Risk Management and Risk Perception in the Thoroughbred Industry

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Correction Sheet

Abstract

The Thoroughbred industry presents with multifaceted risks ranging from financial volatility to equine health and welfare concerns. This study examines the landscape of risk perception and management within the industry. An online survey was designed and distributed to breeders, trainers, bloodstock agents, owners and farm managers in the thoroughbred industry. A total of 102 participants took part in the study and a response rate of 30% was obtained. The survey explored the following areas: Participants' demographics including role in the industry, Period of time spent in the industry, How often risk is considered, Specific risks associated with the industry, Risk perception and Risk mitigation strategies. To capture global differences in risk perception and management the survey was distributed to a total of eight different countries. Data from the survey was collected in excel and analysed using frequencies and chi-squared tests in SPSS. Individuals working in the industry for greater than ten years represented the largest group of respondents (75.5%) and 47.7% of these participants considered risk very often. There was a significant association between how long individuals had been in the industry and how often they considered risks ($p<0.05$). The highest response rate to the survey was individuals in more than one role. The combined roles of these participants included farm management and ownership, farm management and breeders, and bloodstock agents and ownership (28.4%). This was then followed by individuals classified as farm managers only (21.60%) and bloodstock agents (20.6%). There was no significant association between individual's role in the industry and how often risk was considered ($p>0.05$). There was a significant association between participants role in the industry and the type of risks that were considered most and least concerning ($p<0.001$). There was a significant association between the participant's role in the industry and the perceived effect that climate change and environmental factors have on the industry ($p<0.05$). A total of 29% of individuals in more than one role considered climate change and environmental factors to have a high-risk effect on the industry. There was no significant association between the country of operation and the perceived effect that climate change and environmental factors have on the thoroughbred industry ($p>0.05$). There was a significant association between both the participant's role in the industry and the country of operation when buying a thoroughbred horse ($p<0.001$). However, when breeding a horse, participant's role only and not the country the participant was operating from was significant. There was significant effect of role in the thoroughbred industry and how risk was managed and reduced in operations ($p<0.05$). Over 70% of participants choose insurance as a method of managing and reducing risk, this was followed by budgeting (55.9%) and stock diversification (52.9%). Individuals in the industry stay informed about market trends by attending sales (63.7%) and reading racing journals (58.8%). In summary, this study provides insights into the multifaceted risks faced by the Thoroughbred industry and the strategies employed to manage them. While no significant difference was observed in the frequency of risk consideration across roles or place of operation, significant variations existed in the types of risks perceived as most concerning. These findings underscore the importance of tailored risk management approaches to address the unique challenges encountered by stakeholders in the industry.

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Declaration

I hear by declare that this project is entirely my own work and that it has not been submitted for any other academic award or project, at this or any other educational establishment. When use of other authors work has been made it has been referenced fully and acknowledged correctly.

Jayne Redmond

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CHAPTER ONE

LITERATURE REVIEW

Chapter 1: Literature Review

1.0 Introduction

The Irish thoroughbred industry stands as a cornerstone of the national economy, contributing significantly to job creation across various sectors (Deloitte, 2023). Renowned globally, Ireland holds a prestigious position in breeding and racing, making it a top choice internationally (Deloitte, 2023). In 2022, the industry's direct and indirect expenditure totalled €2.46 billion, marking a 34% increase from the previous Deloitte report in 2016. The thoroughbred industry, with its enduring legacy passed down through generations, holds immense global significance. The importance of the industry is also seen on a global scale in at least 71 countries, with approximately half a million horses and the prize money offering over 3 billion euro worldwide (Legg et. al, 2023). The industry has a need to balance the economics with expectations of the animals both in the sport and in the production. These bioeconomic methods are common in other animal industries such as the dairy and livestock industries (Legg et al., 2023). Similar to other industries, the thoroughbred sector faces various risks, some of which may go unnoticed. Drawing parallels with the agricultural industry, where risk management strategies are crucial for business sustainability, illustrates the importance of such measures (Komarek, 2019). Farmers contend with uncertainties like market fluctuations, climate change, and economic downturns mirroring the risks present in the thoroughbred industry, particularly concerning livestock (Komarek, 2019). Despite the economic prosperity of the thoroughbred industry, there remains a lack of research on risk management within this sector. Understanding risk perception and risk management in the Thoroughbred industry is crucial because it enables stakeholders to navigate the unpredictable nature of the industry, safeguard the welfare of horses and participants, and sustain the long-term viability of the sport.

1.1 History of Risk Management

The concept of risk management has undergone significant development over the years, with its origins tracing back to the inception of Modern Portfolio Theory (MPT) in the 1950s. Harry Markowitz, an economist, pioneered the conceptualisation of MPT, providing a mathematical framework that revolutionised decision-making in finance and investment (Hawley and Beyhaghi, 2011). This marked a paradigm shift, enabling investors to optimise returns while minimising risks within their portfolios.

During the early 1970s, theoretical models for contemporary risk coverage and fundamental financial risk management solutions were formally introduced, expanding the scope of risk management beyond mere market insurance coverage (Singh, 2022). Corporations, particularly those with diverse physical asset portfolios, began adopting self-insurance practices to mitigate various risks, both minor and substantial (Dionne, 2013). This proactive approach shielded against adverse financial repercussions stemming from unforeseen events or accidental losses. The evolution of risk management continued post World War II, as major corporations recognised the importance of safeguarding against a spectrum of risks, including price fluctuations in interest rates, stock markets, exchange rates, and raw material/commodity prices (Dionne, 2013). This shift in perception prompted a greater emphasis on financial risk management, particularly among banks, insurers, and non-financial businesses. In the past 25 years, global events such as 9/11, the global financial crisis, and the recent covid-19 pandemic have underscored the critical role of effective risk management in personal and professional spheres (Singh, 2022). The burgeoning global risk market reflects an acknowledgment that without proactive risk management, both individuals and organisations remain vulnerable to unforeseen challenges. These strategies not only minimise the impact of risks before occuring but also foster a proactive approach to navigating uncertainties in an ever-changing world (Singh, 2022).

1.2 Risk Management in the Modern World

Risk management has become an indispensable tool in navigating the complexities of the modern world. From the financial market to public health crises, the ability to anticipate, mitigate, and adapt to risks is crucial for individuals, businesses, and governments (Hopkin, 2018). In today's society, there is a diverse range of risks, including financial, operational, strategic, technological and environmental. There is a constant evolution to these risks due to factors such as rapid technological advancements, geopolitical uncertainties, climate change, and global pandemics (Hopkin, 2018). An important part of risk management involves the systematic identification, assessment, and periodisation of risks. Once the risks have been identified, the application of resources to minimise, monitor, and control the probability or impact of adverse events are put in place (Aven and Renn, 2010).

The identification of risk management involves systematically identifying potential threats and opportunities that could impact an organisation (George, 2018). Having an understanding of the landscape of risks, organisations can proactively address the potential risks and capitalise on emerging

opportunities. Following the identification of risks, the utilisation of the principals of risk management comes into play. This involves the analysis of the likelihood and potential impact of the identified risks, taking into account factors such as severity, frequency, and vulnerability. Through a thorough assessment, organisations can prioritise risks and allocate resources accordingly, focusing on the greatest potential impact (George, 2018). Once the risks have been identified and assessed, strategies are implemented to reduce likelihood or impact. This might involve implementing control measures, transferring risk through insurance or contacts, or accepting certain risks within defined tolerances (Hopkin, 2018). The purpose of risk mitigation is to minimise the likelihood of adverse events and mitigate the potential consequences. In conjunction with this, monitoring and reviewing is essential in order to make sure an adaption is made in response to changing circumstances, ensuring a resilience to evolving risks (Hopkin, 2018). Risk management should be integrated into organisations decision-making processes. Rather than being viewed as a standalone function, it should be incorporated into strategic planning, operations, and day-to-day activities. By embedding risk management into the foundation of the organisation, informed decisions can be made that balance risk and reward, driving sustainable growth and resilience (Aven and Renn, 2010).

1.2.1 Benefits of Risk Management in the Modern World

Being active with regards to risk management is important as it allows risk leaders to do more than identify and mitigate risks, but also discover indicators, such as early warning signs, that could show potential future problems (Culp, 2020). As organisations navigate through the complex landscape of risk management, it becomes apparent that proactive measures are essential for long term success. Risk management strategies are about identifying, assessing and mitigating potential threats to a business's financial well-being (Johnson, 2023). For instance, diversification helps a business reduce the effects of a downturn in any one area by distributing its investments over a range of markets or assets. This strategy improves overall resilience and helps guard against particular risks, empowering organisations to manage uncertainty and preserve their financial stability (Johnson, 2023). Another strategy used to handle risks is by risk assessment, which by performing routine risk assessments and taking into account both internal and external factors, identify and evaluate potential financial hazards (Hopkin, 2018). Proactive risk management ultimately enables businesses to successfully handle uncertainty, maintain financial stability, and confidently face obstacles, assuring long-term success in a constantly shifting business environment.

1.2.2 The Perception of Risk

Risk perception refers to the subjective evaluation that individuals make about potential harm or loss that is associated with a specific situation or activity (Garrick et al., 1991). It encompasses the cognitive, emotional, and social factors that can influence how individuals perceive and respond to risk in their environment. Risk perception can vary widely among individuals and can be influenced by factors such as familiarity, dread, trust, and cultural norms. The understanding of risk perception is important for effective decision-making, risk communication, and risk management in various domains (Garrick et al., 1991). The perception of risk encompasses the subjective evaluation that individuals make regarding the potential harm or loss that is associated with a particular situation or activity (Slovic, 1987). Individuals will often rely on cues from trusted sources such as friends and family, or the media, to gauge the severity of a particulate risk. Cultural values can also shape how risks are perceived and prioritised in a society (Slovic, 1987). There is also an element of cognitive biases with regard to the perception of risk, which can distort risk perceptions and lead to suboptimal decision-making.

The availability heuristic describes the tendency to assess an event's chances depending on how quickly individuals recount similar instances from past experiences; this can frequently result in an overestimation of infrequent but vivid risks. Alternatively, the use of optimism bias tend to overestimate the vulnerability of unfavourable circumstances, such as illness or accidents, in comparison to others (Slovic, 1987). The complexity of risk perception, emphasises the complex interactions of cognitive, affective, and social elements that influence how individuals see and react to threats. Policy makers, risk managers, and communicators can design more successful risk management by understanding these reactions (Garrick et al., 1991).

Kahneman and Tversky's (1992) prospect theory describes how people weigh possible gains and costs in relation to a reference point. By emphasising the subjective element of risk assessment and decision-making, this theory supports the perception of risk. When faced with possible profits, people frequently display risk-averse conduct; when faced with potential losses, they frequently display risk-seeking behaviour (Kahneman and Tversky, 1992).

Furthermore, risk perception is significantly influenced by the psychological phenomena of loss aversion, which holds that losses have a bigger impact than similar gains. It is essential to know these cognitive biases and subjective assessments in order to understand how individuals perceive and react to hazards in different situations

1.2.3 Failure to Implement Risk Management

Risk is a fundamental part of businesses as the operation of firms cannot be carried out without taking risks. Some companies may not chose to implement a risk management scheme, or just have an insufficient one in place as it will not be a priority. Hillson and Murray-Webster (2007) describe it as 'a decision to do nothing explicitly avoids the opportunities that exist and leaving the threats unmanaged'. The management of a successful business is about the minimising the bad risk while taking advantage of the good risks, generating emphasis that risk management is not a process for avoiding risk; rather facilitating risk handling (Fadum, 2013).

The Deepwater Horizon blowout serves as a stark reminder of the catastrophic consequences that can arise from neglecting risk management practices (Houck, 2010). From the beginning, the signs of risk were apparent in the project, yet were either ignored or underestimated. This risk creep, or the gradual accumulation of risk over time, ultimately led to the devastating event of the Deepwater Horizon oil spill, which could have potentially been prevented with proper risk management protocols in place (Houck, 2010). The aftermath of Deepwater Horizon highlighted the far-reaching impacts that can happen from overlooking risk management. It exposed the latent risks inherent in complex projects and demonstrates the need for proactive risk management strategies. The ripple effect which occurred after the disaster were seen not only in the environment and the economy, but also socially and politically, underscoring the importance of risk management. This disaster serves as a strong reminder of the importance of being prepared for unforeseen risks and the vital role that risk management plays in safeguarding against disasters.

1.3 Risk Management in the Agricultural Industry

Effective risk management in agriculture is paramount for numerous reasons. Minimising farming risks does not always directly correlate with improved farmer welfare, it undeniably influences factors like farmers' incomes, market stability, and even food security (Schaffnit-Chatterjee, 2010). This holds particularly true for developing nations and the most vulnerable populations within the EU, where unexpected shortages can lead to sharp spikes in prices,

exacerbating the challenges faced by farmers (Schaffnit-Chatterjee, 2010). Given the global economic crises of the past and the diverse agricultural policies in place worldwide, it's imperative to examine the risk-related consequences of historical and current public support for agriculture (Spicka, 2010).

The inherent uncertainty in agricultural production stems from a multitude of factors: weather events, diseases, economic conditions, technological advancements, and institutional policies from both public and private sectors (Mapp et al., 1979). These elements interact in a unique decision-making environment for agricultural producers, where the possibility of positive or negative deviations from anticipated results looms large (Schaffnit-Chatterjee, 2010). Farm operations are intricately tied to institutional frameworks, which often introduce ambiguity through the creation and application of rules (Mapp et al., 1979). These institutions, alongside other influencing factors, such as the demands of the natural environment and market dynamics, significantly impact the variability in prices, yields, and net returns for agricultural producers. To mitigate some of the adverse effects of price and yield unpredictability, institutional innovations like federal crop insurance, emergency loans, and disaster pay-outs have been introduced, aiming to shift some of the risk burden from the private to the public sector (Mapp et al., 1979). Production risks, stemming from the volatility of agricultural commodity prices and yields, remain a constant concern for farmers. Such risks not only affect short-term profitability but also impede long-term planning, creating challenges for sustainable agricultural practices (Spicka, 2010). The proposed Farm Production Protection Act of 1979 would establish an insurance programme with government subsidies for producers' premiums, offering varied degrees of protection and guaranteeing compensation for crop losses resulting from crop failure or natural disasters (Mapp et al., 1979).

1.3.1 Risks Associated with the Agriculture Industry

Farmers continually have to deal with and control various agricultural risks. Although higher predicted returns are usually one of the benefits of taking a risk, risk can also imply unfavourable outcomes, such as reduced yields and incomes, as well as catastrophic events, such as financial bankruptcy, food hunger, and health issues for people (Komarek, 2019). When examining this from a social outlook, agriculture and food systems in the modern era are threatened by factors such as food insecurity, social inequity, labour shortages and working conditions, market volatility, and price fluctuations. (Khatrai et al., 2023). Numerous policy-driven initiatives have started to address agricultural hazards more comprehensively, in part

because it is possible that multiple types of risks would arise at the same time. These programmes look at risk management problems and tactics that focus on various risk sources (Komarek, 2019). These consist of initiatives in the Centre for Resilience, the Forum for Agricultural Risk Management in Development (FARM-D) of the World Bank, and the Platform on Agricultural Risk Management (Komarek, 2019).

Numerous risks, many of which are connected, are faced by farmers (Schaffnit-Chatterjee , 2010). According to their sources, five categories of risk are typically taken into account in agriculture: production risk, price and market risk, regulatory risk, technological risks, financial risks, and human resource risks (Schaffnit-Chatterjee , 2010). In addition to being grouped by origins, risks can also be categorised by how frequently unfavourable events occur and how much of an influence is caused (Schaffnit-Chatterjee, 2010). Making decisions at the personal and farm level is the first step towards risk management. Various risk categories also call for various suppliers, such as governments, banks, insurance companies, or public-private partnerships.

The unpredictable natural growth processes of crops and cattle are a source of production risks. Typically, these risks are caused by weather and climate conditions (temperature and precipitation), as well as pests and illnesses (OECD, 2009). Additional factors that can limit or reduce yield include production concerns including high levels of heavy metals in soil or salinity (OECD, 2009). The main sources of market risk are pricing, cost, and market access uncertainty. Weather shocks and their effects on yields, energy price shocks, and unequal access to information are additional sources of market risk that can cause volatility in the prices of agricultural commodities (OECD, 2009).

Unpredictable changes in agricultural policies and regulations, whether from official or informal institutions, are associated with institutional risks (Komarek, 2019). The government, being a formal institution, has the ability to introduce hazards by enacting erratic policies and laws that farmers have little control over (Komarek, 2019). Individual health hazards and interpersonal ties that impact the farm or farm household are considered personal risks. A few causes of personal risk are diseases that injure or kill family members, pesticide use's detrimental effects on human health, and diseases that spread from livestock to humans. For farmers, one of the main causes of income volatility and concern is health hazards (Komarek, 2019). Financial risk, which is defined as the increased variability of the farm's operating cash

flow as a result of the fixed financial commitments inherent in the use of credit, refers to the risks related to the farm's financing (OECD, 2009). Variations in interest rates, loan availability, or credit terms are a few sources of financial risk.

1.3.2 Risk Management Strategies in Agriculture

Risk management in agriculture is paramount due to the inherent uncertainties farmers face. These uncertainties necessitate the adoption of both ex ante and ex post risk management strategies (Agrawal et al., 2021). Normally a farmer can experience the threat of different types of risk at the same time. Due to this farmers can use strategies in combination with one another, to ensure that the risks that are being encored are likely to be covered (Kahan, 2013). Individual farmers should base their risk management plans around goals, risk attitudes and personal and financial situations (Kahan, 2013).

It can be seen in Table 1 that the highest-rated strategies were minimising production costs (4.67) and acquiring business insurance (4.33). Conversely, options like option markets, off-farm employment, and certain strategies related to stock desertification were deemed less relevant. The analysis identified key factors such as reduction of price risk, insurance, diversification, and secure income (Meuwissen, 2000).

Table 1: Farmers response to risk strategies. Factors 1 to 4 are reduction of price risk, insurance, diversification, and certain income respectively. Average scores (1= not relevant, 5=very relevant)

Risk management strategies	**Average (n=612)**	**SD**	**Most 1**	**Important 2**	**Factors 3**	**4**
Producing at lowest possible cost	4.67	0.59	0.11	0.40	-0.30	-0.17
Buying business insurance	4.33	0.89	0.00	0.81	0.03	0.14
Buying personal insurance	4.06	1.10	-0.05	0.77	-0.03	0.06
Applying strict hygiene rules	3.96	0.99	0.16	0.48	0.12	-0.42
Increase solvency ratio	3.45	1.19	0.08	0.36	0.09	0.40
Price contracts for farm outputs	2.58	1.49	0.86	0.07	0.12	0.04
Price contracts for farm inputs	2.53	1.44	0.88	0.08	0.02	-0.04
Spatial diversification	2.17	1.35	0.19	0.00	-0.78	-0.21
Off-farm investment	2.12	1.22	-0.20	0.03	0.61	0.27
Enterprise diversification	2.05	1.29	0.21	-0.01	0.68	0.17
Off-farm employment	1.98	1.24	0.11	0.04	0.14	0.72
Features and options market	1.58	0.96	0.53	-0.07	0.05	0.40

% of total variance accounted for	–	–	16.56	14.93	13.31	10.12

This study conducted by Meuwissen (2000), explores the evolving risk environment for farmers, necessitating the development of effective risk management strategies. The research, involving over 2000 farmers with 737 participants for analysis, focused on dairy farms, pig farms, and mixed livestock farms. The survey assessed farmers' preferences for risk and gathered data on their chosen risk management methods. The strategies were evaluated on a scale of 1 to 5, revealing distinctions between relevant and irrelevant approaches (Meuwissen, 2000). The highest-rated strategies were minimising production costs and acquiring business insurance. Conversely, options like option markets, off-farm employment, and certain strategies related to stock desertification were deemed less relevant. The analysis identified key factors such as reduction of price risk, insurance, diversification, and secure income. (Meuwissen, 2000). The study underscores the importance of understanding farmers' risk management strategies, navigating the complex and multifaceted risks inherent in agricultural practices. By recognising and incorporating farmers' risk preferences and behaviours, policymakers and stakeholders can develop more tailored and effective risk management interventions to support agricultural sustainability and resilience.

1.4 Risks associated with Thoroughbred Horse Ownership

Being a part of the thoroughbred industry comes with a variety of risks which should be taken into account when becoming involved in it. The centre of these operations is about the balance between risk mitigation, financial stability, and the welfare of the animal (Longman, 2011). Thoroughbred horse ownership encompasses a myriad of risks, spanning from the unpredictability of racing success to the substantial financial investments that are required. The purchasing of a horse come with uncertainty in the investment, knowing that even the most promising contenders can falter on the track, resulting in a significant financial loss (Darwell and Faussett, 2012). This can happen due to talent, training effectiveness, and the threat of injuries which are potential impediments to a horse’s racing career. Beyond the initial purchase price, ongoing costs such as training fees, veterinary care, transportation, and miscellaneous expenses like licensing and insurance (HRI, 2020). A quick accumulation of these expenditures can occur, which can be a strain on owners finances and requiring strategic revenue generating initiatives to offset the financial burdens (Darwell and Faussett, 2012).

The well-being of the horse is also paramount as horses are susceptible to various health risks and injuries. A vigilant approach to health care is essential, requiring regular vet checks and intervention at the first sight of an injury or health issue. Reproduction is also a crucial aspect of the horses health (Stallones, 2023). Breeding and foaling come with their own set of challenges and uncertainties. There must be a consideration for carefully managing breeding programs, considering the genetic pedigrees of matches, and ensuing proper prenatal and postnatal care for the mare and foal. Complications during pregnancy, foaling difficulties, and neonatal health issues can all impact the success and profitability of a breeding operation (HRI, 2020). Due to the potential risks that are prevalent in the thoroughbred industry, effective risk management strategies are indispensable for thoroughbred horse owners. By understanding and proactively addressing the potential risks, owners can safeguard their investments, protect the welfare of the horse and optimise the chances of success.

1.4.1 Profitability of Thoroughbred Yearlings

Buying and selling of prospective Thoroughbred racehorses typically occurs through yearling auctions. Breeding yearlings for these auctions is the primary goal of many equine companies, therefore breeders' long-term involvement in the market depends critically on their capacity to continuously provide favourable profits (IFHA, 2023). An investigation was carried out over the period of 2001-2018, looking at estimated profitability earned from thoroughbred yearlings sold in auctions in the United states (Bryant and Stowe, 2020). The estimations show that less than 50% of transactions were lucrative, with the exception of two years where the median profit was negative (Bryant and Stowe, 2020). Furthermore, when the quality of sire declines, the probability of obtaining a positive return also falls. The findings in the study raised doubts about the long-term viability of many breeders, particularly those who do not have the resources to purchase premium stallions (Bryant and Stowe, 2020).

Several important figures from a recent economic impact study commissioned by the British Thoroughbred Breeders' Association highlighted the precarious financial situation of the British Thoroughbred breeding industry and revealed some shocking facts regarding its profitability and outlook for the future (IFHA, 2023). A total of 66% of breeders lost money between 2014 and 2018, according to the analysis, while the typical horse sold at Tattersalls in Book 3 lost £23,500.

In order to diversify risk, the Thoroughbred industry has developed a number of business areas that are not inherently mutually exclusive. There are companies in the breeding industry that raise horses with the goal of racing them under their own brand and then selling them. Commercial breeders are often defined as breeding operations that breed for market. For these breeders, the yearling auction market is their main source of revenue (IFHA, 2023). Kentucky is seen to be the biggest thoroughbred breeding industry globally, with it producing more than 40% of the yearly North American thoroughbred foal crop. Bryant and Stowe (2020) examined the revenue involved in this industry and found that the average income per horse was approximately $21’613, while the average expenditure per horse was $21’531, only generating a profit of $82 dollars per horse.

Throughout the era under examination, the thoroughbred sector has undergone continuous change. The yearly foal crop in North America fell by more than 42.6% between 2001 and 2018, from $34,721 in 2001 to an estimated $19,925 in 2018. (Bryant and Stowe, 2020). There were 41,083 races in 2018 compared to $62,835 in 2001, a decrease of almost 34.6%. In the meantime, from 2001 to 2018, the average purse per race grew by slightly more than 11% after accounting for inflation (Bryant and Stowe, 2020). Between 2001 and 2018, the number of breeding stallions in active use fell by more than 65%, to 1310 stallions in total. The industry's sustainability is at risk if this performance persists.

CHAPTER TWO

MATERIALS AND METHODS

Chapter 2: Materials and methods

2.1 Research Objectives

The objective of this study was to obtain information from individuals in different roles in the thoroughbred industry from different countries. The study aimed to examine the perceived attitude of risk, creating an understanding of how risk is managed within the industry and what risks are considered most frequently.

2.2 Sample Population

The target population for this survey was farm managers, owners, trainers, bloodstock agents, and breeders, that are involved in the thoroughbred industry. The survey was emailed to individuals in the industry in different countries being Ireland, England, France, Germany, the United States, and Australia. The survey was distributed to 342 individuals, with 102 responses having a response rate of 29.8%.

2.3 Survey Questions and Design

The survey was designed on Qualtrics and consisted of 15 questions which was subdivided into three sections: 1. Background information, 2. Risks associated in the industry and 3. Risk mitigation. Different formats of questions were used in the survey such as: open-ended questions, Likert-scale (rated 1-5), and closed-ended questions (specific options). Ethical approval was given from the University of Limericks' human research ethics committee on February 29th 2024. All participants received an information sheet with each survey outlining the details of the survey.

2.4 Online Survey

The survey was distributed from March 1st 2024 until March 21st 2024. A link to the survey was attached to the email that was distributed, along with survey details and request for participation.

2.5 Statistical analysis

Data obtained from the survey was transcribed and transferred to Microsoft excel spreadsheet. When the data was input and coded, it was transferred into the statistical software SPSS. Using this software, descriptive frequencies of the data were quantified, and statistical analysis was

carried out to test for significance among data variables. Frequencies and chi-squared analysis were carried out and descriptive statistics and charts were used to summarise results for each questions.

CHAPTER THREE
RESULTS

Chapter 3: Results

3.1. Introduction

A total of 342 surveys were emailed to individuals in the thoroughbred industry such as farm managers, breeders, trainers, bloodstock agents, and owners over a period of four weeks. The total number of participants in the study was 102, with a response rate of 29.8%. The data was divided into the survey areas of background information including demographics, risks associated in the industry, and risk mitigation.

3.2 Questionnaire Responses from Total Population

3.2.1. Population Demographics

The data in this section presents the descriptive statistics for role in the thoroughbred industry, how many years' experience the participants have, the country the individual operates from, and how often risk was considered daily in the operations.

Role Distribution of Participants

Figure 3.1 shows the distribution of roles among the participants. Individuals with multiple roles within the industry constituted the largest group, representing 28.4% (n=102). The roles of the individuals were combinations such as farm manager and owner, farm manager and breeder, or bloodstock agent and owner. Farm managers comprised the second-highest response rate at 21.6% (n=102), followed by bloodstock agents at 20.6% (n=102). Trainers accounted for 11.8% (n=102) of respondents, while breeders constituted 8.8% (n=102). Other roles of participants such as stallion nominations, comprised 4.9% (n=102) of the total responses. Owners, constituted the smallest segment, representing only 3.9% (n=102) of participants.

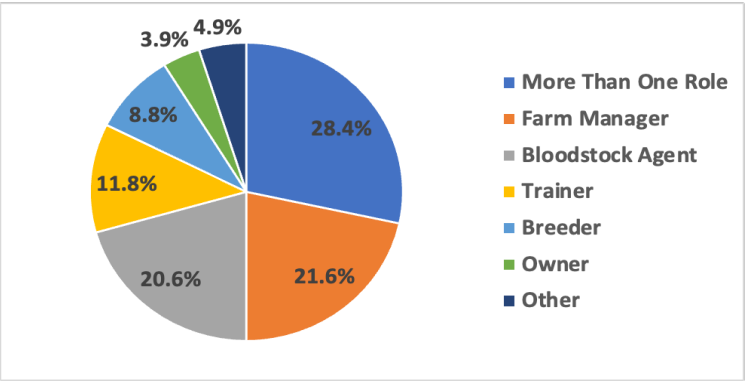

Figure 3. 1: Role Distribution of Participants

Years' Experience of the Participants

Participants years of experience in the industry is illustrated in Figure 3.2. The majority of respondents, comprising 75.5% (n=120), reported having more than 10 years of experience. Following this group, individuals with 6-9 years of experience accounted for 15.7% (n=102). Individuals with 3 to 6 years of experience represented 4.9% (n=102), while respondents with 1 to 3 years of experience constituted the smallest proportion at 3.9% (n=102).

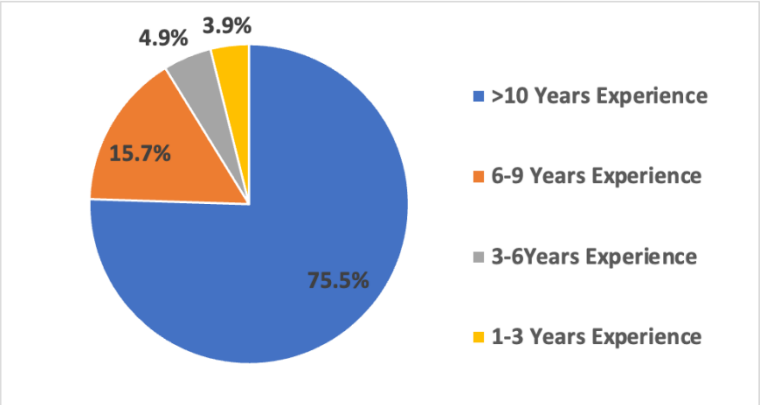

Figure 3. 2: Participants Years of Experience

Distribution of Participants by Country (the survey was distributed to)

Among participants, Ireland emerged as the predominant representation, 29.4% (n=102) of respondents. Participates in the US was the second highest proportion at 20.6% (n=102), while UK participants were slightly behind at 18.6%. Australia constituted 12.7% (n=102) of respondents, a minority reported affiliations with more than one country, representing 7.8% (n=102). Participants from France represented 6.9% (n=102), and both Germany and Japan each represented 2% (n=102) (Figure 3.3).

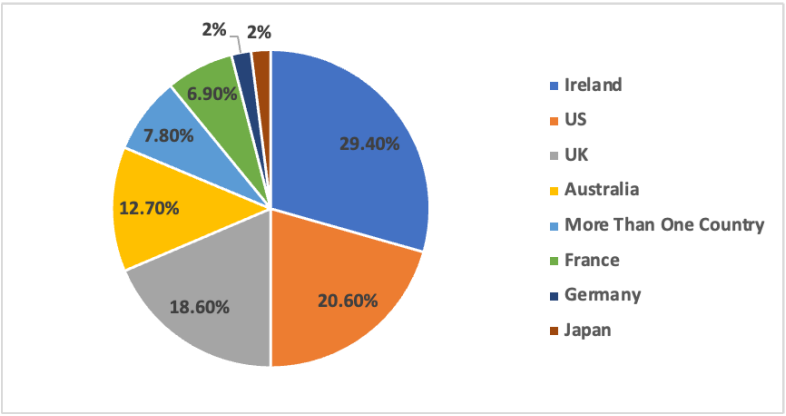

Figure 3. 3: Distribution of Participants by Country

Distribution of Daily Risk Considerations among Participants

The participants were requested to consider how often risk was considered during daily operations. Depicted in Figure 3.4 below, 36.7% (n=102) reported considering risk very often. Additionally, 37% of participants stated that risk was often considered. Moderately, 19.6% (n=102) constituted risk sometimes, while 6.9% (n=102) indicated that risk was not often considered. None of the participants reported that risk was never considered.

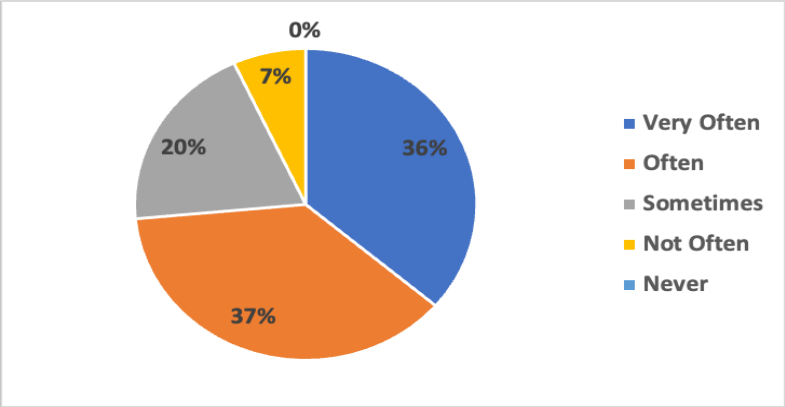

Figure 3. 4: Distribution of Participants Daily Considerations of Risk in Operation

3.2.2 Risks Associated in the Industry

The data presented in this section examines the populations responses to risks associated with the thoroughbred industry. This involves rating risks on a scale of 1 (least) to 5 (most), the risks considered when breeding and buying horses, the effect that climate change has on the industry, the evaluation done when purchasing a horse. Individuals were presented with two scenario questions to assess the likelihood and outcome of events that could occur in the industry.

Ranking of Risks by Participants

The participants were asked to assess the level of risk in various aspects of the thoroughbred industry, rating the risks on a scale of 1 to 5. The risks being evaluated were legal and regulatory risks, operational costs, the bloodstock market, health and disease, breeding and reproduction and other risks that could be specified. Legal and regulatory risk were chosen as the least concerning risk with 44.1% (n=102) of participants rating it as number one risk. The bloodstock market was portrayed as the most concerning risk with 29.4% (n=102) of participants rating it as number 5. This can be seen below in figure 3.5.

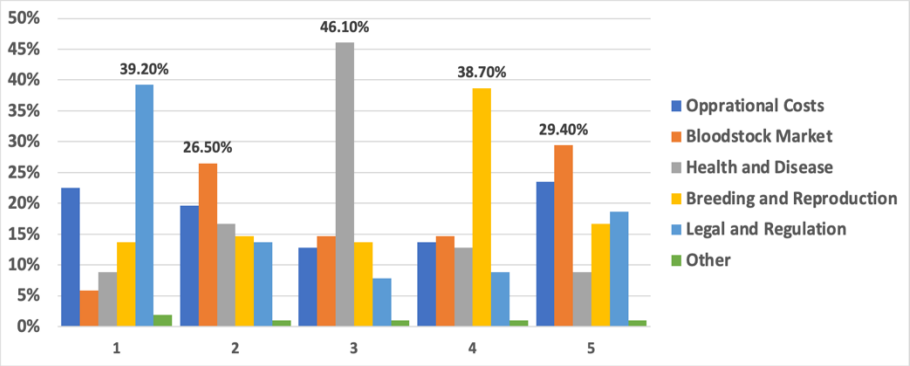

Figure 3. 5: Ranking of risks 1-5 by participants in the industry

Distribution of Risks Considered when Breeding a Horse

Participants were asked to select three out of six potential risks that were deemed most significant when breeding a horse, the following options were given: fertility issues, pedigree of the dam, sire choice, quality of the foal produced, veterinary expenses, other (please specify), or not applicable. A not applicable option was given for participants that are not involved with breeding horses. Among the options provided, the pedigree of the dam emerged as the most selected risk with 77.5% (n=102) of participants choosing it. Following closely, the quality of the foal produced was selected by 67.7% (n=102) of participants, while sire choice was deemed significant by 60.8% (n=102).

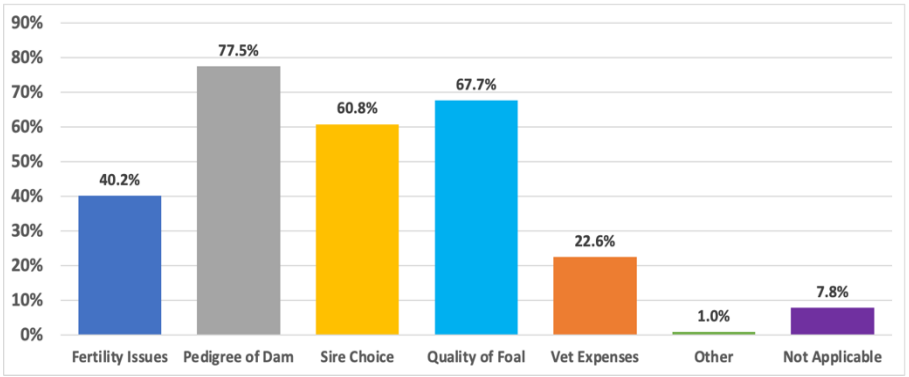

Figure 3. 6: Distribution of Risks Considered when Breeding Horses

Distribution of Risks Considered when Purchasing a Horse

Figure 3.7 illustrates the distribution of risks assessed by participants when buying a horse. Each participant was prompted to select three out of six options reflecting the risks deemed most significant in the purchasing process. The probability of success and the likelihood of injury or illness were equally prioritised, with 64.71% (n=102) of participants selecting them

as primary concerns. Following closely, the potential for market value fluctuations garnered consideration from 56.9% (n=102) of participants.

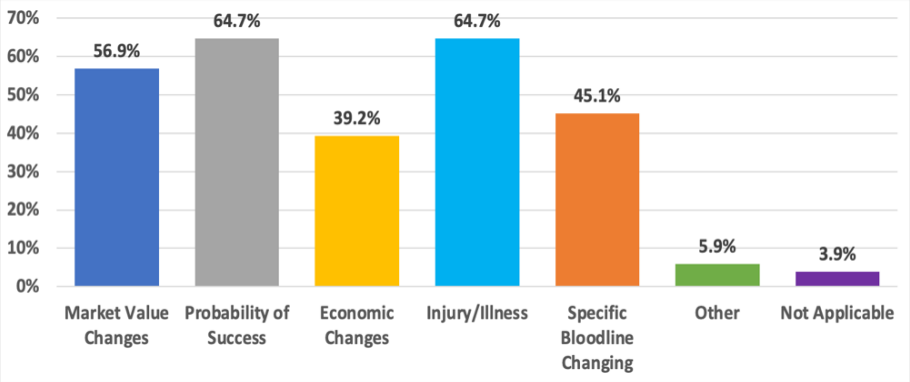

Figure 3. 7: Distribution of Risks Considered when Purchasing a Horse

The Extent that Climate Change and Environmental Factors have on the Thoroughbred Industry

In Figure 3.8, the distribution reflects participants' opinions on the extent to which climate change and environmental factors pose a risk to the thoroughbred industry. The predominant, shared by 42.2% (n=102) of participants, rated this concern at moderate level, giving it a score of 3 out of 5.

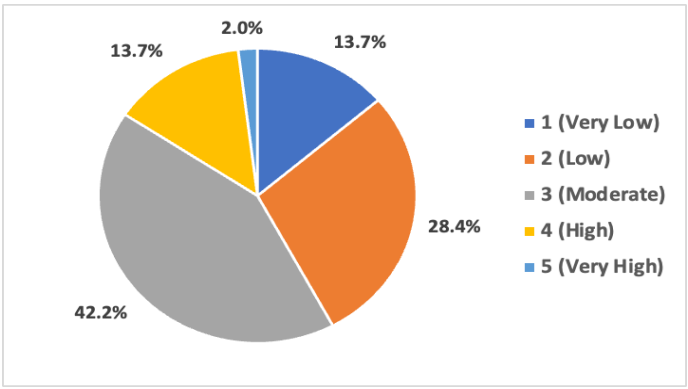

Figure 3. 8: The Distribution on the Extent that Climate Change and Environmental Factors have on the Thoroughbred Industry

Distribution of if the Risk of Buying a Horse is Assessed by Feelings and Personal Knowledge or Specific Analysis

The breakdown of decision-making approaches when buying a horse, based on whether risk assessment relies on feelings and personal knowledge or specific analysis, is illustrated in Figure 3.9. It reveals that the majority of participants, accounting for 58.82% (n=102), based

their decisions on feelings and personal knowledge. Conversely, specific analysis was employed by 37.25% (n=102) of participants in their horse purchasing decisions.

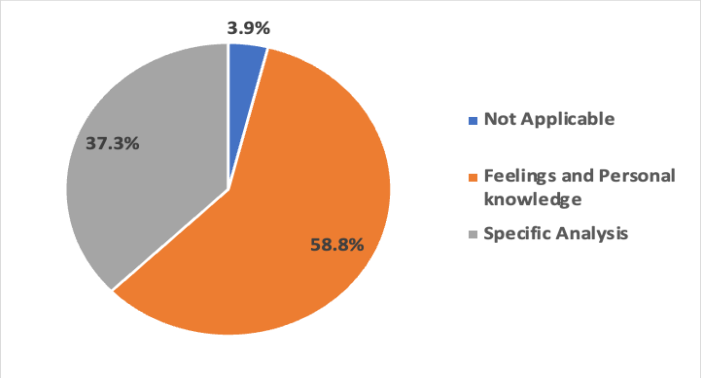

Figure 3. 9: Distribution of if the Risk of Buying a Horse is Assessed by Feelings and Personal Knowledge or Specific Analysis

The Distribution of Participants when given the Scenario of the Likelihood and Outcome of an Equine Disease Spreading within the Horse Population in the Region of Operation.

Figure 3.10 displays when the participants were asked a scenario question of the likelihood and outcome of an equine disease spreading within the horse population in the region of operation, the majority of participants 49% (n=102) considered the likelihood of this scenario occurring possible, and the outcome if that did happen was deemed major by 62.75% (n=102).

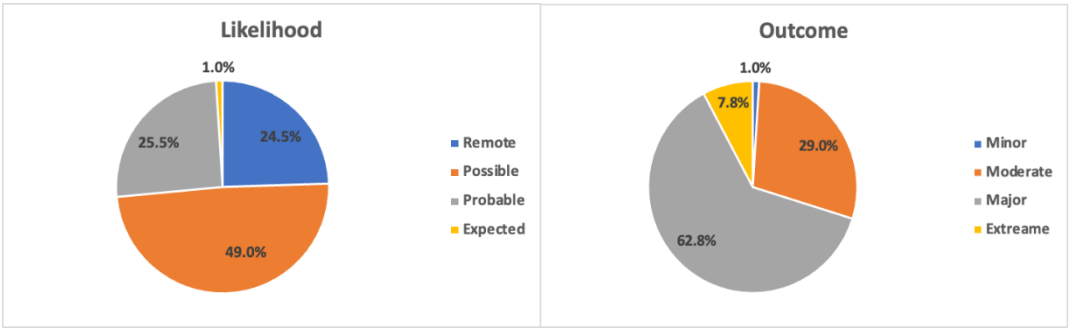

Figure 3. 10 The Distribution of Participants when given the Scenario of the Likelihood and Outcome of an Equine Disease Spreading within the Horse Population in the Region of Operation.

The Distribution of Participants when given the Scenario of the Likelihood and Outcomes of a Reduction of being able to Hire/Find Employees in the Coming Years

When the participants were asked a scenario question of the likelihood and outcome of a reduction of being able to hire/find employees in the coming years. The likelihood of this happening was seen as probable by 43.13% (n=102) of participants, and the outcome if it was to happen was seen to be a major outcome by 68.6% (n=102) of participants. (Figure X)

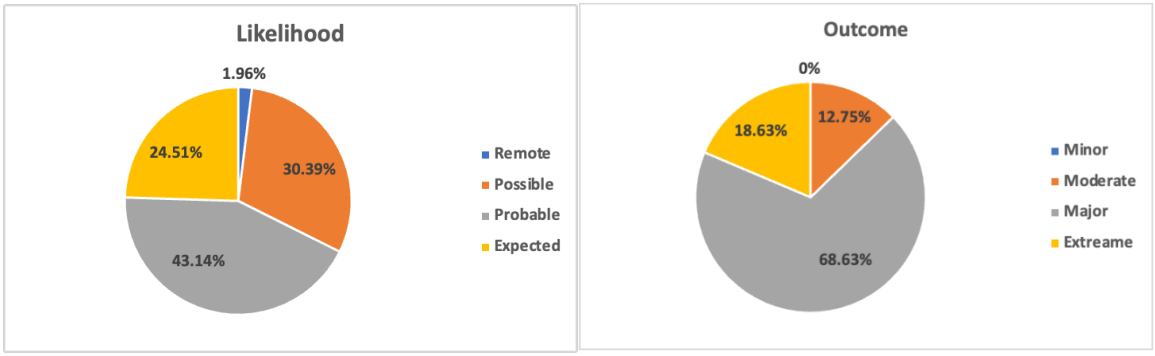

Figure 3. 11: The Distribution of Participants when given a Scenario of the Likelihood and Outcome of a Reduction of being able to Hire/Find Employees in the Coming Years

3.2.3 Risk Mitigation and Management

The data presented in this section presents the populations responses on how risks are reduced or managed in operations and how the participants stay informed about market trends and factors in the thoroughbred market.

The Distribution of Management and Reduction of Risks in Operations

Participants were surveyed regarding the methods employed to manage or mitigate risks in operations. Insurance emerged as the most favoured choice, selected by 73.5% (n=102) of respondents. Budgeting was also a popular strategy, chosen by 55.9% (n=102), closely followed by stock diversification, selected by 52.9% (n=102) of participants.

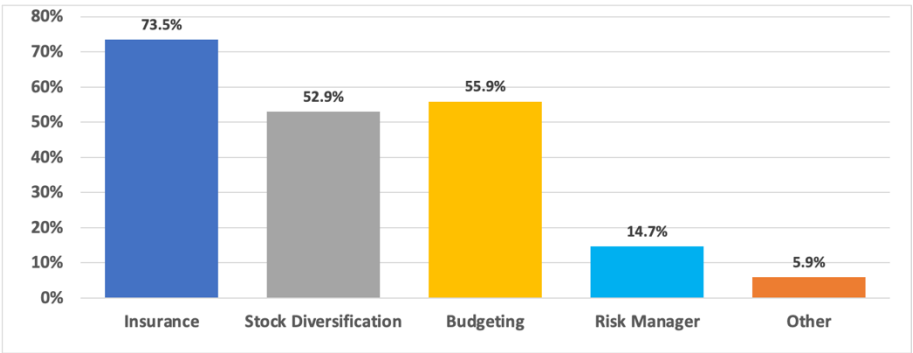

Figure 3. 12: The Distribution of Management and Reduction of Risks in Operations

Understanding Participants' Awareness of Market Trends and Influential Factors on Thoroughbred Horse Values

Participants were questioned on their methods of staying informed about the thoroughbred market. The predominant approach identified was attending sales, chosen by 63.7% (n=102) of respondents. Following this, racing journals were selected by 58.8% (n=102) of participants. Additionally, word of mouth was chosen by 46.1% (n=102) of individuals.

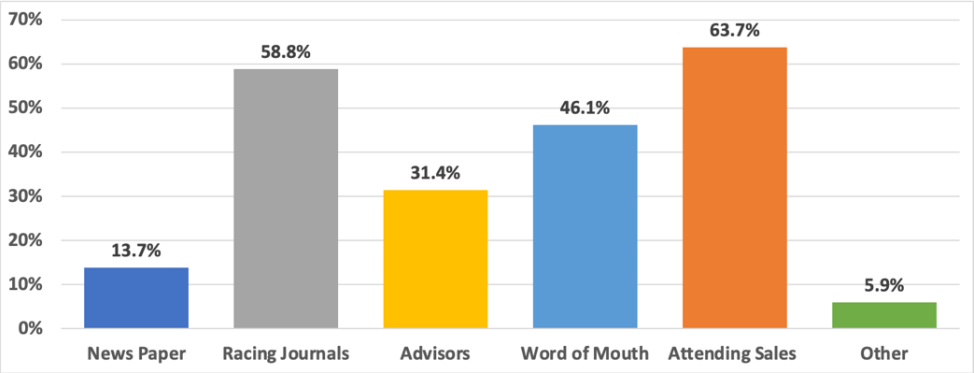

Figure 3. 13: Understanding Participants' Awareness of Market Trends and Influential Factors on Thoroughbred Horse Values

3.3 Questionnaire Responses evaluated by Role

3.3.1 Effect Role in the Industry has on Risk Perception

Understanding how different roles within an industry perceive and manage risks is vital for tailored risk assessment and mitigation. Each role interacts with different facets of the business environment, leading to distinct insights into potential threats and opportunities. By acknowledging the diverse viewpoints, organisations can develop comprehensive risk management strategies that account for a range of perspectives, thereby fortifying the industry's foundation for sustainable growth and success.

For this study, the roles with a response rate of over 20% (n=102) were used. This was done to ensure a sufficient sample size, allowing for statistical analysis. The roles analysed were: “more than one role” 28.4%, “Farm Managers” 21.6%, and “bloodstock agents” 20.6%.

The Effect of Role on the Ranking of Risks

There was a significant association between roles in the industry in the ranking of the least concerning risk (χ^2= 60.673, *df* = 30, p <.001) with 41.4% of participants in more than one role ranking it number one (n=29), 50% (n=22) of farmers raking it as number one, and 52.4% (n=21) of bloodstock agents also ranking it as number one. There also was a significant association between role in the industry the most concerning risk (χ^2= 61.558, *df* = 30, p <.001). The participants in more than one role also considered legal and regulation risks to be the biggest concern with 31.03% (n=29) rating it as the largest concern. Operational costs emerged as the primary concern for farm managers, with 59.10% (n=22) of participants ranking it as their top concern. A total of 62% (n=21) of bloodstock agents identified the bloodstock market as the most significant risk.

Figure 3. 14: The Effect of Role on the Ranking of Risks, 1 (least) to 5 (most). Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

Distribution of Risks Participants Considered when Breeding a Horse

Among participants in multiple roles (n=29), a consistent trend emerged. The majority, comprising 79.31%, identified the pedigree of the dam and the quality of the foal produced as primary considerations. Sire choice closely followed, selected by 75.86% of respondents. The responses of farm managers (n=22) displayed a clear priority was evident. The pedigree of the dam was deemed most crucial by 77.27% of respondents, followed by the quality of the foal produced at 68.18%, and sire choice at 59.10%. Likewise, participants functioning as bloodstock agents (n=21) demonstrated notable preferences. The pedigree of the dam was highlighted as paramount at 80.95%, followed by the quality of the foal produced at 71.43%, and sire choice at 61.91%. There was a significant association between role and the risks that are considered when breeding a horse (χ^2= 32.464, *df* = 18, p < 0.05).

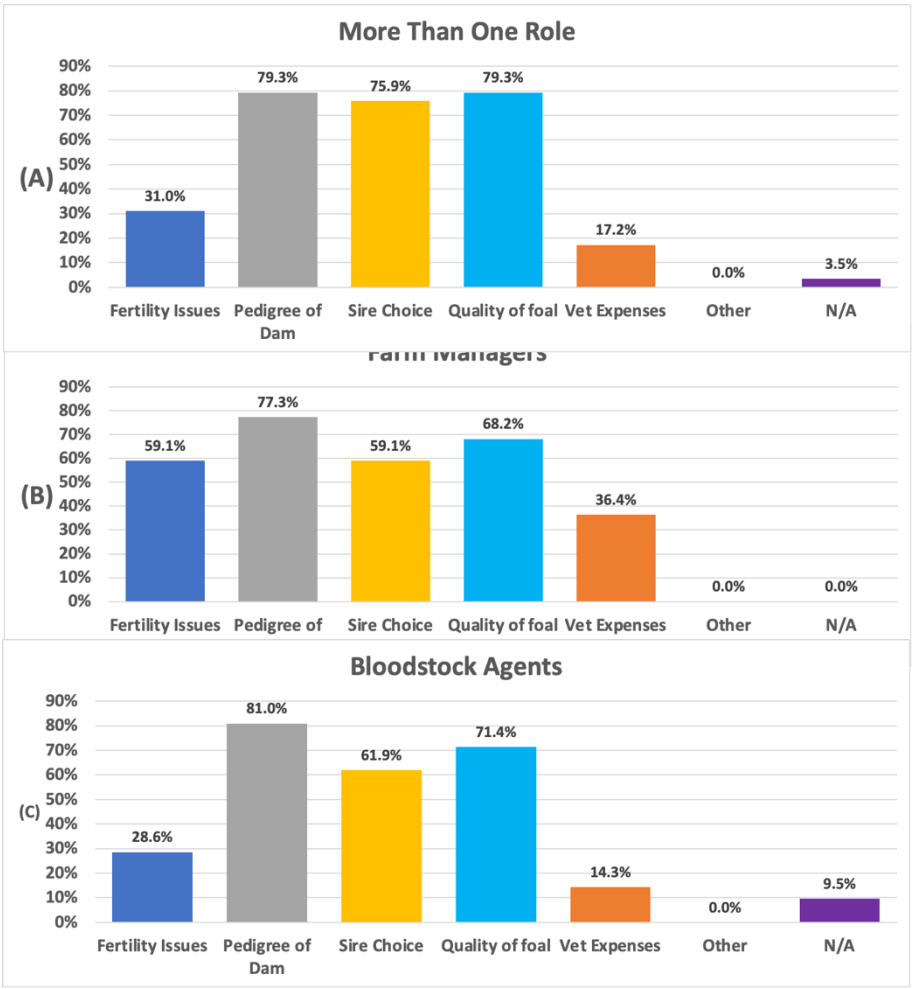

Figure 3. 15: Distribution of Risks Participants Considered when Breeding a Horse. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

Distribution of Risks Participants Considered when Buying a Horse

For the participants who were in more than one role, 72.41% (n=29) consider the chances of injury or illness when purchasing a horse. The risk of market value changing was also highly considered by 62.10% (n=29) of participants and the probability of success was selected by 58.62% (n=29). The farm managers picked the risk of chances of illness or injury the most with 68.18% of participants choosing it. This was followed by the equal selection of the risk of the market value changing and the probability of success being selected by 54.55% (n=22). The majority of the bloodstock agent participants choose the probability of success the most, 80.95% (n=21). This was followed by the market value changes 66.67% (n=21) and economic changes 52.38 (n=21). There was significant association between role in the industry and the risks that are considered when buying a horse ($\chi^2 = 57.808$, $df = 30$, $p < 0.05$).

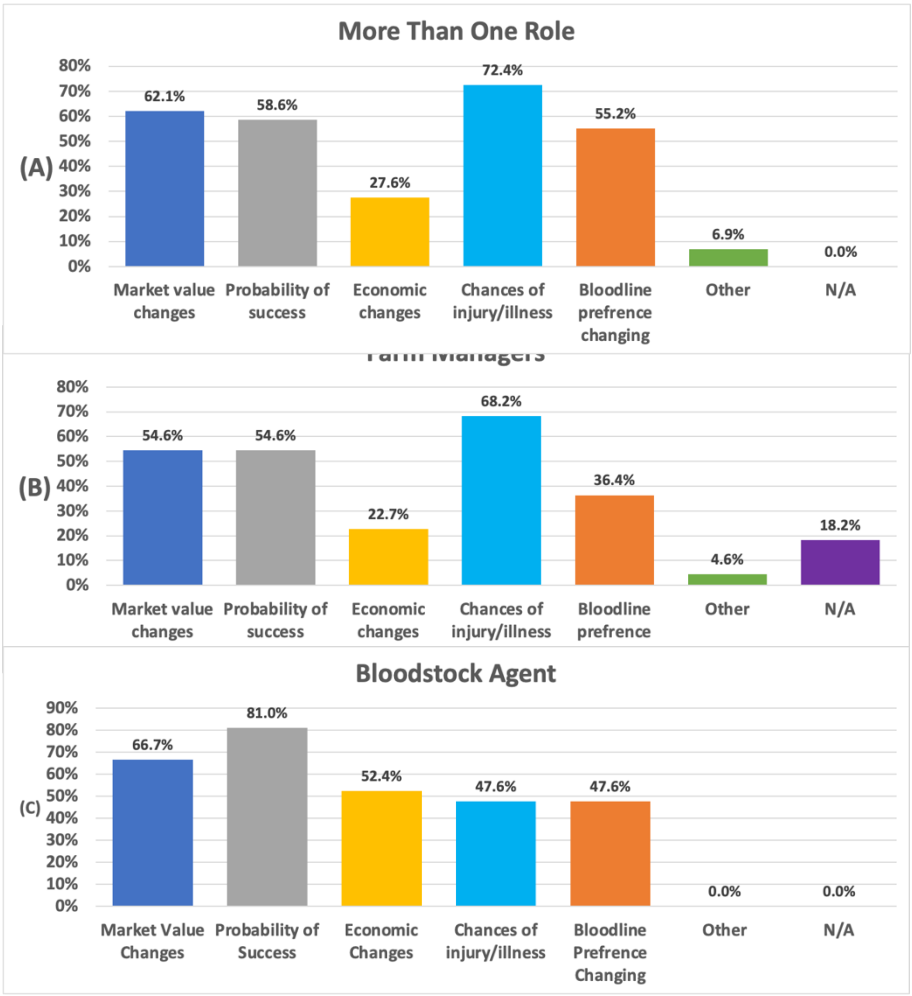

Figure 3. 16: Distribution of Risks Participants Considered when Buying a Horse. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

The Perceived Risk that individuals in (A) more than one role (B) farm managers and (C) bloodstock agents consider climate change and Environmental Factors have on the Thoroughbred Industry

When assessing the risk that climate change and environmental factors have on the thoroughbred industry, a significant association can between the role in the industry and the effect it would have (χ^2= 37.016, *df* = 24, p < 0.05). Figure 3.18 illustrates the frequency that participants that are in more than one role 28.4% (n=102) consider climate change and environmental factors to be a risk to the thoroughbred industry. The majority of this group 51.72% (n=29) considered this factor to have a moderate impact on the thoroughbred industry. It was rated as low impact by 24.14% (n=29) and very low by 17.24% (n=29). The participants who were in the farm manager role, shown in Figure X, had the highest percentage vote, 36.36% (n=22), for climate change and environmental factors being a high risk for the thoroughbred industry. The bloodstock agents considered climate change and environment factors to have the least impact on the thoroughbred industry, with 42.86% (n=21) rating it a low impact risk.

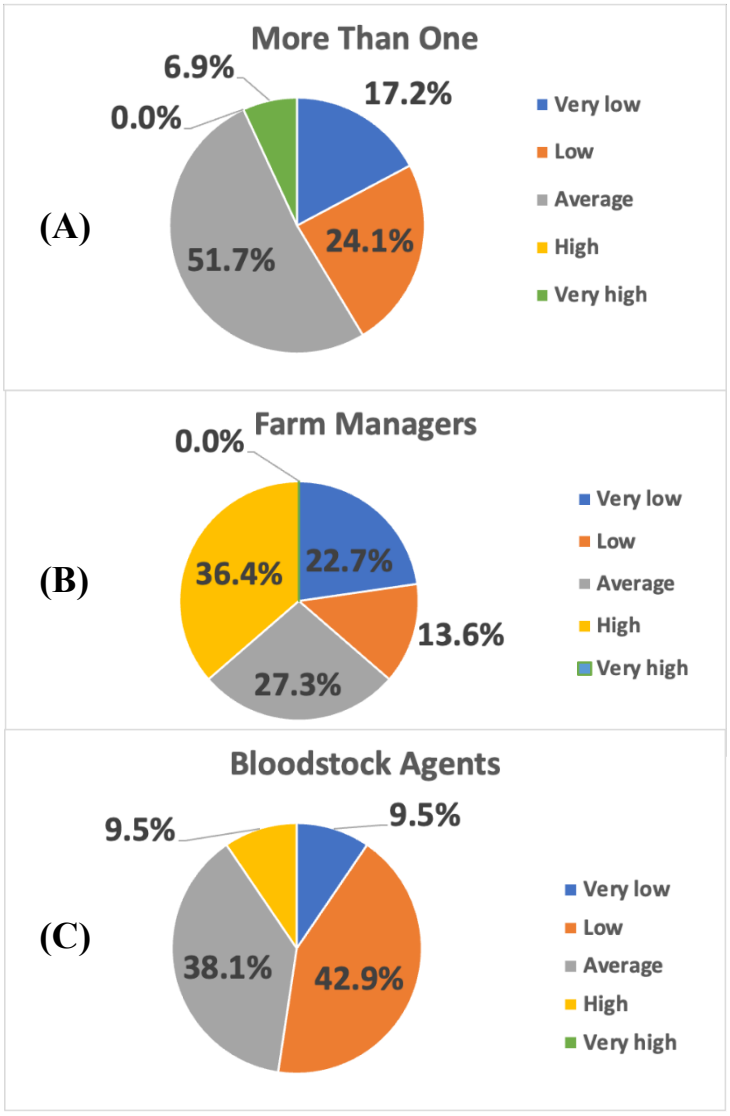

Figure 3. 17 The Perceived risk that individuals in (A) More than One Role (B) Farm Managers and (C) Bloodstock Agents Consider Climate Change and Environmental Factors have on the Thoroughbred Industry

Distribution of Different roles when Buying a Horse if the Risk is Assessed by Feelings and Personal Knowledge or Specific Analysis

The participants were asked when buying a horse would the future development and performance be based off feelings and personal knowledge or done by a specific analysis. In all of the roles, feelings and personal knowledge was rated the highest by the participants, with 65.50% (n=29) of more than one role choosing it, 45.46% (n=22) of the farm managers choosing it, and 57.14% (n=21) of the bloodstock agents also using it. There was no significant association between role and if when buying a horse, the risk is assessed by feelings and personal knowledge or a specific analysis (χ^2= 15.896, *df* = 12, p > 0.05).

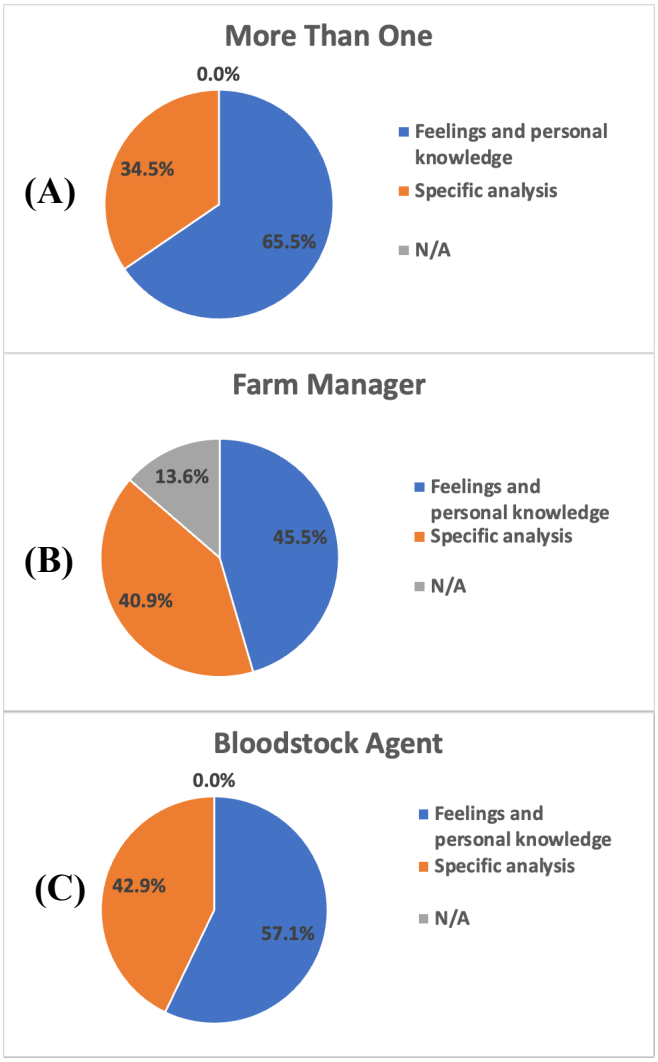

Figure 3. 18 Distribution of Different Roles when Buying a Horse if the Risk is Assessed by Feelings and Personal Knowledge or Specific Analysis. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

The Distribution of Participants of Different Roles with the Scenario of the Likelihood and Outcome of an Equine Disease Spreading within the Horse Population in the Region of Operation.

When presented with a scenario regarding the likelihood and potential outcome of an equine disease spreading within the horse population in their operational region, participants were surveyed for their perspectives. There is a significant association between role in the industry and the response to likelihood of this scenario (χ^2= 34.137, *df* = 18, p < 0.05) and also a significant association between role and the outcome of this scenario (χ^2= 32.349, *df* = 18, p < 0.05). Among those holding multiple roles (n=29), 55.17% considered the scenario possible, with 51.72% foreseeing the outcome as major. Farm managers (n=22) expressed a similar sentiment, with 59.1% perceiving the likelihood as possible and 72.73% anticipating a major outcome. Conversely, a notable portion of bloodstock agents (n=21), constituting 38.1%, regarded the likelihood as remote. However, despite this perception, 76.20% of them still predicted the outcome to be major. (Figure 3.20)

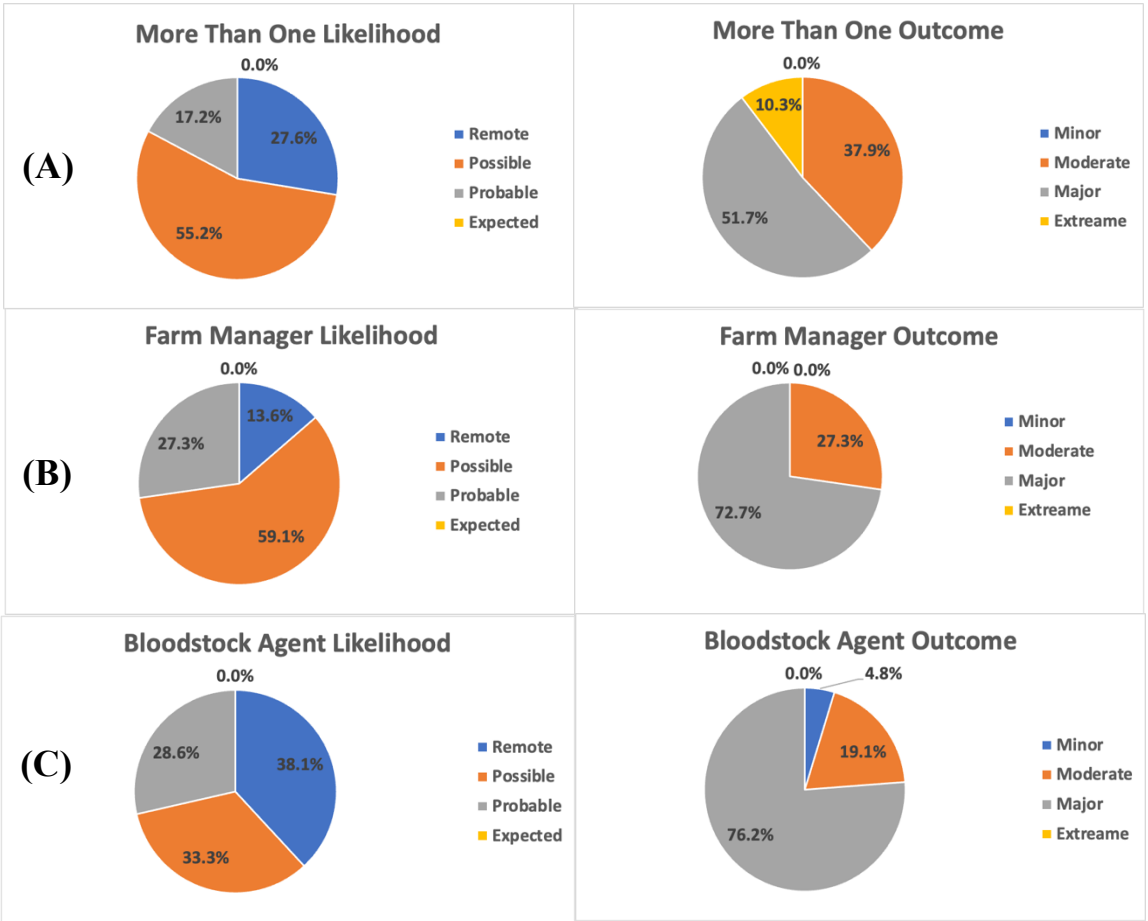

Figure 3. 19 : The Distribution of Participants in Different Roles with the Scenario of the likelihood and outcome of an Equine Disease Spreading within the Horse Population in the Region of Operation. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

The Distribution of Participants of Different Roles with the Scenario of the Likelihood and Outcome of a Reduction of being able to Hire Employees in the Coming Years

When presented with a scenario concerning the likelihood and potential outcome of a reduction in the availability of employees in the upcoming years, participants provided their perspectives. There is no significant association between role in the industry and the response to likelihood of this scenario (χ^2= 24.863, *df* = 18, p > 0.05) and also no significant association between role and the outcome of this scenario (χ^2= 8.572, *df* = 12, p >0.05). Among farm managers (n=22) and bloodstock agents (n=21), 50% and 57.14% respectively deemed the likelihood as probable. Conversely, participants holding multiple roles primarily considered it possible, with 34.48% sharing this view. Regarding the anticipated outcome, participants holding multiple roles (n=29) and farm managers (n=21) predominantly perceived it as major, with 58.62% and 63.64% respectively. In contrast, individuals in the bloodstock role (n=21) regarded the outcome as extreme, with 80.95% expressing this perspective. (Figure 3.20)

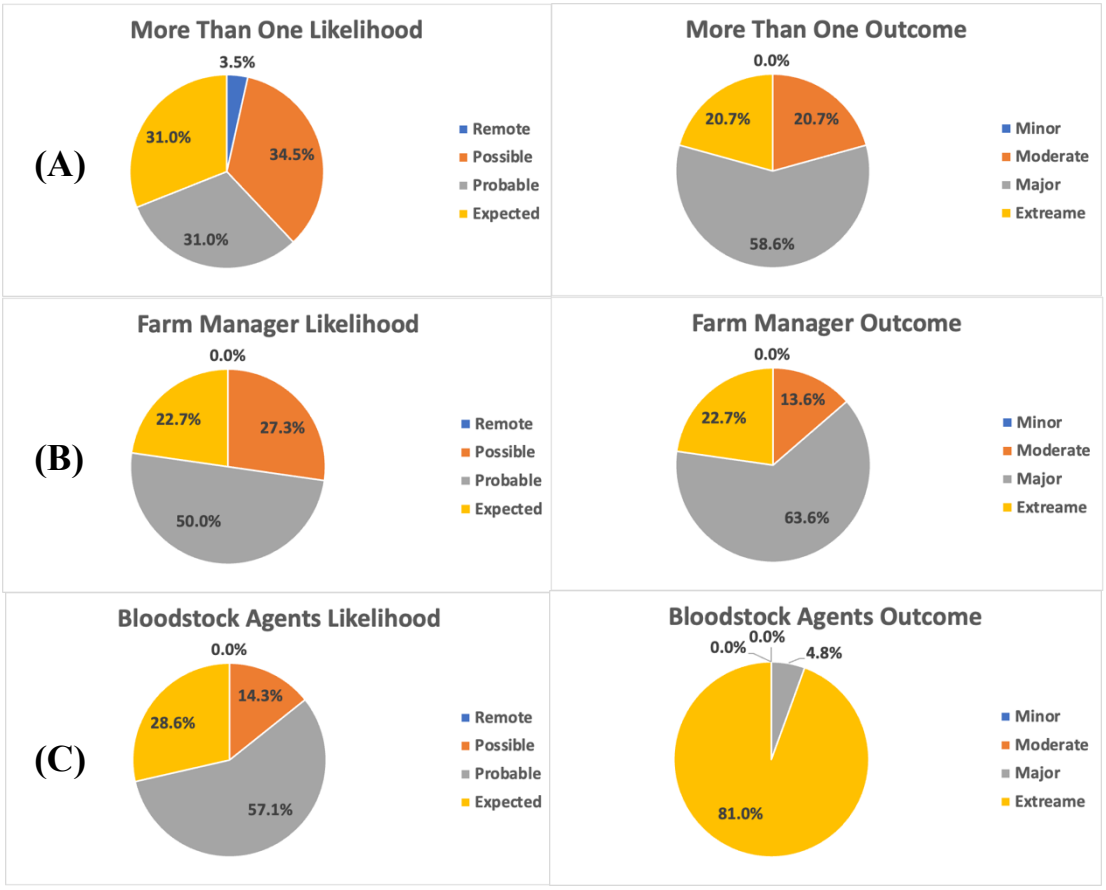

Figure 3. 20: The distribution of participants with the scenario of the likelihood and outcome of a reduction of being able to hire/find employees in the coming years. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

3.3.2 Effect Role in the Industry has on Risk Management

The Distribution of Management and Reduction of Risks in Operations by Role

In Figure 3.24, it is evident that there are similar preferences across roles regarding the strategies employed to manage and mitigate risks in operations. There is a significant association between role and the management and reduction of risks in operations by role (χ^2= 45.491, *df* = 24, p < 0.05). Insurance emerged as the most popular choice, with 75.9% (n=29) of individuals holding multiple roles utilizing it, closely followed by 72.7% (n=22) of farm managers and 66.7% (n=21) of bloodstock agents. Additionally, budgeting was widely employed by each group, with 55.2% of those in multiple roles, 57.1% of bloodstock agents, and 59.1% of farm managers opting for it. Stock diversification also garnered significant support, with over 50% of each group selecting it as a risk management strategy.

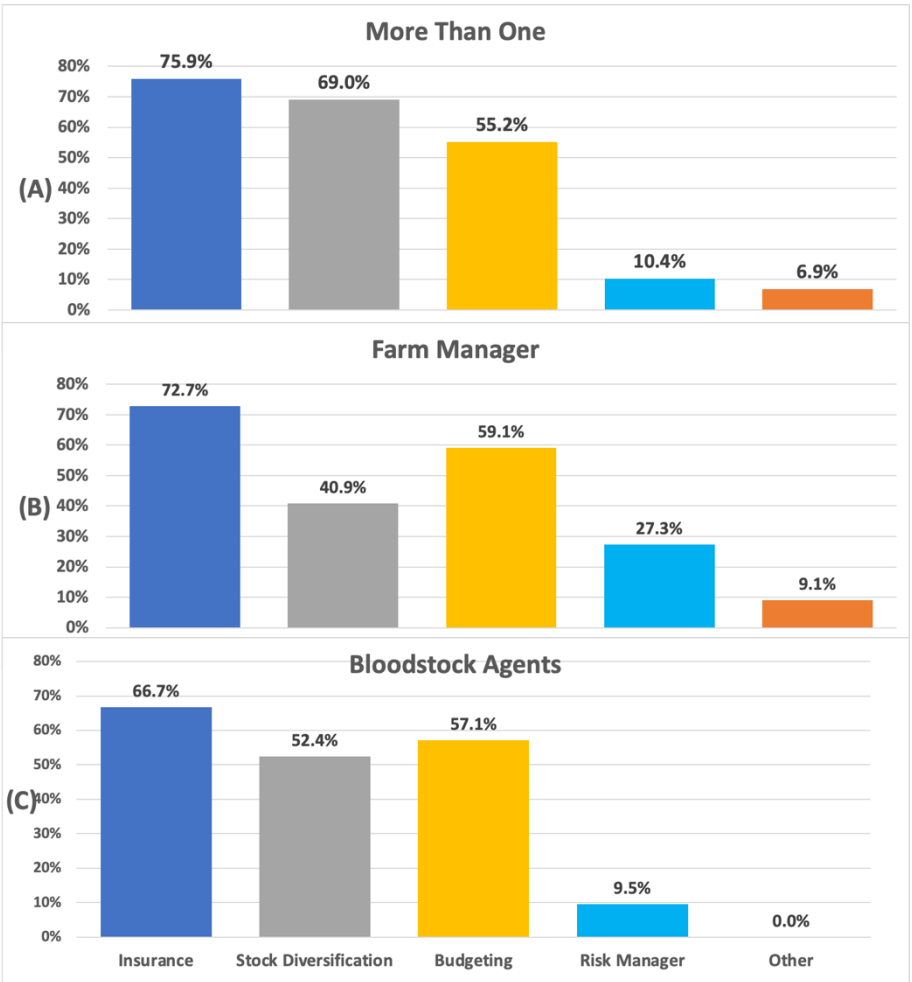

Figure 3. 21: The Distribution of Management and Reduction of Risks in Operations by Role. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

How Participants in Different Roles stay Informed about Market Trends and Factors that could Impact the Value of Thoroughbred Horses

There is no significant association between role and how participants stayed informed about market trends and factors that could affect the value of thoroughbred horses (χ^2= 35.345, *df* = 30, p > 0.05). The participants in more than one role equally used racing journals and attending sales with 62.1% (n=29) choosing it as a method of staying informed. The farm managers also attended sales , 54.6% (n=21), and that was closely followed by word of mouth which was used by 50% (n=22) of participants. The bloodstock agents equally used attending sales and racing journals with 71.4% (n-21) of participants using them. (Figure 3.25)

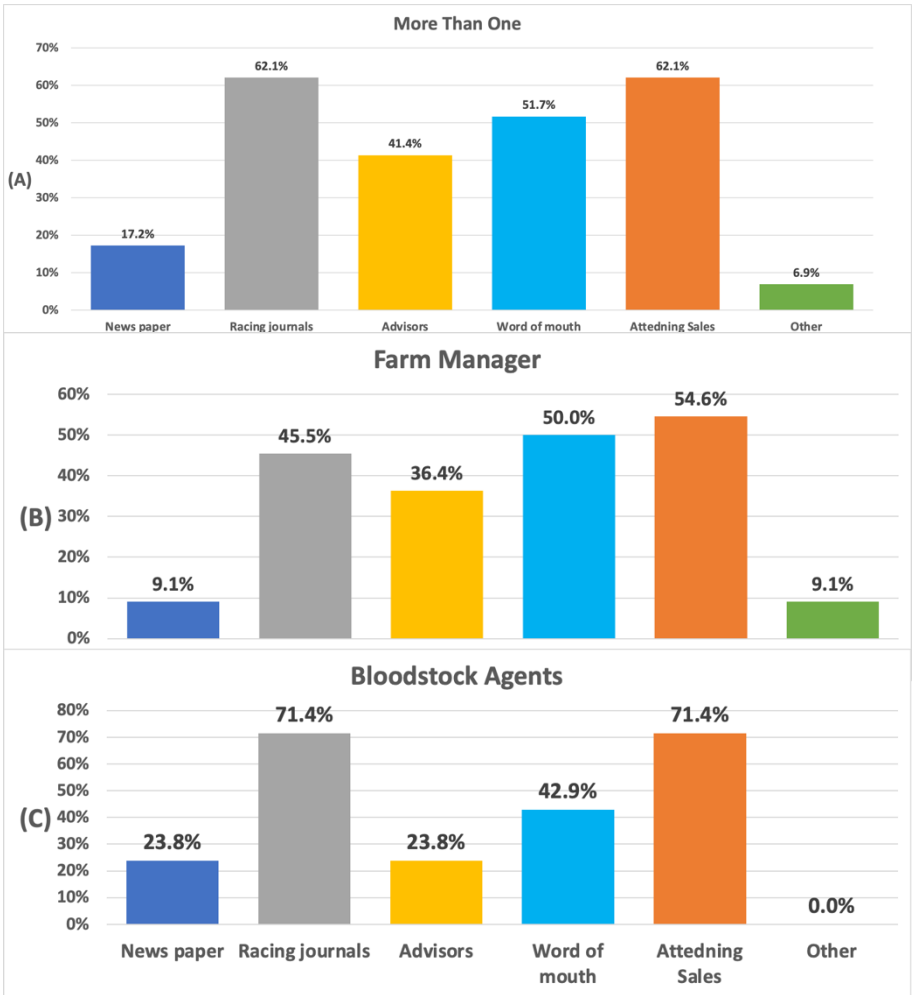

Figure 3. 22: How Participants in Different Roles stay Informed about Market Trends and Factors that could Impact the Value of Thoroughbred Horses. Countries illustrated. Roles illustrated: More than One Role (A), Farm Manager (B), Bloodstock Agent (C)

3.3.1 Effect Country of Operation on Risk Perception

Understanding how different countries perceive and manage risks within an industry is crucial for tailored risk assessment and mitigation strategies. Each country interacts with its unique business environment, leading to diverse insights into potential threats and opportunities, By recognising these varied perspectives, organisations can develop comprehensive risk management strategies that accommodate a spectrum of viewpoints, strengthening the industry's foundation for sustainable growth and success.

For this study, the countries with the three highest response rates were used. This was done to ensure a sufficient sample size to allow for statistical analysis. The countries analysed were: Ireland (29.4%), the UK (20.6%), and the US (18.6%).

The Effect of Country on the Ranking of Risks

The distribution of countries that individuals operate from and the ranking of risks is shown in Figure 3.26 below. There is no significant association between country of operation and what risk was ranked as the least concerning (χ^2=34.581, *df* = 35, p > 0.05). From the participants operating Ireland (n=30), 53.3% considered legal and regulations the least concerning risk. It was also seen as the least concerning by participants operating in the US (n=21) with 42.9% ranking as number 1. The UK (n=19) considered breeding and reproduction the risk of least concern with the majority of participants, 31.6%, placing it last on their list. There was a significant association between country the participants operated from and the risk that was considered most frequently (χ^2=55.766, *df* = 35, p < 0.05). The bloodstock market was considered by 30% of participants operating in Ireland (n=30) as the most concerning risk. The majority of participants from the US (n=21) considered breeding and reproduction the most concerning risk with 33.3% of individuals ranking it as number 5. Participants operating in the UK (n=19), 36.8% ranked legal and regulatory risks the most concerning.

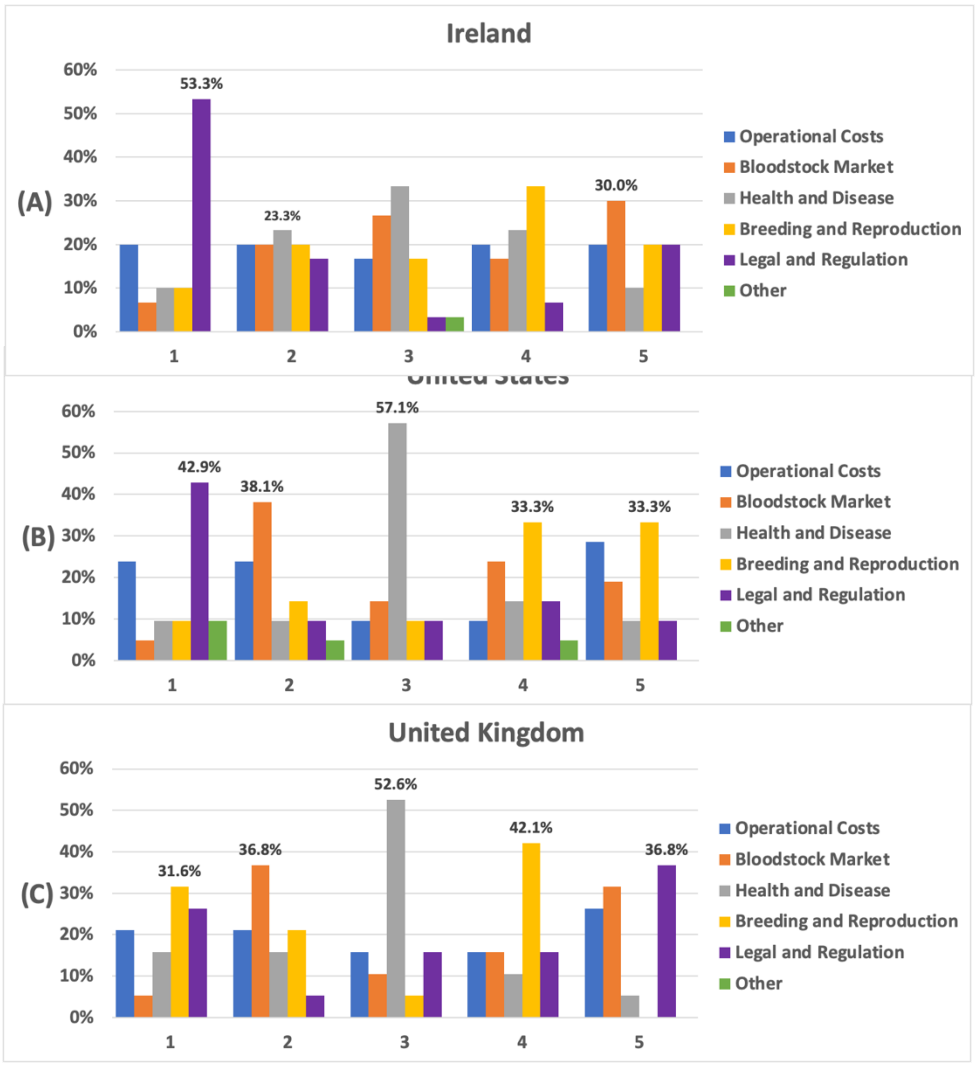

Figure 3. 23: Effect of Country on the Ranking of Risks Ranked 1 (least) to 5 (most). Countries Illustrated: Ireland (A), US (B), UK (C)

Distribution of Risks Participants Considered when Breeding a Horse by Country

The distribution of risks considered when breeding horses, as depicted in Figure 3.24, was analysed concerning participants' country of operation. There is no significant association between the risks that were chosen and country of operation (χ^2=19.014, *df* = 21, p > 0.05). In Ireland, 66.7% (n=30) of participants prioritised the pedigree of the dam, followed by 56.7%(n=30) who considered the quality of the foal produced, and 50% (n=30) who chose sire choice. Similarly, in the US, 76.2% (n=21) of participants focused on the pedigree of the dam and quality of the foal, while 62% (n=21) considered sire choice. Likewise, participants from the UK showed a high preference for the pedigree of the dam (84.2%) (n=18), followed by 73.3% (n=18) who valued the quality of the foal, and 68% (n=18) who considered sire choice.

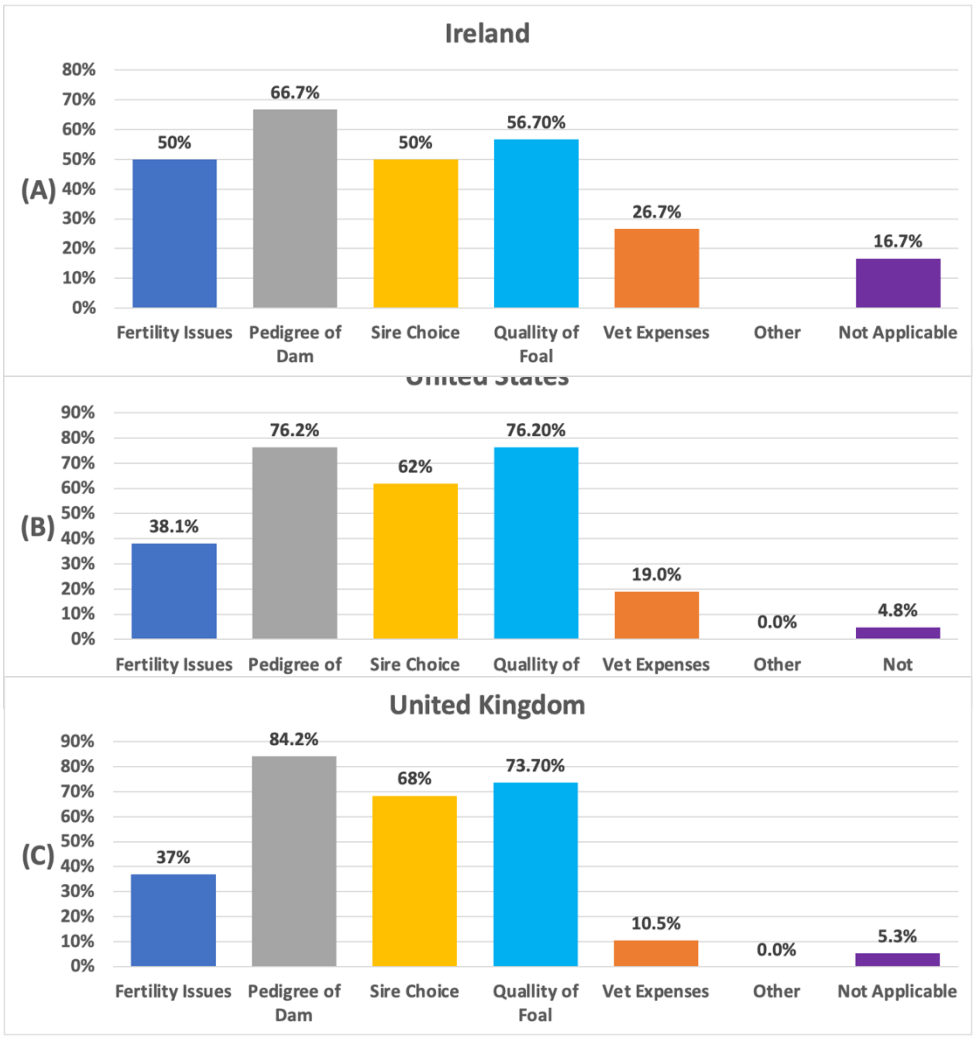

Figure 3. 24: Distribution of Risks Participants Considered when Breeding a Horse by Country. Countries Illustrated: Ireland (A), US (B), UK (C)

Distribution of Risks Participants Considered when Buying a Horse

The analysis of the distribution of risks involved in purchasing a horse, as depicted in Figure 3.25, was conducted with respect to participants' country of operation. A significant association was observed between the selected risks and the country of operation ($\chi 2=90.364$, df = 35, $p < 0.001$). In Ireland, the majority of participants (76.7%, n=30) considered the fluctuation in market value as a key risk factor, followed by 66.7% (n=30) who prioritised the risk of injury/illness, and 56.7% (n=30) who assessed the probability of success. Additionally, over 50% (n=30) of participants in Ireland also emphasised the importance of bloodline considerations. In the US, 81% (n=21) of participants identified the risk of injury/illness as significant when purchasing a horse. The consideration of bloodline preferences closely

followed, selected by 62.4% (n=21) of participants, along with 62% (n=21) who evaluated the probability of success. In the UK, the majority (84.2%, n=18) of participants regarded the probability of success as the primary risk factor, followed by 68% (n=18) who valued changes in market value, and 57.9% (n=18) who considered the possibility of injury/illness.

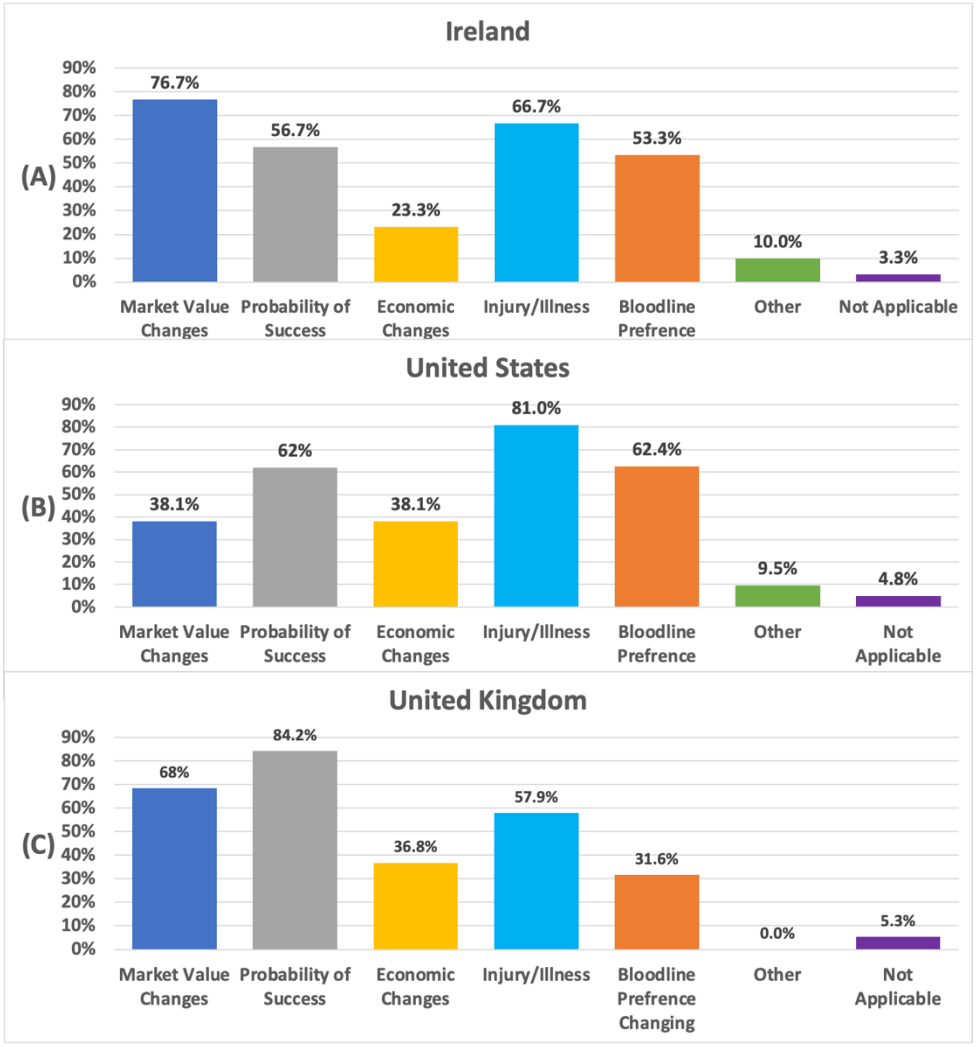

Figure 3. 25: Distribution of Risks Participants Considered when Buying a Horse. Countries Illustrated: Ireland (A), US (B), UK (C)

The Distribution on the Extent that Climate Change and Environmental Factors have on the Thoroughbred Industry

In Figure 3.26, the distribution by country and the risk of climate change and environmental factors to the industry are depicted. In Ireland, the majority of the participants viewed this risk as having a moderate effect on the industry with 40% (n=30) rating it a 3/5. Similarly in the US, 47.6% (n=21) of participants viewed the risk as moderate effect. In the UK, equal amounts

of participants, 37% (n=18) saw this risk as a moderate or low risk. There is no significant association between country participants operate from and how the extent that climate change and environmental factors have on the industry (χ^2=29.550, *df* = 28, p > 0.05).

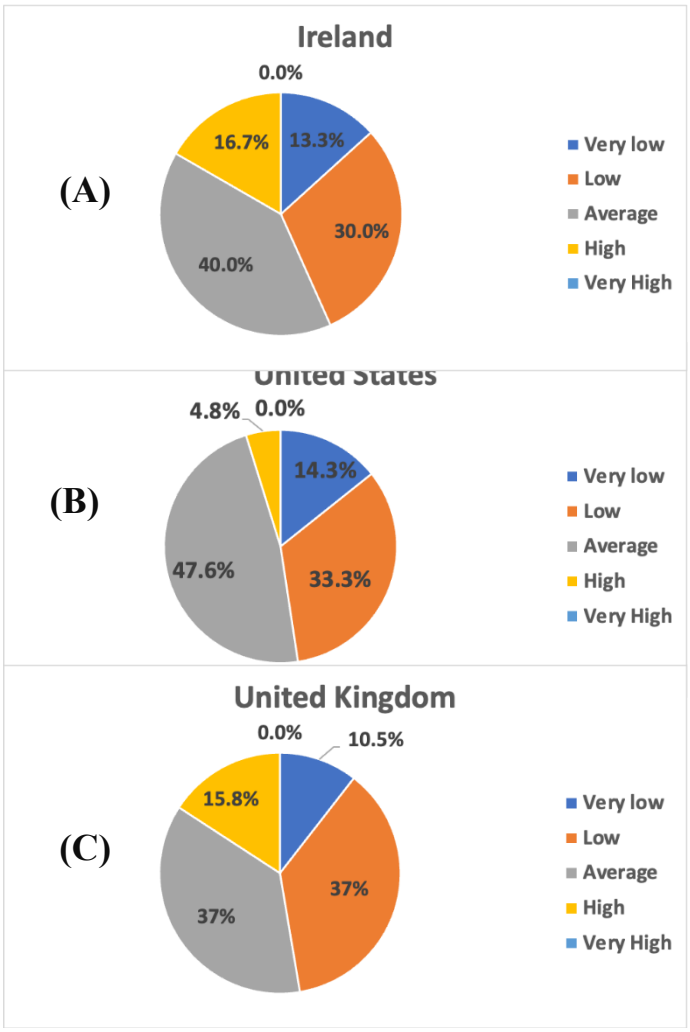

Figure 3. 26 : The Distribution on the Extent that Climate Change and Environmental Factors have on the Thoroughbred Industry. Countries Illustrated: Ireland (A), US (B), UK (C)

Distribution of different Countries when buying a horse if the risk is assessed by feelings and personal knowledge or specific analysis

Figure 3.27 illustrates the distribution of different countries when buying ahorse if the risk is assessed by feelings and personal knowledge or if it is done with a specific analysis. In Ireland, 63.3% (n=30) assessed the risk with feelings and personal knowledge. Similarly, in the US 62.4% (n=21) of participants also assessed the risk with feelings and personal knowledge. The UK also assessed this risk by feelings and personal knowledge with 73.7% (n=18) of

participants choosing it. There is a significant association between the country of operation and the assessment of risk when purchasing a horse (χ^2=24.309, *df* = 14, p < 0.05).

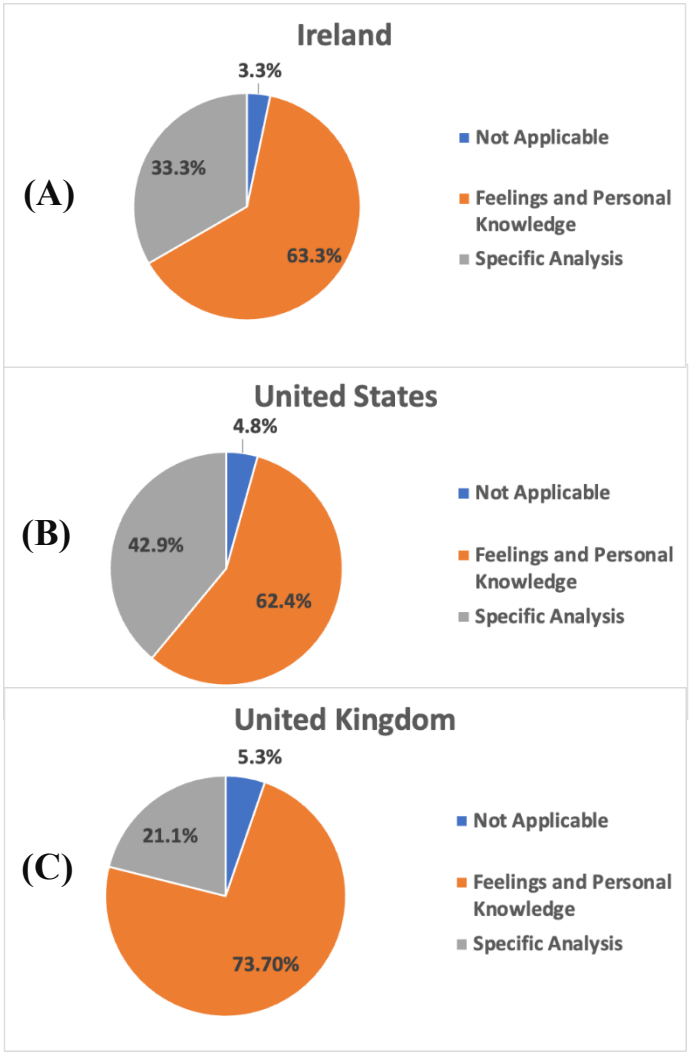

Figure 3. 27: Distribution of different Countries when buying a horse if the risk is assessed by feelings and personal knowledge or specific analysis. Countries Illustrated: Ireland (A), US (B), UK (C)

The Distribution of Participants of Different Countries with the Scenario of the Likelihood and Outcome of an Equine Disease Spreading within the Horse Population in the Region of Operation.

Participants were asked to rate the likelihood and outcome of an equine disease spreading within the horse population in the region of operation. Figure 3. 28 illustraes the response rate of different countries to this question. There is no significant association between country and the likelihood of this scenario occuring (χ^2=31.481, *df* = 21, p > 0.05). In Ireland, 50% (n=30) considered the likelihood of this happening as possible, 26.7% (n=30) considered the likelihood

as remote, and 23.3% (n=30) thought it was probable. In the US, 62% (n=21) of participants considered the likelihood of this occurring as possible. In the UK, 36.8% of participants viewed this risk as a probable likelihood of occurring. If this event was to occur, 66.7% of participants in Ireland (n=30) and the US (n=21) chose that the outcome would be major. Similarly, 68% of participants operating in the UK chose that the outcome would also be major. There is no significance between country of operation and the outcome of this scenario occurring (χ^2=23.461, *df* = 21, p > 0.05).

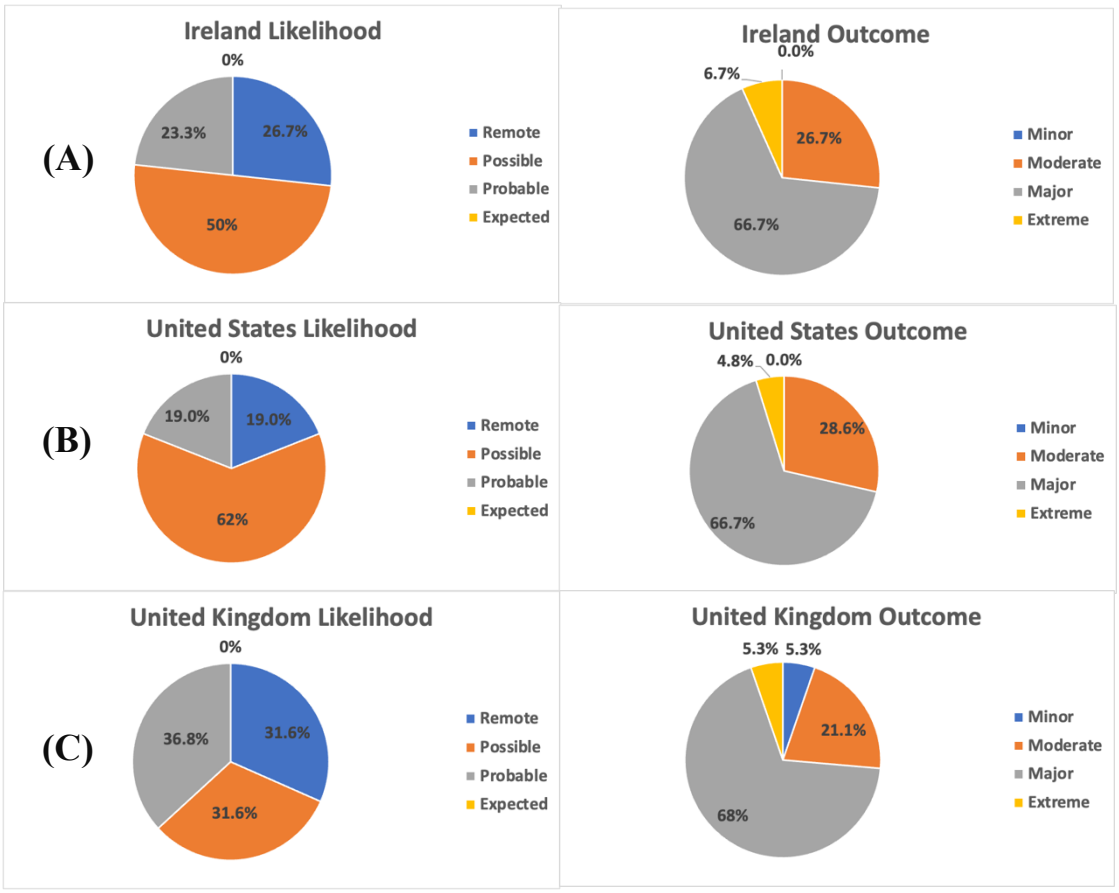

Figure 3. 28: The Distribution of Participants of Different Countries with the Scenario of the Likelihood and Outcome of an Equine Disease Spreading within the Horse Population in the Region of Operation. Countries Illustrated: Ireland (A), US (B), UK (C)

The Distribution of Participants of Different Countries with the Scenario of the Likelihood and Outcome of a Reduction of being able to Hire Employees in the Coming Years

Figure 3.32 illustrates the response rate to participants when asked to rate the likelihood and outcome of a reduction of being a ble to hire empolyees in the coming years. There is no significant association between country and the likelihood of this scenario occuring

(χ^2=28.709, *df* = 21, p > 0.05). In Ireland, 46.7% (n=30) considered the likelihood of this scenario occurring to be probable and 30% (n=30) considered it to be expected. In the US, 62.4% (n=21) of participants viewed the likelihood of this scenario occurring as possible and in the UK, 42.1% (n=18) thought it was to be expected. If this even was to occur, 80% (n=30) of participants in Ireland think the outcome of this would be major. In the US, 63% (n=21) of participants also think the outcome would be major and in the UK, 79% of participants chose the outcome to also be major. There is no significance between country of operation and the outcome of this scenario occurring (χ^2=20.397, *df* = 14, p > 0.05).

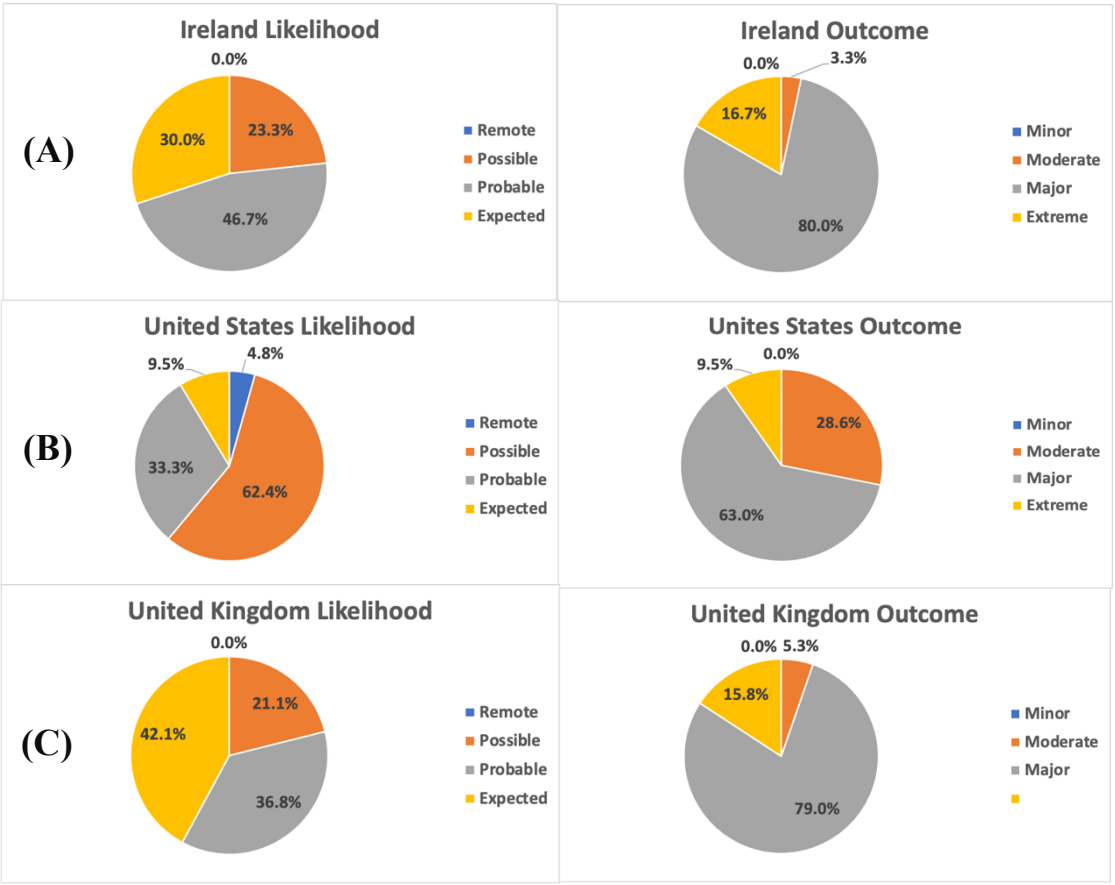

Figure 3. 29: The Distribution of Participants of Different Countries with the Scenario of the Likelihood and Outcome of a Reduction of being able to Hire Employees in the Coming Years. Countries Illustrated: Ireland (A), US (B), UK (C)

3.3.2 Effect Country in the Industry has on Risk Management

The Distribution of Management and Reduction of Risks in Operations by Country

Figure 3.30 illustrates what participants in each country use to manage and reduce risk. In Ireland (n=30), the three methods selected the most were: insurance (73.3%), stock

diversification (63.3%), and budgeting (46.7%). In the US (n=21), the three utilised the most were: insurance (66.7%), budgeting (57.1%) and stock diversification (33.3%). In the UK (n=18), the three selected the most were: insurance (94.7%), stock diversification (63.2%), and budgeting (57.9%). There is no significant association between country of operation and practices for the management and reduction of risk(χ^2=26.955, *df* = 28, p > 0.05).

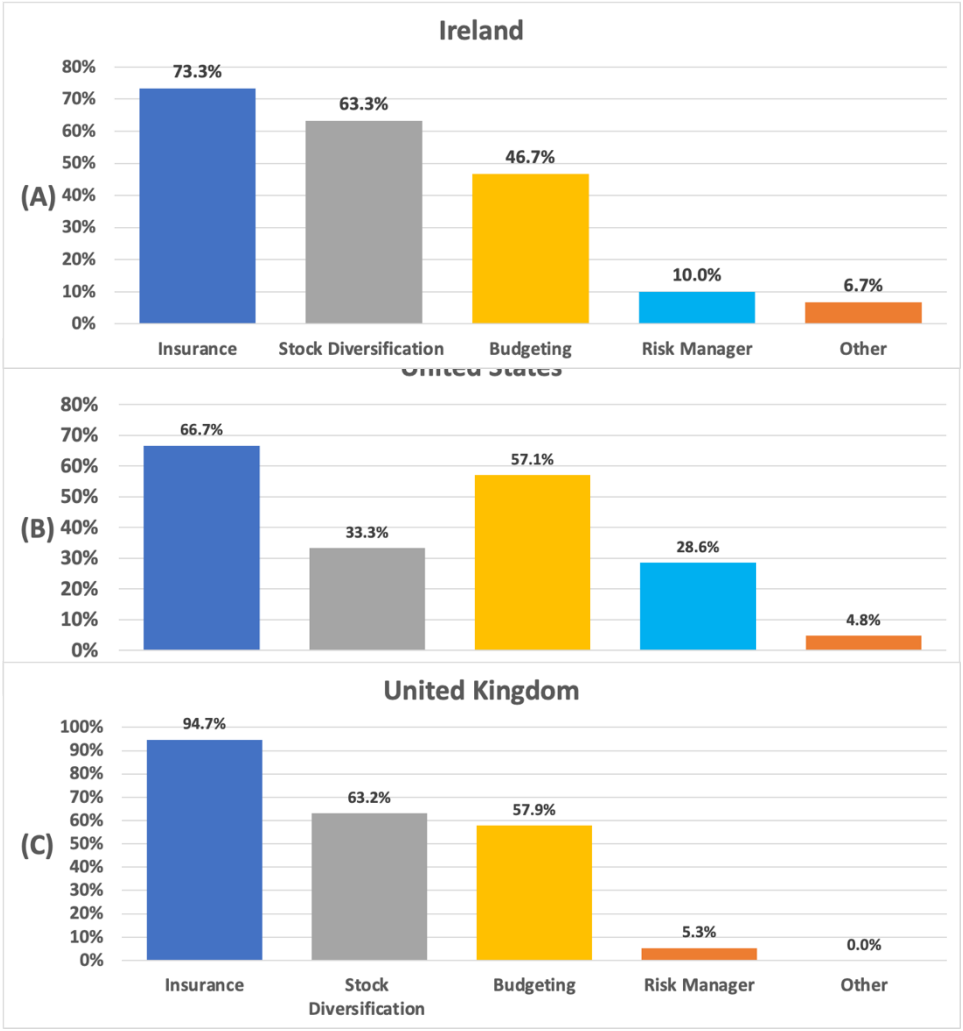

Figure 3. 30: The Distribution of Management and Reduction of Risks in Operations by Country. Countries Illustrated: Ireland (A), US (B), UK (C)

How Participants in Different Countries stay Informed about Market Trends and Factors that could Impact the Value of Thoroughbred Horses

In figure 3.31, the distribution of participants in different countries and methods that are used to stay informed about market trends and factors that could impact the value of thoroughbred horses is illustrated. There is no significance between country of operation and methods that

are used to stay informed about market trends and factors that could impact the value of thoroughbred horses (χ^2=36.241, *df* = 35, p > 0.05). In Ireland (n=30), attending sales is the most usedmethod with 70% of participants choosing it. Following that, racing journals were used by 53.3% of participants. In the US, attending sales was also the methods that was used most with 71.4% (n=21) of participants choosing it. The use of racing journals was chosen by 66.7% (n=21) of participants in the US. In the UK (n=18), the top three methods that are used are by attending sales (68%), and equally the use of word of mouth (63.2%) and racing journals (63.2%).

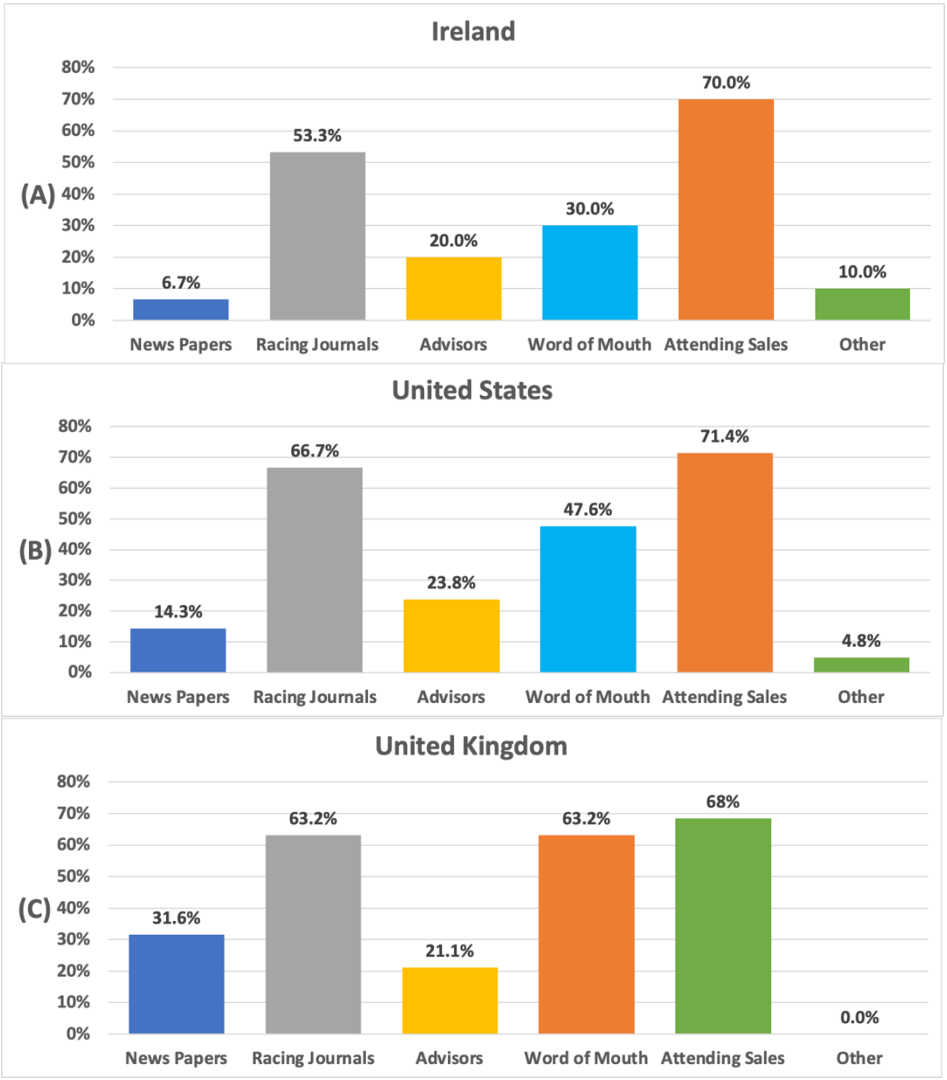

Figure 3. 31: How Participants in Different Countries stay Informed about Market Trends and Factors that could Impact the Value of Thoroughbred Horses. Countries Illustrated: Ireland (A), US (B), UK (C)

3.4 Participants Insights to Risks in the Thoroughbred Industry

The participants of this survey were asked if there was any additional information or insights, they wanted to included based on risks faced in the thoroughbred industry. From the responses received, several key risk factors emerged, encompassing financial, regulatory, labour-related, biosecurity, market, and geopolitical concerns.

Financial risks were particularly notable, with respondents expressing apprehensions about rising industry costs and the potential ramifications of current gambling regulations in Ireland and the UK. The industry's stability is seen to hinge significantly on overseas investments and the health of international racing markets, highlighting the need for new investors to enhance resilience. Market dynamics, including global trends such as declining racing participation and market contraction, further exacerbate challenges. Regulatory hurdles, notably related to immigration policies and labour shortages, were identified as significant operational obstacles. Additionally, ongoing biosecurity concerns and staffing shortages underscored the importance of skilled personnel and sound work practices. Throughout the responses, a recurring theme was the paramount importance of risk perception in decision-making across diverse industry segments. The interwoven nature of different aspects within the industry underscores the need for customized risk perception strategies to adeptly navigate the complex terrain.

CHAPTHER FOUR
DISCUSSION

Chapter 4: Discussion

4.1 Population Demographics

The study engaged 102 individuals from diverse roles within the industry, including farm managers, breeders, trainers, bloodstock agents, and owners. Notably, the largest segment comprised individuals with multiple roles in the industry, suggesting a multifaced engagement within the industry. The majority of respondents reported extensive experience in the industry, with 75.5% of participants having more than a decade of involvement. It is noted that during daily operations, 37% of participants would consider risk often, and a further 36% of participants would consider risk very often. Siegrist and Árvai (2020) study results suggest that there is a strong correlation between knowledge and experience with the perception of risk. This shows that as the greater the experience the participants had, the more risk was considered daily in operations.

4.2 Evaluation of Risk Perception in the Industry

The survey revealed various dimensions of risks faced by industry professionals. Legal and regulatory risks were perceived as the least concerning by 39.2% of respondents, while the majority (29.4%) identified the bloodstock market as the most concerning, closely followed by operational costs. Both risks relate to price and production within operations, highlighted by Schaffnit-Chatterjee's (2010) findings regarding key risks in the agricultural industry.

The study highlighted that with regards to the production of horses, the three most prominent risks considered were the pedigree of the dam (77.5%), the quality of the foal (67.7%), and the sire choice (60.8%). In the analysis on Dutch livestock, it was discussed that the quality production aspect for livestock was perceived as important sources of risk compared to cost of production (Meuwissen, 2000). When purchasing a horse, the participants considered two of biggest risks to be the chances of injury/ illness (64.8%), and probability of the market value changing (56.9%). This has similarities in relation to Meuwissens (2000) research as the risk of disease and illness is a high-risk factor for livestock industries as well as the risk of the market value changing. The consideration of the probability of success (64.7%) significantly influences the decision-making process in the purchasing of Thoroughbred horses. As revealed

by the Deloitte report (2023), there is a substantial financial investment required for both the initial purchase and ongoing maintenance of a horse. It is evident why prospective buyers assess the risk of the likelihood of success when making purchasing decisions.

The study highlighted that participants considered the risk of climate change and environmental factors to have a low (28.4%) to moderate (42.2%) effect on the industry. This is not consistent to the agricultural industry as a report conducted by the European Union (2021) as it was found that climate change and environmental factors are perceived as a high-risk factor which can have severe implications for both for livestock and crop production.

From the participants in this study 58.8% selected that when purchasing horse, the risk is assessed by personal feelings and knowledge as opposed to using a specific analysis. Risk as an analysis refers to the rational assessment of risks based on objective data and probabilities. Using this approach assumes that individuals made decisions about risk by evaluating the available information and calculating the likelihood and consequences of different outcomes. In contrast, risk as a feeling, suggests that individuals perception of risk is heavily influenced by emotions, intuition and subjective factors. Slovic's (1987) research indicates that even when presented with information and statistical evidence, individuals often will rely more on emotional reactions to determine the level of risk. This understanding highlights the importance of considering both cognitive and emotional factors when studying risk perception and decision-making.

The study found that 49% of participants considered the likelihood of an equine disease spreading within the horse population in the region of operation to be possible and the outcome if that were to happen to be major (62.8%). This suggests that participants in the study perceive the risk of equine disease spread as low in terms of likelihood but high in terms of potential impact. This risk perception underscores the importance of considering not just the probability of an event, but also its potential consequences when devising risk management strategies within the thoroughbred industry. A similar scenario was also asked to the participants based on the likelihood and outcome of a reduction in being able to hire/find employees in the coming years. The likelihood of this occurring was considered probable by 43.14% of participants with 68.6% seeing the outcome as major if it was to occur. This evaluation highlights the intricate relationship between perceived likelihood and potential consequences in shaping risk perceptions within the industry (George, 2018). It underscores the necessity of proactive

measures to mitigate potential workforce challenges, given the significant impact foreseen by the majority of participants.

4.3 Risk Mitigation and Management

The study highlighted that there is an emphasis on risk mitigation and management, as every individual had a strategy in place to manage and reduce risk. Hopkins (2018) discussed the importance of risk mitigation and how it can help reduce the likelihood of adverse events and the outcome of these events occurring.

The most common choice of risk mitigation by the participants was with the use of insurance (73.5%). Having insurance is a very common method of managing and transferring risk. In the Deutsche bank research on risk management in agriculture, the use of insurance in managing risk is a very common practice both in the US and the EU (Meuwissen, 2000). Budgeting was another common choice among participants with 55.9% of participants using it as a way of managing risk, further illustrating the importance of financial planning and allocation in safeguarding against potential uncertainties discussed by Meuwissen (2000). The final method that was commonly used among participants was stock diversification (52.9%). This involves the spreading of investments across different horses or aspects of horse ownership to manage risk and maximise potential returns (Johnson, 2023).

The study highlighted that participants awareness of market trends and influential factors on horses' values was done through attending sales (63.7%) and word of mouth (46.1%). Slovic's (1987) perception of risk and the observation that participants predominantly acquire awareness of market trends and influential factors through attending sales and word of mouth underscores the interplay between subjective perceptions and objective information in decision making process. Slovic's (1987) research emphasises the role of intuitive judgement and emotional responses in shaping risk perception, suggesting that individuals may rely on experiential learning and first-hand observations when evaluating risks. The finding that participants predominantly utilise sales attendance as a means of staying informed about market trends aligns with Slovic's (1987) conceptual framework, highlighting the significance of experiential learning and subjective interpretations in risk perception and decision-making processes.

4.4 The Effects of Role and Country on Risk Perception

The study reveals that one's position within the industry carries more weight in shaping risk perception than the country where operations take place. Various roles within the industry demonstrate significant disparities in risk assessment, notably in ranking the most and least concerning risks, decision-making factors in horse breeding and purchasing, anticipated impacts of climate change on the industry, and responses to hypothetical scenarios involving equine disease and employee recruitment. Conversely, different countries show notable associations with certain purchasing risks, such as risks associated with horse acquisition and the decision-making process between relying on personal intuition or conducting detailed analysis when buying a horse.

Different roles in the industry had a stronger influence on risk perception in the industry. The analysis unveiled variations in risk perception among individuals occupying distinct roles within the thoroughbred industry. While legal and regulatory risks were uniformly deemed least concerning across all roles, discernible disparities emerged concerning the risks perceived as most consequential. Farm managers exhibited pronounced apprehension regarding operational costs (59.1%), whereas bloodstock agents displayed heightened sensitivity to risks inherit in the bloodstock market (62%). These discrepancies underscore the influential role of job responsibilities, specialised expertise, and exposure to industry specific variables in shaping individuals perspectives.

While the majority of participants in multiple roles identified specific factors such as the pedigree of the dam and sire choice as primary considerations, there were variations in the extent to which these factors were emphasised across roles. Farm managers displayed a clear priority for certain risk factors, with 77.3% of respondents deeming the pedigree of the dam most crucial. Similarly, individuals in more than one role exhibited a preference in the quality of the foal (79.3%) to a greater extent than other factors.

Further insights emerged regarding perceptions of climate change and its impact on the thoroughbred industry, delineating role-based discrepancies. While participants with multifaceted roles expressed a moderate level of concern(51.7%) , farm managers evinced heightened sensitivity to climate-related risks, with 36.4% rating it as having a high impact. Conversely, 42.9% of bloodstock agents exhibited relatively diminished apprehension,

attributing a lower impact to climate change. These findings suggest that variations in exposure to environmental risks, such as breeding operations' susceptibility to extreme weather events, may underpin the observed differences in risk perception.

Participants' roles significantly influenced their responses to scenario inquiries concerning equine disease outbreaks and employee hiring. Notably, individuals with multiple roles (55.2%) and farm managers (59.1%) consistently perceived a heightened likelihood and severity of equine diseases, contrasting with bloodstock agents' perceiving it as a more remote risk (38.1%). Similarly, divergent perceptions emerged regarding the probability and repercussions of reduced employee availability, with bloodstock agents evincing greater concern relative to farm managers and individuals in more than one role. These distinctions may reflect divergent thresholds of resilience in labour-intensive practices within different industry segments and sensitivity to shifts in labour market dynamics. These results reflect Siegrist and Ávrai (2020) findings, that the perceptions of risk changes across a broad range of demographic characteristics, psychological traits, and level of domain specific knowledge and understanding.

The results found in this study are similar to that found in the study by Holzmeister et al. (2019) which discuss how the evidence between country differences with perceptions of risk was minimal. This implies that despite potential cultural, socioeconomic, or environmental differences between countries, people's perceptions of risk appear to be relatively consistent across national boundaries. This is similar to what was found in this study, as the individuals across different countries tended to perceive risk in similar ways. The risks that were perceived differently across the countries relate to financial risks and the investments into animals. When buying a horse, participants from Ireland prioritise market value (76.7%) and bloodline considerations (53.3%), while those from the US emphasise injury/illness risk (81%). In contrast, participants from the UK focus more on the probability of success (84.2%). This was also seen in Holzmeister et al. (2019) study which showed a main risk that nationalities would consider would be financial risks. A significant association was also seen between the country of operation and the method used to assess risk when purchasing a horse. The findings suggest that participants from all three countries predominantly rely on feelings and personal knowledge to assess risk, but there are variations in the extent to which this method is preferred. This suggests that while the underlying approach to risk assessment is similar across countries, the degree to which individuals rely on personal intuition versus formal analysis may vary

based on cultural, educational, or experiential factors specific to each country. This furthers the idea that the perception of risk theory that individuals often rely more on emotions, judging risks based on how they feel about them rather than objective data (Slovic, 1987).

4.4.1 Risk Mitigation and Management by Role and Country

Across different countries and roles, it is evident that there is a similarity between risk management strategies and what is used. Insurance emerges as the preferred choice, followed closely by budgeting and stock diversification. Interestingly, this trend extends to different countries, including Ireland, the US, and the UK. This suggests a universal recognition of these strategies' effectiveness irrespective of the operational context. The study found that when it comes to staying informed about market trends and factors that influence the market, common strategies emerge from both different role and countries in the industries. Attending sales, racing journals, and word of mouth were the three most common methods, his implies a shared understanding among industry participants globally regarding the importance of staying informed.

4.5 Participants Recommendations

4.5.1 Risks faced in the industry

An open answer question was asked to give the participants a chance to discuss risks faced in the industry and the management of these risks. It was found that there was concern regarding financial risks that are associated with escalating costs. The increase in expenses places a significant burden on owners. There was also a concern regarding low prize money and high training fees affecting participants throughout the industry.

Moreover, regulatory issues in gambling, particularly in regions like Ireland and the UK, further compound these challenges. The thoroughbred industry heavily relies on gambling for financial sustainability, and any limitations or restrictions in this area could deter potential owners from investing in horses. This not only affects the demand for yearlings and foals but puts strain on the entire industry.

Biosecurity concerns and staffing shortages are persistent issues that add to the complexity of the industry. Without adequate staffing and measures to ensure the health and safety of the horses, operations can suffer setbacks and compromise the welfare of the animals involved. Additionally, attracting new investors is crucial for the long-term viability of the sport, but factors such as labour shortages and immigration policies pose obstacles to this goal. The dependence of the UK and Irish industries on overseas investments underscores the interconnectedness of the global racing landscape. Any disruptions in overseas racing or conflicts in global politics can have significant repercussions on the entire industry, affecting markets and resale values.

there are positive aspects to consider, such as the growth of racing in the Middle East, which presents opportunities for suppliers. However, the overall trend of racing declining on a global basis within the past year is cause for concern. With costs rising and incentives not keeping pace, there's a risk of fewer participants in the industry, unless substantial changes are made to address these issues.

Moreover, issues like perception, poor prize money, and trust further compound the challenges faced by the industry. Building and maintaining trust among stakeholders, including buyers and employees, is essential for the smooth functioning of thoroughbred operations. Without capable staff and a strong market, the industry's future could be compromised.

4.5.2 How Participants Stay Informed

Effective risk management is not just a best practice, it's a mindset ingrained in every decision-making process. Whether it's evaluating the risk of a young horse injuring itself in a paddock, assessing the gamble of investing in an unproven stallion for breeding, or navigating the 2.5-year lag time between selecting a stallion and selling the resulting yearling, thoroughbred professionals constantly engage in risk assessment.

The success or failure of ventures within the industry often hinges on individuals' skills in managing these risks. Every aspect of the business, from breeding to sales to racing, involves inherent risks, and the ability to mitigate and navigate these risks can make all the difference between profitability and loss.

Risk management strategies are highly individualized, tailored to the specific circumstances and goals of each business within the industry. While some risks may be more prevalent in certain sectors, such as government policy changes affecting gambling and subsequent financial impacts on racing, the interconnectedness of the industry means that changes in one area can have ripple effects throughout the entire ecosystem.

Maintaining good work practices is paramount in mitigating risks effectively. Horse farms, in particular, rely on stringent protocols and procedures to minimize the likelihood of accidents or injuries to both horses and staff. This emphasis on safety and efficiency not only safeguards the well-being of the animals and workers but also contributes to the overall success and sustainability of the operation.

4.6. Limitations

During the completion of this study, several limitations emerged. Firstly, the literature that is available on this topic of risk perception and management in the thoroughbred industry is limited. Due to the limited literature in this industry, literature from the agricultural sector was necessary to supplement the research. Another limitation in this study was the sample size. The study had 102 responses representing various countries and roles within the industry. Individuals in roles such as breeders and owners has a small response rate of less than 10% of responses, limiting the analysis that could be done on them. Similarly, the response rate from different countries was not equally distributed with France, Germany and other being less than 10% of responses. Another limitation that was identified in the study was when asking participants about years of experience in the industry, 75.5% had been in the industry for >10 years. It would have been beneficial to provide more nuanced options, such as 10-15 years, to allow for a more granular analysis of how varying levels of experience influence risk perception.

CHAPTHER FIVE
CONCLUSION AND RECOMMENDATIONS

Chapter 5: Conclusions and Recommendations

5.1 Conclusions

The objective of this study was to analyse the perception of risk, management practices in operations that mitigate risk, and methods individuals use to stay informed about market trends in the industry.

- Risk is considered often in daily operations by induvial in the thoroughbred industry, especially by those with more than 10 years' experience in the industry. The individuals with less experience in the industry considered risk sometimes in daily operations. Showing the perception of risk increases with experience in the industry.
- Risk perception varies across roles and countries, with factors such as job responsibilities, length in industry, and local conditions having an influence on how risks are prioritised and managed.
- Legal and regulatory risks were perceived as low risk concerns by the majority of the population, since that portion of the population also had insurance to manage those risk.
- Individuals behaviour is a key aspect in buying horses and staying aware or the markets stability. Feelings and personal knowledge are heavily depended on when buying horses. Attending sales and word of mouth is how individuals stay aware of market trends, exhibiting individuals in the industries use subjective perceptions and objective information in decision making process.
- There was a greater significance found between how different roles impact the perception of risks compared to how different countries impact the perception of risk.
- There is a similarity across countries and roles how about how risk is managed and methods used to stay informed about trends in the industry.

5.2 Recommendations

- Further research needs to be conducted on risks that are involved in the thoroughbred industry and what can change individuals perception of risks in the industry.

- This study focused on the thoroughbred industry without distinguishing between flat racing and national hunt disciplines. Including such a distinction could have provided valuable insights through comparative analysis for further studies.

- The majority of respondents in this survey had over 10 years of experience. It would be beneficial to include more specific time frames to examine if specific length of time in the industry would have an effect.

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APPENDICES

Survey Questions
SECTION 1- background information

1. What is your role in the thoroughbred industry?
   - Owner
   - Breeder
   - Trainer
   - Farm manager
   - Bloodstock agent
   - Other (please specify)

2. How many years' experience do you have?
   - <1
   - 1 – 3
   - 3 – 6
   - 6 – 9
   - >10
3. What country does your business operate from?
   - Ireland
   - England
   - France
   - Germany
   - United states
   - Australia
   -Other

4. How often would you consider risk on a daily basis associated with your operations?
   - Very often
   - Often
   - Sometimes
   - Not often
   - Never

Section 2- RISKS ASSOCIATED IN THE INDUSTRY

5. What would you consider the biggest risk involved in the thoroughbred industry? Please rate the following from 1 (least) to 5 (most). If you have other risks, you consider please put them in the other box.

   - Operating costs
   - Bloodstock market
   - Health and Disease
   - Breeding and Reproduction
   - Legal and Regulatory Risks
   -Other

6. When breeding a horse what types of risks would you consider? Select the three you consider most important.
   - Fertility issues
   - Pedigree of the dam

- Sire choice
- Quality of the foal produced
- Veterinary expenses
- Other (please specify)
- Does not apply to me

7. When buying bloodstock what types of risks would you consider? Select the three you consider most important.
   - Market value changes
   - Probability of success
   - Economic changes
   - Chances of injury/illness
   - Preference in specific bloodline changing
   - Other (please specify)
   - Does not apply to me

8. On a scale of 1-5, to what extent do you believe climate change and environmental factors are risks to the Thoroughbred industry?
   - 1 (Very low)
   - 2 (Low)
   - 3 (Average)
   - 4 (Informed)
   - 5 (Very high)

9. When purchasing a horse, would you assess the risk of future development and performance of the horse on feelings/personal knowledge or would you have a specific analysis conducted ?
   - Feelings/personal knowledge
   - Specific analysis
   - Does not apply to me

10. Consider the following scenario and tick what you consider the likelihood and possible outcome might be: The spread of a highly debilitating equine specific disease within the horse population in your region LIKELYHOOD
    -1 (remote)
    -2 (possible)
    -3 (probable)
    -4 (Expected)

    OUTCOME
    -1 (minor)
    -2(moderate)
    -3 (Major)
    -4 (Extreme)

11. Consider the following scenario and tick what you consider the likelihood and possible outcome might be: A completed reduction in the number of individuals with basic expertise working with horses available for employment.

    LIKELYHOOD
    -1 (remote)

-2 (possible)
-3 (probable)
-4 (Expected)

OUTCOME
-1 (minor)
-2(moderate)
-3 (Major)
-4 (Extreme)

12. Do you have any other comment based on risks that you face in the thoroughbred industry?

Section 3 - RISK MITIGATION

13. How do you manage or reduce risks in your operations? You can select more than one.
    - Insurance
    - Stock diversification
    - Budgeting
    - Risk manager
    - Vaccination
    - Other (please specify)

14. How do you stay informed about market trends and factors that could impact the value of thoroughbred horses?
    - News papers
    - Racing journals
    - Advisors
    - Word of mouth
    - Attending Sales
    - Other (please specify)

15. Is there any additional information or insights you would like to share regarding risk management in the thoroughbred industry?

Recruitment email for FYP

Subject: Research Study on Risk Management in the Thoroughbred Industry

Dear Participants,

I hope this email finds you well. As final year students at The University of Limerick, I am currently conducting a research project focusing on "Risk and Risk Management in the Thoroughbred Industry."

Your participation in our study will provide invaluable contributions to our understanding of the various approaches, challenges, and best practices associated with risk management within the Thoroughbred industry. Your expertise will help us identify key areas for improvement and innovation in risk management strategies.

The survey is designed to be quick and convenient, taking no more than 5-10 minutes to complete. All responses will be treated with confidentiality and used solely for research purposes.

Your input is vital to the success of our study, and we would be deeply grateful for your participation. To get started, please click on the following link: https://unioflimerick.eu.qualtrics.com/jfe/form/SV_54NqunFlRPHRjHU

If you have any questions or need further information about the survey or our research project, please feel free to contact us at: 20252048@studentmail.ul.ie or my supervisor at Bridget.younge@ul.ie

Thank you very much for your time. Your expertise and insights are invaluable, and we look forward to your participation in our study.

Warm regards,

Jayne Redmond,
University of Limerick.