 and so is not significant. As the P value is not significant we accept the null hypothesis that there is no statistically significant difference in trust in influencers between ages.

Chapter 5 – Discussion

5.0 – Introduction

This chapter aims to discuss the results in the last chapter and compare these against the literature review. The objectives of this study were:

1. To identify the most used social media platforms by NI and GB dairy farmers and which forms of content they are most influenced by, when making decisions on farm.
2. To measure NI and GB farmers knowledge of how to identify genuine sources of information on social media.
3. To determine NI and GB farmers attitudes towards social media and traditional media.
4. To establish NI and GB farmers belief and trust in information they see on social media.

The demographic of responses didn't quite represent the demographic of UK farmers, as the level of responses of those aged over 65 years old was far lower than the percentage of farmers of this age (DAERA-NI, 2018; Office for National Statistics, 2023). However, these differences were expected due to the nature of the survey being about SM and the survey often being shared using SM, with SM usage being higher amongst younger people (Office of Communications, 2022a). Although males still made up the majority of responses, it was still lower than the percentage of male farmers in NI farming (DAERA-NI, 2018). However, for the respondents whose main income source was dairy farming, the percentage of males was closer to the national average (DAERA-NI, 2018). There was only a small proportion of responses from Wales and Scotland, meaning the results are potentially more indicative of NI and English farmers than the whole of the UK.

5.1 – Social media use

The results of this study show that SM is widely embedded within the daily routine of UK dairy farmers, supporting the findings of Hillsgreen (2024), with every participant using at least one form of SM. The average number of SM platforms used was over five, suggesting an increase in SM usage since Hillsgreen (2024), who found 83% of participants use SM weekly. Hillsgreen (2024) found that Facebook was the most common SM after WhatsApp with 62% of respondents using it daily. This was supported by the findings of this study, which found WhatsApp was the most popular SM followed by Facebook, although again this figure has increased, with 75% of participants using Facebook more than once a day.

It was found that SM is used by the majority, as part of the decision-making process but, very rarely as the sole way to make a buying decision. This suggests that despite increased use, SM is a useful source of information but, is not seen as completely

trustworthy, which supports previous findings (Dilleen, et al., 2023). This also supports the findings that SM can increase a person's knowledge and will therefore feed into the KAB model, and potentially influence a person's attitude and behaviour (Schrader & Lawless, 2004; Khan, et al., 2021). However, this study also demonstrates that farmers actively filter information, by placing greater trust in certain sources within SM, which may create a barrier to automatic influence on attitude and behaviour. This may in turn increase the likelihood of creating feedback loops, which amplify certain beliefs (Ohme, 2020; Metzler & Garcia, 2024).

Monson (2024), found that in 16-24 year olds, Facebook to be less popular than Instagram, Snapchat, YouTube and TikTok, which contrasts with this study, which found that nearly all 18-24-year olds used Facebook more than once a day, more than any other SM including WhatsApp. Older farmers were found to be less likely to engage with SM, which supports previous research (Rice, 2014; Morris & James, 2017; Office of Communications, 2022a). This age gap also applies to using SM when making buying decisions, which reinforces the findings of Monson (2024). This could be due to a correlation between SM usage and the influence of advertisements and influencers that Chowdhury et al. (2024) found. These findings suggest that while technology is no longer a barrier to SM use (Morris & James, 2017; Office of Communications, 2023), digital literacy and familiarity may still limit use amongst older farmers. This generational divide will likely mean that SM use and reliance will further increase amongst farmers, as family succession takes place. This will increase accessibility to content on SM, and mean that it meets the fourth criteria of CRELE+ as proposed by Chivers et al. (2021).

It was found that for certain SM platforms there was a significant gender difference in usage; TikTok and LinkedIn both showed a significant difference in use between males and females (Figure 4.2.8 & Figure 4.2.9). In both cases, females used the platforms more frequently. Although this supports the findings of Rice (2014) who found females showed more interest in SM than males, the lack of significant differences for other SM platforms, such as Facebook and Instagram, suggests that this effect is not universal but, instead linked to certain SM platforms (Figure 4.2.6 & Figure 4.2.7).

5.2 – Knowledge of identifying genuine SM accounts

Previous research from Köbis et al. (2021) and Diel et al. (2024) found 57.6% and 57.31% respectively of participants were able to identify a deepfake. It was expected that as this study was done five years ago, and there have been recent improvements to the technology (McKenzie, 2025), that this figure would be lower now. This was supported by the findings of this study, which found when shown a genuine video and a deepfake done of the same person, very few participants correctly identified the deep fake as the only AI video. Whilst, when shown a completely AI generated video of tractor moving through a field, slightly less than half of participants knew the video was AI,showing a slightly improved ability to identify completely AI generated content, compared to AI modified content but, still below the levels of Köbis et al. (2021) and

Diel et al. (2024). This suggests that the ability of AI to create realistic videos is improving, to the point where the average dairy farmer, can no longer confidently spot the difference. This maybe due to recent improvements in technology, or could be due to demographic differences between dairy farmers and the wider population. For example, dairy farmers often work far longer than the average member of the public, which means they may spend less time online and therefore have less exposure to AI content, meaning they find it harder to detect (DAERA-NI, 2022; Office for National Statistics, 2026). This discovery, combined with the finding that the majority of participants would watch a video as part of their decision making process when buying a product, both cheap and expensive, creates a high level of risk for potential purchasing problems. This also shows the accessibility component of the CRELE+ framework is high for videos on SM among UK dairy farmers, making videos a highly effective way to communicate information to them (Chivers, et al., 2021).

The findings of Lewis et al. (2023), that being aware of the potential of seeing an AI video, doesn't improve accuracy of identification but, instead increases the amount of reporting, was supported by the findings of this study. In the research described above, only 17% correctly identified the only AI video, whilst 28% of respondents reported the genuine video as AI, and a further 28% reported both videos as AI. This may also have influenced the results of the AI generated tractor video, that perhaps should have been alternated or paired with a genuine video,allowing testing for effects of awareness of the potential of AI on increased accuracy of reporting or just rate of reporting any video.

The reduced use and diversity in SM platforms used by older ages, could have a negative impact on their ability to see multiple opinions on topics, and limit their ability to notice misinformation and AI generated media. This may explain their increased scepticism of information seen on SM, whilst also being more susceptible to believing AI generated material is genuine.

It was found that ability to identify a genuine SM account was good, with a large majority correctly identifying it and doing so using well established verification methods. However, others cited the logo, the website link and number of followers, as reasons for believing or not believing the page to be genuine. This supports the findings of the Office of Communications (2022a), who found that whilst the majority could identify real verification signs, a large proportion of participants believed generic features, such as logo, design or number of likes, to mean that a post was genuine. This suggests that knowledge of actual authentication methods has improved since 2022, however, there is still an over reliance on generic and easy to replicate signs.

5.3 – Trust in SM

This study found both local news and national news have a higher level of trust than SM influencers, even if the participant followed them, or they had a large following. This supports the findings of Mont'Alverne et al. (2022), that news on SM is trusted

less than traditional media but, contradicts Monson (2024), who found trust towards SM as a source of information, was starting to catch up with and overtake traditional media. However, this study also found, when comparing trust in purchasing based solely on one recommendation, the type of content and origin appeared to hold a greater level of importance, than if it was found in traditional media or social media, with a newspaper article recommendation having similar levels of trust to some SM recommendations but, far more trust than an influencers recommendation. Whilst a direct recommendation from a professional, family member or a neighbour was always the most trusted option. This suggests that, in contrast to the findings of Mont'Alverne et al. (2022) and Monson (2024), the trust in news from SM is not necessarily lower or greater than traditional media, but the purveyor of this information, is the greater factor for UK dairy farmers. Therefore, the finding that influencers are less trusted, is likely due to them not being perceived as independent or unbiased, rather than being due to them being on SM. This would support the findings of Dilleen et al. (2023), that influencers are viewed as a source of information but, can be biased, due to sponsorship. This is further supported by the themes of trust and independence that were commonly cited, when participants were asked reasons for trusting certain SM accounts, over others. It also supports the CRELE+ model produced by Chivers et al. (2021) in *figure 2.5.2.1*, which highlights how in order to achieve credibility and legitimacy, the source must seem unbiased,whilst the themes of trust and independence further feed into the importance of achieving credibility (Chivers, et al., 2021). Moreover, the large increase in those who would trust an influencers' recommendation, when there was no financial cost to do so, further supports this, as it is less likely to be perceived that they have something to gain from selling it. Furthermore, this study found that trust in a SM post from a local news or agrimedia page was higher than a national news page, which supports the findings of Dilleen et al. (2023), that agrimedia is seen as the most trusted news source on SM by farmers.

Interestingly this study found the likelihood of participants looking at a company's SM, before making a buying decision, was significantly higher in younger age categories. This was expected due to the higher level of use of SM by younger ages, as found by this study as well as previous research (Rice, 2014; Milbourne & Kitchen, 2014; Morris & James, 2017; Brindley, 2021; Office of Communications, 2022a; Monson, 2024). However, there was no significant difference found in this study, between participants' ages and their trust in influencer's recommendations, with there being very little trust in influencers across all ages. Which is in contrast to the findings of Monson (2024), who found that younger people are both more likely to follow influencers and have a higher opinion of them than older people. This finding suggests younger people are still more willing to use SM as a source of information but don't blindly trust information they see online and instead use it selectively. However, these studies were on the general public, whose decision making may vary from dairy farmers, who regardless of age may be more practical and know when a product advertised by an influencer will work on their farm.

Contrary to the findings of Dilleen et al. (2023) around the strength of different influences, shown in figure 2.3.3.1, this study found a slightly different order of the strongest influences on farmers. Whilst Dilleen et al. (2023) found peers had the strongest influence, followed by family, advisors, influencers then vendors, in this study, professionals within the industry were consistently identified as the most trusted source of information, reflecting the value farmers place on credibility, as outlined in the CRELE+ framework (Cash, et al., 2002). Independent organisations and family and friends, were also consistently seen as good and trustworthy sources of information, supporting the theory that their unbiased judgement, adds to their legitimacy (Cash, et al., 2002). The trust placed in family in particular, supports the findings of previous research, that found family members have a very important influence on farmers' decision making (Hayden, et al., 2021; Dilleen, et al., 2023; Wicklow & Shortall, 2024). The finding that peer networks hold a greater level of influence in buying decisions over SM also supports the findings of Hillsgreen (2024). This is likely due to family members often working on the dairy farm meaning they have a greater stakehold in the business (Smalley, 2023). In contrast to the findings of Al-Shawakbeh et al. (2021), there was a higher trust in reviews from professionals, family, neighbours and newspapers, than there was in reviews seen on SM. This suggests that farmers have a lower trust in SM reviews than the general public, and also appears to be the case for trust in influencers. The research above, found trust in influencers being the lowest of all sources (*figure 4.1.13),* in contrast to the findings of Almahdi et al. (2022), who found the majority of participants trusted influencers.

This study supports the findings of Bestelmeyer (2024), that the source of information appearing local, increases implicit preference for participants, although there was limited overall differences in self reporting preferences for local accents, which also supports the findings of Bestelmeyer (2024). When given a choice, participants showed strong preference for the deepfake video with a local accent, over the genuine video with a New Zealand accent. This preference is likely to relate purely to it being a local accent, as Coupland (2007) found that in a study of UK participants, New Zealand was ranked higher in prestige and social attractiveness than Northern Irish accents. This suggests that the local accent makes the information in the video seem more relevant, which therefore reinforces that relevance as part of the CRELE+ framework, increases effective communication, as proposed by Cash et al. (2002). Self percieved preference for a local accent was also significantly higher in participants who currently own/work on a diary farm or have done so within the last year, than people who have never worked on a dairy farm (Figure 4.2.3). Demonstrating that UK dairy farmers conciously hold a greater preference for local accents than non dairy farmers.

The emergence of AI, where content can now be altered to realistically mimic familiar or trusted sources, can create substantial risk within SM, because it makes information more likely to be accepted as relevant or credible, and allows it to artificially meet the CRELE+ framework. With videos seen as more effective at behavioural

change than written guidance (Heaney & Buggy, 2022), the ability to alter videos demonstrates an increased risk of misinformation spread.

5.4 – Behaviour on SM

One of the most notable findings from this study, was the disconnect between farmers' perceived and actual ability to recognise AI videos, with belief being far higher than reality. This demonstrates the risk of overconfidence resulting in an increased likelihood of believing misinformation, as found by the Office of Communications (2022a). This combined with the fact that due to the demographic of dairy farmers, being older, means they may have lower knowledge of deepfakes, and fewer techniques to identify them, increasing their risk of believing deepfakes (DAERA-NI, 2018; Bitton, et al., 2025; Chun, et al., 2025). Within the KAB model it represents a misalignment between knowledge and behaviour, where individuals believe they have a high enough level of knowledge but, are unable to demonstrate this in reality. Unfortunately, this overconfidence may result in a challenge to create behavioural change, as individuals are so confident, that they will not think they need additional information or help.

The finding from this study that there was a strong preference for local accents, could also reflect a worrying trend seen across Western Europe, where the right wing is gaining momentum through parties locally, such as Reform and in other European countries, such as Italy and the Fratelli d'Italia.

Because SM has been shown to use algorithms to take behaviour like engagement, and use that to promote similar content (Ohme, 2020; Metzler & Garcia, 2024), this then creates an echo chamber where people are only shown a certain type of content, which only feeds their knowledge from a singular perspective and creates extreme views (Ohme, 2020; Zimmerman, et al., 2024). The preference for local accents found in the study, could mean people prefer to watch videos from local content creators, which will then cause the algorithm to only push local content to them. This will limit the variety in opinions and information they are exposed to, and risks making them narrow minded and more extreme in their views.

In contrast to the findings of the Irish Farmers' Association (2019) and the Office of Communications (2022a), this study found that there was no significant difference between genders, in self belief that they could identify an AI video (Figure 4.2.12). However, it was found that those who use TikTok more frequently were significantly more confident in their ability to identify both genuine SM accounts and AI generated photos (Figure 4.2.4 & Figure 4.2.5) Moreover, there was a significant difference in actual ability to identify an AI video between those whose main source of income is dairy farming or not (Figure 4.2.13). This difference did not appear to relate to the ability to identify AI, as a similar proportion of participants from both groups correctly identified the video as AI. Although more dairy farmers incorrectly thought the video was real, when combining participants who were unsure with those who thought it was real, farmers (54%) were very similar to non-farmers (56%). This suggests that

instead, the difference between dairy farmers and non-dairy farmers, appears to be in their confidence of their ability to identify AI videos, rather than their actual ability.

The findings of Chan (2022), that education level had no impact on the influence of SM on decision making, were supported by the findings of this study, which found no significant difference between education level and how participants interact with SM. This includes their self belief in being able to identify genuine accounts and media, and their likelihood of sharing SM posts.

Chapter 6 – Conclusion & Recommendations

6.0 – Introduction

The study aimed to assess how dairy farmers use social media, their susceptibility to misinformation, and how SM influences their decision making. This was done using a survey of 75 people across the UK associated with dairy farming. A literature review was undertaken on factors influencing farmers approach to social media, as well as the influence of social media on farmers and relevant social science models, followed by conceptualisation. The research methodology used to achieve the study's aims and objectives was a questionnaire.

6.1 – Conclusions

The findings of this study highlight that SM is increasingly a significant component of the agricultural industry and contributes to the spread of information, both positively and negatively. The average dairy farmer uses several different SM platforms but, WhatsApp and Facebook are the most popular, with the variety of platform use increasing in younger people. However, it is still not the dominant determinant in decision making and is still far behind traditional influences, including peer networks and traditional media. SM instead acts to supplement these sources of information. Therefore, farmers are not lacking access to information on SM but, are selective in how they use this information, placing increased importance on the CRELE+ framework, in particular; credibility, relevance and legitimacy.

A major finding of this study was that AI videos are increasingly harder to identify, especially deepfakes made from existing media. Farmers placing a high level of trust in sources, such as their peer network and AHDB, would traditionally protect them from misinformation. However, when combined with their overconfidence in identifying AI videos and the ease of creating highly realistic deepfakes, this high level of trust could be easily exploited for malicious intent, such as phishing or spreading misinformation. Participants' ability to identify a genuine SM account was good although, they often identified generic signs such as a page logo, as their way of verifying it. This could leave them susceptible to believing a fake page is real, if it has the correct logo and a large following.

This study found the strongest influence on UK dairy farmers was from advisors, followed by family and then peers and the weakest influence came from vendors and influencers.

6.2 – Recommendations

It is recommended that training and support should be offered to dairy farmers, to help them identify AI content online. As this study has demonstrated, farmers have a high level of trust for information when it sounds local and familiar. Therefore, promoting education and awareness around AI videos and how, although it may look genuine

and sound local, it is not always real, will improve their awareness and recognition of this AI content. Increasing and promoting reliable verification practices, will support dairy farmers' ability to identify genuine content on SM. This includes educating farmers on existing verification methods across different SM platforms, and lobbying for more verification steps to be added. Education would be more effective than having generic warnings of AI media on SM platforms, because warnings won't improve the ability of users to identify which media is AI generated but, instead reduce trust of all media, including genuine content. Moreover, it is suggested that an independent authority be established, to help regulate AI and misinformation from SM towards the agriculture sector.

It is recommended that organisations within agriculture, modify their approach to producing SM content to suit dairy farmers preferred way of learning. This should be done by using SM to supplement other forms, rather than being the main way to push information. Farmers, particularly older farmers, are unlikely to do something based purely off SM, so using it as a way to link to and enhance other sources, would be most effective. There are also clear differences in the level of use and demographic of users between SM platforms, suggesting advertising should be tailored and targeted to different platforms, depending on the desired audience demographic.

6.3 Study limitations

Future studies would benefit from a larger sample size, with more representation from older age groups and increased Scottish and Welsh representation, to better represent the average demographic of UK dairy farmers. To achieve this, it is recommended to have the survey on a tablet for them to use, as older adults may not have easy access to smart technology, whilst a hard copy wouldn't allow for playing videos.

Finally, it is recommended that further research is done to build on the findings of this study. The rapid improvements and free availability of AI, have allowed the proliferation of AI content on SM feeds in recent months. This makes the findings of the study in this area increasingly important, and an area where further research is recommended, especially combined with the findings of strong preferences for local accents. Expanding the scope of the study to a wider geographic and vocational range, and examining other trends in preference for media, such as a further range in accents, age, attire and gender, would allow for greater insights into how to meet the CRELE+ framework. Examining differences between perceived credibility of different SM platforms would also be worthwhile.

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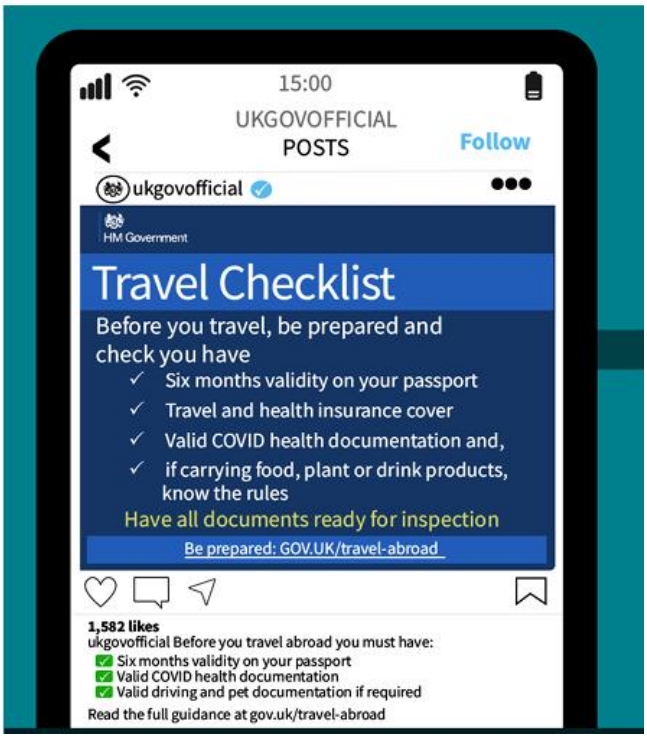
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Appendix

Appendix 1 – The social media post used by Office of Communications (2022a)



Appendix 2 – Survey questions used in this study.

Social Media and Dairy Farmers

Hello, my name is Matt Bourne, I am a Master's student studying Business in Agri-food and Rural Enterprise. For my dissertation, I am investigating how social media influences the spread of information and decision making amongst dairy farmers. I would be grateful if you would be willing to complete the below questionnaire. All information will be anonymous and strictly confidential, and comply with GDPR & QUB ethical regulations. You are able to withdraw from the study at any time. This research is independent from any businesses and there has been no external funding.
If you find that any options do not fit with your opinions or lifestyle, please choose "other" and put N/A in the box

* Required

Demographic characteristics

1

Where do you live? *

- ◯ England
- ◯ Wales
- ◯ Scotland
- ◯ Northern Ireland

2

Please select your gender *

- ◯ Female
- ◯ Male
- ◯ Prefer not to say

3

Please select which age category you belong to *

- ◯ 18-24
- ◯ 25-34
- ◯ 35-44
- ◯ 45-54
- ◯ 55-64
- ◯ 65 or over

4

Do you work on a dairy farm? *

- ◯ Yes, I own a dairy farm
- ◯ Yes, I currently work on a dairy farm
- ◯ No, but I have worked on a dairy farm in the last year
- ◯ No, but I have worked on a dairy farm, more than a year ago
- ◯ No, I have never worked on a dairy farm but I do advise dairy farmers e.g. Vet, Nutritionist, etc
- ◯ No, I have never owned or worked on a dairy farm and do not advise dairy farmers

5

Is dairy farming your main source of income? *

- ☐ Yes
- ☐ No

6

Please identify the highest level of education obtained *

- ◯ No Formal Qualifications
- ◯ Level 1-2 e.g. GCSE, O levels, SVQ 1-2
- ◯ Level 3-5 e.g. A-Level, AS-level, HNC, SVQ 3
- ◯ Level 6 e.g. Undergraduate Degree
- ◯ Level 7-8 e.g. Postgraduate Degree (e.g. MSc, PhD)

Social Media Use

7

Which option best describes how often you use each of the below social media platforms on average *

	More than once an hour	More than once a day	More than once a week	Once a week or less	Never
Facebook	◯	◯	◯	◯	◯
Instagram	◯	◯	◯	◯	◯
Tik Tok	◯	◯	◯	◯	◯
YouTube	◯	◯	◯	◯	◯
Twitter (X)	◯	◯	◯	◯	◯
LinkedIn	◯	◯	◯	◯	◯
Snapchat	◯	◯	◯	◯	◯
WhatsApp	◯	◯	◯	◯	◯
Farming Forum	◯	◯	◯	◯	◯

8

How likely would you be to do the following when deciding whether to purchase something for the farm costing **less** than £10,000 e.g. feed additive? *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Look for reviews by customers	○	○	○	○	○
Watch videos of people using the product	○	○	○	○	○
Look at the companies website	○	○	○	○	○
Look at the companies social media	○	○	○	○	○
Speak to people you know who have used the product	○	○	○	○	○
Speak to family or farm workers who would also use the product	○	○	○	○	○
Visit a show or dealer to see the product in person	○	○	○	○	○
Speak with a professional e.g. vet, nutritionist, mechanic recommended it	○	○	○	○	○

9

How likely would you be to do the following when deciding whether to purchase something for the farm costing **more** than £10,000 e.g. machinery? *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Look for reviews by customers	○	○	○	○	○
Watch videos of people using the product	○	○	○	○	○
Look at the companies website	○	○	○	○	○
Look at the companies social media	○	○	○	○	○
Speak to people you know who have used the product	○	○	○	○	○
Speak to family or farm workers who would also use the product	○	○	○	○	○
Visit a show or dealer to see the product in person	○	○	○	○	○
Speak with a professional e.g. vet, nutritionist, mechanic recommended it	○	○	○	○	○

10

How likely would you be to purchase something for the farm costing **less** than £10,000 e.g. feed additive, based **just** on: *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Your favourite influencer recommended it on their page	○	○	○	○	○
Another farmer posts a good review on social media	○	○	○	○	○
The company that sells it posted information including cost saving statistics	○	○	○	○	○
The company that sells it posted a positive testimony on it	○	○	○	○	○
You read a positive article about it in the newspaper	○	○	○	○	○
Your neighbour has it and recommended it	○	○	○	○	○
A member of your close family recommended it	○	○	○	○	○
A professional e.g. vet, nutritionist, mechanic recommended it	○	○	○	○	○

11

How likely would you be to purchase something for the farm costing **more** than £10,000 e.g. machinery, based **just** on: *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Your favourite influencer recommended it on their page	○	○	○	○	○
Another farmer posts a good review on social media	○	○	○	○	○
The company that sells it posted information including cost saving statistics	○	○	○	○	○
The company that sells it posted a positive testimony on it	○	○	○	○	○
You read a positive article about it in the newspaper	○	○	○	○	○
Your neighbour has it and recommended it	○	○	○	○	○
A member of your close family recommended it	○	○	○	○	○
A professional e.g. vet, nutritionist, mechanic recommended it	○	○	○	○	○

12

How likely would you be to try something new on the farm if it had no cost e.g. push up silage regularly, based **just** on: *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
Your favourite influencer recommended it on their page	○	○	○	○	○
Another farmer posts a good review on social media	○	○	○	○	○
A company posted information about it including cost saving statistics	○	○	○	○	○
A company posted a positive testimony on it	○	○	○	○	○
You read a positive article about it in the newspaper	○	○	○	○	○
Your neighbour has tried it and recommended it	○	○	○	○	○
A member of your close family recommended it	○	○	○	○	○
A professional e.g. vet, nutritionist, mechanic recommended it	○	○	○	○	○

Communication of information through social media

13

Which of these posts would make you most likely to use SilFast? *



◯ Option 1



◯ Option 2



◯ Option 3



◯ Option 4



◯ Option 5

14

In a few words, why did you choose this option?

15

Do you have any more comments regarding social media?

Information seen on social media

16

Please rate your belief in the following statements *

	Very Likely	Somewhat Likely	Neutral	Somewhat Unlikely	Very Unlikely
I can identify a genuine social media account	○	○	○	○	○
I can spot the difference between a genuine photo and a photo made by Artificial Intelligence (AI)	○	○	○	○	○
I can spot the difference between a genuine video and a video made by Artificial Intelligence (AI)	○	○	○	○	○
I will share a social media post I agree with from an account I follow	○	○	○	○	○
I will share a social media post I agree with from an account I don't follow	○	○	○	○	○
I trust information in videos more if they sound like they are local to me	○	○	○	○	○
I will fact check information I see on social media	○	○	○	○	○

17

How likely are you to believe information you see on social media posted or shared by: *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
An influencer you follow	◯	◯	◯	◯	◯
A page you don't follow but has lots of followers or likes	◯	◯	◯	◯	◯
A verified page for a governmental organization e.g. DAERA	◯	◯	◯	◯	◯
A company that you've bought from before	◯	◯	◯	◯	◯
A company you haven't heard of before	◯	◯	◯	◯	◯
A family member or friend	◯	◯	◯	◯	◯
Local news page e.g. Farmers Journal	◯	◯	◯	◯	◯
National news page e.g. BBC News	◯	◯	◯	◯	◯

18

Do you believe this is the genuine Facebook account for DEFRA? *



◯ Yes

◯ No

19

On a scale of 1-10, with 10 being the most confident, how confident are you about this answer? *

1	2	3	4	5	6	7	8	9	10

20

What features of this account make you believe it is or isn't a genuine page for DEFRA



21

Please watch the below video



22

What topic was discussed in the second video *

- ◯ Global warming
- ◯ Mastitis
- ◯ The video wouldn't work
- ◯ Block calving
- ◯ Inheritance tax

23

Would you rather watch video A or video B *

- ◯ Video A
- ◯ Video B
- ◯ No preference

24

In a few words, why did you choose this option?

25

Which option best describes your views on video A *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
I would be interested in watching this video if it appeared on my social media	◯	◯	◯	◯	◯
I would trust the information in this video if I saw it on my social media	◯	◯	◯	◯	◯

26

Which option best describes your views on video B *

	Very likely	Somewhat likely	Neutral	Somewhat unlikely	Very unlikely
I would be interested in watching this video if it appeared on my social media	◯	◯	◯	◯	◯
I would trust the information in this video if I saw it on my social media	◯	◯	◯	◯	◯

27

Do you believe either of these videos were made using AI (Artificial Intelligence)? *

- ◯ Yes, video B
- ◯ No, neither
- ◯ Yes, video A
- ◯ Yes, both

28

Please watch the below video



29

Do you believe this is a genuine video? *

- ◯ The video wouldn't work
- ◯ Yes
- ◯ Unsure
- ◯ No

30

Please give a reason for your answer to the previous question

31

On a scale of 1-10, with 10 being the most confident, how confident are you about your answer to question 28?

1	2	3	4	5	6	7	8	9	10

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Microsoft Forms

Appendix 3 – Screenshots of Video A (AI Generated video of man talking in NI accent) and Video B (Genuine video from DairyNZ YouTube channel) shown to participants in question 21





Appendix 4 – Screenshot of AI generated video of tractor shown to participants in question 28



Appendix 5 – Declaration of appropriate use of AI

I declare that artificial intelligence tools (e.g. ChatGPT) were used in this research project to support tasks such as idea generation, proofreading and summarisation. All AI-generated content was critically reviewed, edited and validated by me to ensure academic integrity. The use of AI complied with university guidelines on the appropriate use of AI, and no confidential, personal or sensitive data was entered into any AI system. I acknowledge that I am responsible for the final content and analysis presented in this work.



Matt Bourne Date 13/05/26