

Using the Human Capability Framework and Opinions of Dairy Farmers to Explore the Shortage of Dairy Assistants in the New Zealand Dairy Industry

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Abstract

This article uses the Human Capability Framework (Department of Labour, 1999) to explore dairy farmers' perspectives on the failure to match labour capacity (supply of labour) and labour opportunities (demand for labour) in the New Zealand dairy industry. A severe matching failure is reported by dairy farmers (both in terms of numbers of people, and in the knowledge, skills and attitudes (KSA) of dairy assistants). This gap was explored through structured interviews focusing on the KSAs required by dairy farmers. The results focus attention on a gap in terms of personal characteristics (attitudes) rather than knowledge and skills. The education and training provision in the industry was also examined and a number of changes identified which might reduce the gap and facilitate the growth of the industry.

Introduction

The New Zealand dairy industry has been an important part of the economy since the early 1800s. The industry employs approximately 34,000 people, equivalent to 31,500 full-time employees and produced almost 20% of total merchandise exports and 33% of the world dairy trade (Dairy Insight, 2007). Moreover, the dairy industry has expanded considerably since the 1980s, driven by the economic growth in New Zealand's Asian markets and the emergence of dairy consuming middle classes in these countries. By 2020, the Chinese middle classes will increase in number by 200 million and will begin to consume dairy products. The expansion in the industry (both in volume and in new technology) has fuelled demand for new and differently skilled staff. Dairy farmers report extreme and growing difficulty in appointing and retaining dairy assistants. This may slow the development of the industry and the New Zealand economy.

Dairy farming is becoming a complex process that is heavily reliant on the knowledge, skills and attitudes (KSAs) possessed by those who work in the Industry (Dairy Insight, 2007; Valentine, 2005). The increase in demand for skilled labour has not been met by a corresponding increase in labour supply. This is despite periods of less than full employment in New Zealand. Anecdotal evidence from farmers suggests they are becoming frustrated with the shortage of skilled farm workers, which acts as an obstacle to expanding milk production. Little research has been done into this pressing need (Clark, 1998).

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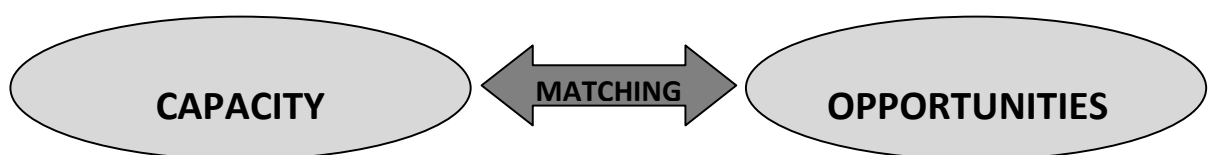
We briefly explore five areas:

- 1) The Human Capability Framework as applied to the dairy industry.
- 2) The changes within parts of that framework that have led to the lack of sufficient capacity in the New Zealand dairy farming industry.
- 3) An exploration of dairy farmers perceived needs with respect to dairy assistants.
- 4) The performance gap between the current level of capability and opportunities.
- 5) Farmers' views of New Zealand's formal agricultural training for dairy assistants in New Zealand as a matching mechanism.

The Human Capability Framework (HCF)

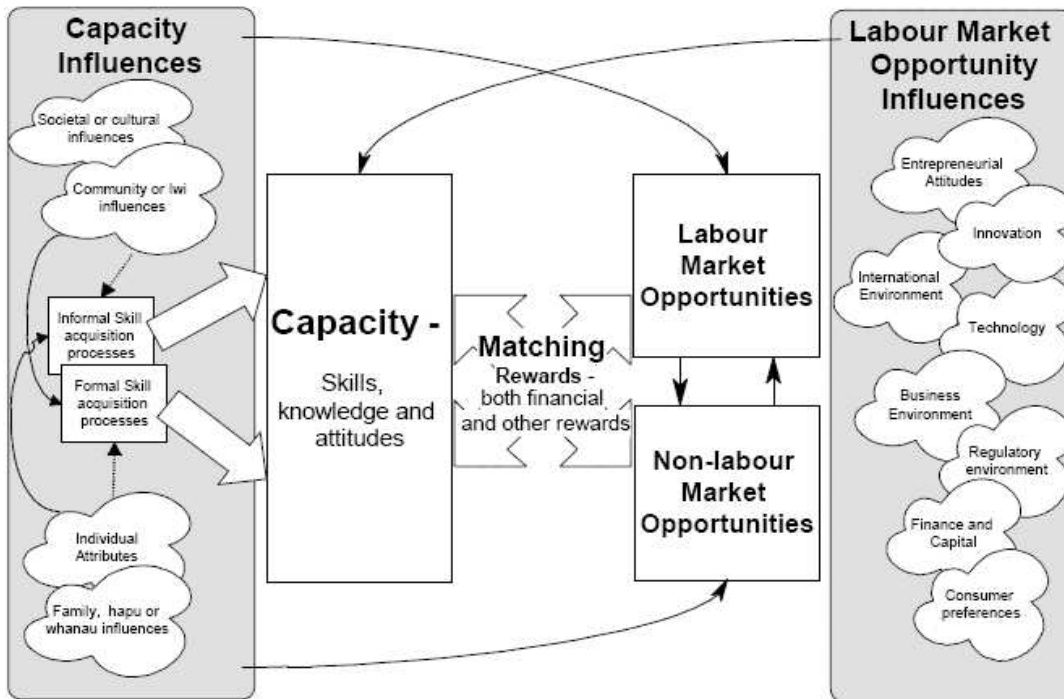
Tipples (2004) wrote about the launching of the Department of Labour's Human Capability Framework at the ninth New Zealand Labour, Employment and Work Conference in 1999 as a surprise to many. He says it was put forward as an important research model that was to guide a range of different government employment and social policy. The Department of Labour (1999) noted that the term capability is about the ability of people to do things – not just the capacity but the opportunity to do things as well. Sen (cited in Tipples, 2004) suggested that the use of the framework moves discussion beyond the human capital ideas. This human capital literature is difficult for some people as it may be seen to imply the commoditisation of people and treating them as economic objects or things. The framework was claimed to be a more open and holistic and realistic for research. Bartley, Dupuis & de Bruin (2001) crystallises this by saying the HCF allows a view of individuals that is less mechanistic and sees them as embedded in social relations that can lead to choices that are not necessarily economically rational. He subsequently used the HCF to explore future dairy farm employment (Tipples, Wilson, Edkens & Sun, 2005).

Figure 1: Human Capability Frameworks Components (Department of Labour, 1999:4)



Tipples (2002) defined capacity as to do with the knowledge skills and attitudes that people have to bring to the labour market. Opportunities are the alternatives available to people to profit from their capacity and matching processes link people's capacity to the opportunities. Each of these processes is unpacked in Figure 2 (Department of Labour, 1999). In 2010, the framework remains on the Department of Labour website as central to the labour market policy of the government.

Figure 2: Elements of the human capability framework (Department of Labour, 1999, p. 19)



Changes to the Labour Market Opportunities in Dairy Farming

Many changes impacted on the labour market opportunity and are identified through the HCF when applied to the dairy industry. A large number have occurred in the past 20 years, particularly in the past 10 years. Most of the changes have been outside the immediate control of the farmer. The HCF identifies eight influences that have changed the opportunities available in the industry: entrepreneurial attitudes, innovation, the international environment, technology, the business environment, the regulatory environment, finance and capital and consumer preferences. These categories clearly overlap. Our study explored an overlapping subset of these: technology (with some innovation included), the macro business environment (including capital, finance and the international environment), the regulatory environment and international factors.

Technology has played a pivotal role in the development of the New Zealand dairy industry since the mid-1980s and is likely to continue to do so (Clark, 1998). Developments are evident under the broad areas of information technology; animal health and communication methods. Technological advances have provided farmers with lower production costs, increased productivity and greater financial success (El-Osta and Morehart, 2000). Some economists also

suggest that such changes were a major determinant of the structural change within the global dairy industry, which has seen a shift towards fewer and larger dairy farms (Cochrane, 1965; 1979, as cited in El-Osta & Morehart, 2000). New Zealand dairy farmers are now able to access milk quality test results and synchronise herd records using the internet (Livestock Improvement Corporation, 2006); prevent the spread of harmful disease (Rosenberg & Cowen, 1990); and spend less time milk harvesting (Clark, 1998). Innovation has led to an increase in the technical efficiency of dairy farms, suggesting that farmers are adopting more advanced levels of technology and becoming better at using it (Jaforullah & Whiteman, 1999). The discovery of low-fat milk producing heifer cows (MSNBC, 2007) has also led to a new level of specialisation.

When technology changes in any business, the capacity (or KSAs) needed by employers change, which in turn requires some form of response in terms of a matching of the supply to the new demands. Typically this is in the form of training and development (Delahaye, 2005).

The macro-economic environment, with its concerns with inflation, interest rates, the recession (Bartol, Tein, Matthews & Martin, 2003) has affected the cost and availability of finance and capital. The mid-1980s marked the start of an era of economic reform in New Zealand dubbed "The New Zealand Experiment" (Barnett & Pauling, 2005). 1984-1996 was marked with the liberalisation of the economy, with the removal of interest rate and foreign exchange controls; the floating of the exchange rate; deregulation of the labour and financial markets; and the sale of a number of state-owned assets (Barnett & Pauling, 2005). All of these changes impacted upon the dairy industry, including the abolition of subsidies to agricultural producers and tariffs on agricultural imports (Barnett & Pauling, 2005). Some of these things required change which came about through innovation and a growth in entrepreneurial attitudes.

The New Zealand dairy industry came through the large scale changes of the 1980s relatively unscathed due to prior efforts in the 1960s and 1970s by the New Zealand Dairy Board (NZDB) to develop and consolidate markets for their products in Asia and Europe (Stringer, 2000) and to provide a united and coherent governance structure that allowed the dairy industry to flourish under a neo-liberal arrangement. This resulted in an increase in farm conversions to dairy and the intensification of the dairy process over the last two decades (Barnett & Pauling, 2005).

Economic and political changes have consequences for how farmers manage their business. Dairy farmers were no longer protected from outside forces with subsidies or tariffs. This revolutionised the farming structure and forced farmers to consider their farm as a business, rather than a way of life (Reid, Gray, Kelly & Kemp, 1999). This led to a shift towards larger farms and the increased costs associated with entering the industry. Larger dairy farms require more land, cows and capital to make them profitable as well as time to complete various farm tasks (Clark, 1998).

Legal-political regulatory factors also impact on the opportunities for the industry. They include the influence of government and the legal system. National legislation such as The Resource Management Act 1991; The Employment Relations Act 2000; and The Dairy Industry Restructuring Act 2001, (which saw the creation of Fonterra), were all important because they provide the foundations that ultimately guide the behaviour of New Zealand dairy farmers and

also impacted upon desired capability (the KSAs of dairy farm assistants) (Lamm & Rasmussen, 2004; Barnett & Pauling, 2005). There are also government policies that impacted the New Zealand dairy industry such as an immigration policy that seeks to reduce the skilled labour supply shortage within the industry. Essentially it was an attempt to raise capacity. Within the government agencies which provide services and monitor whether dairy farmers are complying with laws and regulations at local, regional and national levels there have been a number of significant regulatory changes (Bartol et al., 2003). This means that farmers are more involved with local and regional governments, the Ministry of Agriculture and Fisheries and the Department of Labour.

The final element in the change of labour market opportunity was international trends, which fuelled expansion and drove the demand for more human capability. Three key changes have been identified – China's booming dairy market, with dairy products becoming recognised as an essential part of any healthy diet; a growing market for high protein foods and global warming. There is increasing demand for New Zealand dairy products. Global animal diseases such as Foot-and-Mouth lead to a premium on clean green New Zealand dairy production (Cheung & Grant, 2006). Each of these changes has the ability to affect demand for New Zealand dairy products, driving up the demand for skilled farm assistants.

Capability Influences

The capability (level of KSAs) in the potential work force is very significant. Societal, cultural, community (iwi) and whanau (family) influences surround the availability of the capability. The macro-environment has a socio-cultural element, concerned with the attitudes, values, norms, beliefs and behaviours that characterise a given geographic area (Bartol et al., 2003). There were three areas of change; changes to family, community changes, and the changes in the nature of dairy farming models – particularly the growth in technological sophistication and size.

One change reported in the literature suggests a reduction of the skilled rural labour supply Dairy (Dairy Insight, 2007; Penno, 1999; Reid et al., 1999; Tipples et al., 2005). In the early 1980s, prior to the economic reforms that transformed New Zealand and the dairy industry, the family who owned a farm were able to provide all the labour that was required (Penno, 1999). Dairy farming was a family business! This is no longer the case (Reid et al., 1999). As average herd and farm size have increased (Livestock Improvement Corporation, 2006), so too has the demand for skilled dairy farm labour (Reid et al., 1999). This has not been matched by supply. Part of this supply problem can be attributed to social changes, which include both the women and children of dairy farmers seeking careers away from the home (Reid et al., 1999). Whereas in the past, women have helped their husbands by working on the dairy farm, they are now pursuing other employment opportunities, as are their children. This change is important because their absence from the industry removes from the dairy farm employer an important source of skilled labour. This is recognised in the HCF as growing non-labour market opportunities. In fact they are different and non-dairy farming opportunities that reduce the pool of potential employees by giving a choice of occupation.

There has been a shift to larger farms. Larger farms tend to have a completely different social structure to smaller dairy farms and as a result, the involvement of family changes (Fairweather, 1994). This shift from a 'family' to an 'industrial' farm, has also seen greater levels of labour specialisation; a more businesslike approach taken by the dairy farmer; an increased importance of labour; and less scope for family involvement (Gilbert & Akor, 1988, as cited in Fairweather, 1994). It is no longer adequate to have a family member who is able to help out on the weekends because due to larger properties, farm employment structures have altered, rendering it more difficult for them to fit into the farm labour pool even when they are available (Fairweather, 1994). This is a profound change in small rural communities and on family farms. The informal skill development methods where children and young people learned how to be a farmer from infancy are declining. They are particularly lacking where the farmer is older, less technologically switched on and more specialised knowledge is required. The 'learn on the job from the experience of a lifetime' approach is unlikely to work as well as it did in the past.

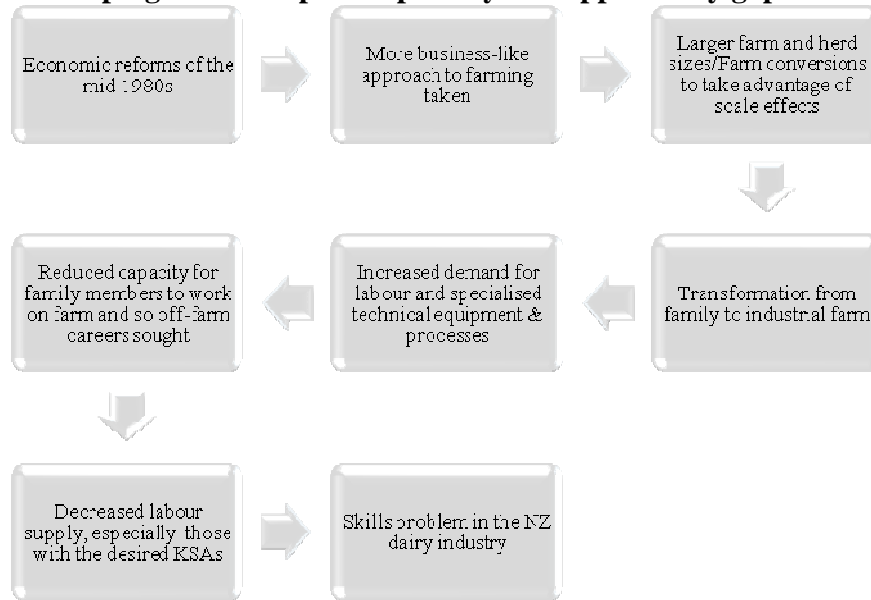
As labour becomes a more significant and specialised component of the dairy farming system, so too does the need not just to have more people and for them to stay, but to have employees who are equipped with the necessary qualitative capability (KSAs). With increased levels of worker specialisation on larger dairy farms, it may become necessary to have employees who are familiar with the knowledge and skills required for a smaller number of tasks. This can have major implications for the need to develop capability.

Fonterra (the dairy corporate which accounts for more than 90% of the milk produced) is the dominant customer but some registered companies such as Westland and Tatua exist. Changes that have occurred include the merging of dairy co-operatives under the Dairy Industry Restructuring Act 2001 and the introduction by Fonterra of a tactical milk pricing regime in areas such as Waikato in an attempt to fight competition (Barnett & Pauling, 2005). Fonterra inevitably has a huge impact on the industry.

The conversion of sheep and beef farms into dairy properties as this industry becomes comparatively more profitable changes the capacity required (Reid et al., 1999). As more farms are converted into dairy properties the desired skill set changes as the capabilities required for a dairy farm are different to those needed on a sheep or beef farm.

There have been a number of changes leading to an increased gap between the demand for and supply of skilled dairy farm employees. The national labour market is aging, more diverse and more female. There has been an absolute decline in the rural population (Dairy Insight, 2007). Traditionally, employees in the dairy industry have been male, ethnically European workers aged between 15-35 years (Dairy Insight, 2007). Statistics New Zealand projects that between now and 2016, there will only be a small increase in the workforce, but that this long-established source of farm labourers will at best remain static (Dairy Insight, 2007). Tipples et al (2005) suggested that future capability is compromised by a small and declining number of entrants from a more urban and ethnically diverse pool of potential staff. Retention rates were poor and the number of people reaching competence inadequate. He suggested more mechanisation and once a day milking may help matters. We roughly trace changes that have led to a human capital shortage in the industry in Figure 3.

Figure 3: A developing human capital capability and opportunity gap



The Study

Twenty-four dairy farmers participated in this study. A snowballing sampling technique was used, described (Saunders, Lewis & Thornhill, 2003 as a non-probability sampling procedure in which subsequent respondents are obtained from information provided by initial respondents. One participant lead to another and a research sample was built up. In order to ensure we had a national sample, we asked 28 farm consultants operating in different geographical areas to suggest farmers in their area who met the criteria for inclusion. This initial contact produced seventeen names and contact details of New Zealand farmers who were then contacted and asked to suggest the names of other farmers until thirty participants were found. Participating farms had to be dairy farms (according to the categorisation used by Jaforullah & Whiteman, 1999) and employ at least one farm assistant. A pilot study involved four dairy farm owners to validate the interview structure. Interviews were used to collect the information because they allow for the complex social organisation of farms and the variation between properties to be captured, while still allowing for the research questions to be answered (Fairweather, 1994). The dispersion of farms throughout New Zealand made face-to-face interviews difficult. Some interviews were carried out face-to-face, some by telephone. Semi-structured interviews were used because they allowed for the creation of questions that would fulfil research objectives while still providing scope for the discussion with each farmer to develop accordingly (Saunders, Lewis & Thornhill, 2003; Silverman, 2000). They allowed for

additional questions to be asked that were in line with the development of the interview and information being collected, so that a richer source of data was gained.

The interview had three parts. Part one of the interview concerned the things farmers sought when seeking dairy assistants. In the second part of the interview we conducted a formal training needs analysis (TNA) for the dairy assistants on the participating farms. A task analysis approach was using job analysis, job description, and person specification information provided by Dexcel (2003). This was supported by information collected from New Zealand Career Services (2007) and discussions with dairy farmers. Employers were also asked to describe what frustrated them most about the current performance of their farm assistants and the things that they were unable to do. The third part of the interviews collected data from dairy farm employers in regard to formal training and development programmes in New Zealand for dairy assistants. In particular, they were asked what they liked and disliked about current programmes; suggestions for improvement; whether such programmes prepared farm assistants for working in the dairy industry; and whether the design of these programmes has kept up with changes in the industry.

Results

Participating dairy farm employers were first asked to identify the most important things that they look for when employing a farm assistant. Employers made sixty references to characteristics which are shown in Table 1. We have shown them as first, second and third order priorities.

Table 1: First, second and third order characteristics desired of dairy farm assistants by dairy farm employers. (First order \geq 11%; second order 6-10%; third order \leq 5%)

First order Characteristics	Second order Characteristics	Third order Characteristics
Overall personality (15%)	Can perform farm tasks/experience (10%)	Takes pride in work (1.7%)
Honesty (13.3%)	Willingness to learn (6.7%)	Communication skills (3.3%)
Reliable (13.3%)	Gets along with me (6.7%)	Can follow instruction (1.7%)
Positive attitude (13.3%)	Wants to be in industry (6.7%)	Punctual (1.7%)
		Conscientious (1.7%)
		Consistent (1.7%)
		Personal values (1.7%)

The most commonly looked-for characteristics for a dairy farm assistant are personal attributes such as honesty, reliability, overall personality and a positive attitude. Their ability to perform farm tasks and the amount of previous experience on a dairy farm appeared to be less important. This is shown in the division of those characteristics according to frequency into first, second and third order characteristics.

The most frequently cited desirable characteristic was the farm assistant's overall personality. 'Personality' is the "relatively stable pattern of behaviours and consistent internal states that explain a person's behavioural tendencies" (McShane & Travaglione, 2007: 52). Personality is

important because it helps to determine how we interact with one another or in this case, how the farm employer and the farm assistant work together.

So, whereas one might expect that dairy farm employers are looking for a farm assistant displaying an all-round balance of appropriate knowledge and skills, they actually place more of an emphasis on attitudes.

The Training Needs Analysis: Knowledge, Skills and Attitudes

While accepting the importance of personal characteristics to farmers, we used a formal framework based on published material and our first enquiries of farmers to investigate the knowledge and skills part of capability. From a task analysis, eighty six different tasks were specified by employers as important. Within these five tasks stood out: milking (referred to by 21%), feed management (17%), animal health (16%), farm and vehicle maintenance (16%) and stock work (14%).

Knowledge Required

Results suggested that the top four things for a dairy farm assistant to know (in order of importance) are a knowledge of pasture management; knowledge of how to milk cows; knowledge of animal health; and a knowledge of farm routines, which includes specific processes that a dairy farm might follow and the reasons for doing so. This list is significant because it relates well to the important tasks previously identified. For example, milking was seen to be an important task for farm assistants and this is supported by them needing to have knowledge of how to milk cows, animal health and farm routines.

One of the most interesting findings was that farm assistants needed to have knowledge of farm specific routines, which is something that can only be gained once the assistant is on a particular farm. This is an important finding because farm-specific knowledge cannot be formally taught to farm assistants.

Table 2: Important knowledge for dairy assistants

Types of knowledge	Frequency mentioned
Knowledge of pasture management	10 (16.4%)
Know how to milk cows	9 (14.8%)
Knowledge of animal health	8 (13.1%)
Knowledge of farm routines	7 (11.5%)
Know how to drive farm vehicles	5 (8.2%)
Maintenance knowledge	4 (6.6%)
Feed management knowledge	4 (6.6%)
Safety knowledge	4 (6.6%)
Know how to ask questions	4 (6.6%)
Know how to operate machinery; know how to ask listen; knowledge of milk quality; know how to take responsibility for tasks.	Less than 5%

Skills

Skills have an important place in the role of a dairy farm assistant according to dairy farm employers. Eighty-three references were made to skills by dairy farm employers. They considered driving (16.9%) and stockman skills (14.5%) to be the most important for farm assistants to possess. Once again, this confirms the earlier findings, which require farm assistants to be able to drive around the farm and work with animals!

Table 3: Important skills in the role of a dairy farm assistant from the perspective of dairy farm employers

Types of skills	Frequency mentioned
Driving skills	13
Stockman skills	11
Maintenance skills	9
Other	9
Milking a cow	8
Administering medication	7
Communication skills	6
Machinery skills	6
Literacy skills	5

Space prevents discussion of the theoretical model (Dexcel, 2003) since it contains 11 major categories and 60 elements listed by KSAs. However when compared with the list of skills in the theoretical model for the role, there were a large number of these that dairy farm employers did not mention. However, driving and stockman skills are evident in the majority of the tasks listed in the theoretical model, which suggests that they are important. The identification of these skills as being important is significant because it pinpoints the type of things that need to be included in training and development programmes targeted at the New Zealand dairy industry.

Attitudes

Important attitudes in the role of a dairy farm assistant were also sought by farm employers, the results of which are shown in Table 4. In total, employers made seventy-four references to different attitudes.

In this long list, five attributes stand out from the others as being more significant – reliability, honesty, commitment, an ability to think for themselves; and a positive attitude.

Table 4: Important attributes in the role of a dairy farm assistant from the perspective of dairy farm employers

Aptitude	Frequency mentioned
Reliable	16
Honest	12
Committed	7
Thinks for themselves	5
Positive attitude	5
Motivated; gets along with others; commonsense; team player; efficient; hard-worker; adaptable/flexible; responsible; calm; punctual; willingness to learn; confident; respectful; takes pride in their work; sense of humour; focus	Less significant attributes (I.e. mentioned by less than 5 employers)

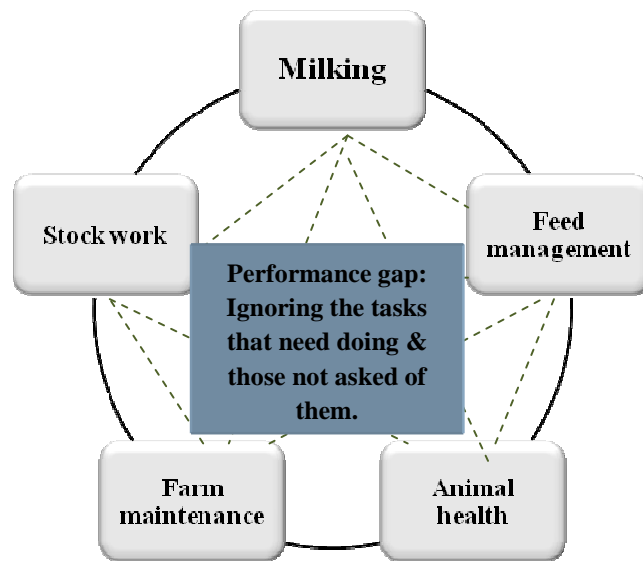
The Gap

Employers made 32 references to key shortcomings in dairy assistants. 25.7% of these were concerned with farm assistants who ignored tasks that needed doing, while a further 20.8% refer inability to do the unasked tasks and to think for themselves as an issue. These problems are interesting, given that they are not actual knowledge or skills problems identified formally.

Results regarding this current performance gap can be combined with earlier findings, to produce a model providing an overall summary of the performance gap in New Zealand dairy farm assistants. Figure 4 shows the most important tasks in the role of a dairy farm assistant in the outer ring of the diagram. In the middle is the performance gap, in that farm assistants are unable to do the unasked things and ignore those that need doing. In other words, farm assistants are doing the tasks that are asked of them, but are not being proactive while they are completing one task, being able to incorporate other dairy farming skills to complete others simultaneously. For example, if a dairy farm assistant is getting the cows in (fulfilling the task of milking) and fails to check and therefore fix the water-trough which is leaking water (the task of farm maintenance), then this is a problem in the eyes of dairy farm employers.

Results from this study again suggest that employers want an all-round dairy farm assistant who is able to combine a number of important tasks together and while doing one, still be able to complete others. This is important because if this is what employers in the New Zealand dairy industry desire, then formal training and development organisations need to design their programmes to cater for such needs.

Figure 4: The performance gap within New Zealand dairy farm assistants from the perspective of dairy farm employers



Dairy Industry Formal Education and Training - A Matching Opportunity

52% of dairy farm employers had no formal agricultural qualifications. 42.9% of farm assistants also had no formal qualifications, although the majority of this group were studying towards an Agriculture Industry Training Organisation Certificate. This suggested that formal agricultural qualifications were not necessary in the past for success in the New Zealand dairy industry, as represented by those that own their own farms. Given that many farmers gained their skills before the development of substantial training regimes their remarks and views may apply more to the past than the present. Trade Certificates were phased out in the 1990s with the introduction of industry training organisations by the New Zealand Government (Agriculture Industry Training Organisation, 2004).

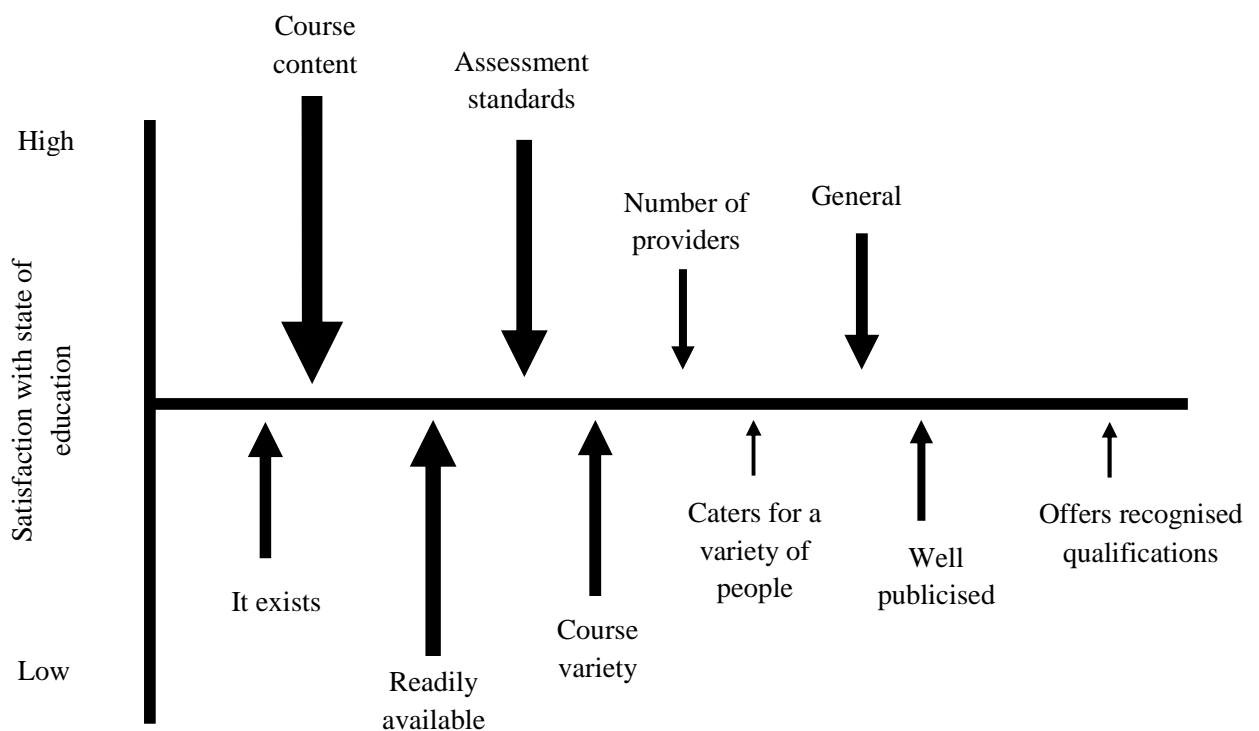
Participating farms allocated no more than 10% of their total expense budget towards the training and development of their farm assistants. 54.2% of participants quoted that they allocated 0.0% of their budget towards this area. Despite this majority, this study found that some dairy farm employers do pay for the training and development of their staff.

Overall, this suggests that New Zealand dairy farm employers do not contribute much financially towards the formal training and development of farm assistants. This suggests that either the costs of attending formal courses outweighs the benefits; that formal training and development is perceived to be the responsibility of the farm assistant; or there are other more favoured and less costly ways to train farm assistants.

The state of formal training and development was evaluated through the collection of information (opinions) from dairy farm employers. This is reflected in the force field analysis of the results shown in Figure 5.

Force field analysis was developed by Kurt Lewin for therapeutic use in the 1930s (French & Bell, 1984). It allows thinking about an issue and what drivers (the upward arrows) would improve things if they were not held back by the restrainers (the downward arrows) It shows the status quo as a line part way up a scale. In this case, it is a scale of satisfaction with industry education. The horizontal line represents the overall result and is located halfway along the satisfaction scale, due to the presence of both positive and negative feelings from dairy farm employers, creating an ‘in two minds’ feeling. They were ambivalent towards the state of formal dairy farm training and development in New Zealand.

Figure 5: Force-field analysis of dairy farm employer opinions regarding the state of dairy farming education and training in New Zealand



In this graphical illustration, the upward arrows represent positive forces that will increase the level of satisfaction that dairy farm employers have with training and development. Downward arrows portray the negative forces that drive down these levels. The different widths and lengths of the arrows symbolise the different strengths of each factor, so the more popular the answer was from farmers, the thicker and longer the line was.

The positive forces identified in this study were that formal training and development programmes exist; they are readily available; there is a large amount of variety in the types of courses available; they cater for a wide variety of people; they are well publicised; and they offer recognised qualifications.

The feeling that course content of training programmes is inappropriate was the most common answer from dairy farm employers. By pinpointing these positive and negative forces, opportunities for improving satisfaction levels towards formal training and development can be taken by either capitalising on the positive forces, or mitigating the negative ones.

One of the interesting findings was that New Zealand dairy farm employers were satisfied with the processes associated with the courses, rather than their content. This is significant because when one refers back to the force field analysis, formal training and development programmes' course content was something that dairy farm employers were unhappy with. 'Course content' refers to the types of KSAs that are taught (as part of capability) within such programmes and, in particular, refers to the differing amounts of theoretical and practical training that these provide. Employers felt that courses were getting away from the basics; they taught trainees to have too much of a reliance on technology; there is little emphasis on the importance of commonsense in dairy farming and the standards of assessment are inappropriate. These negative points are worthy of note because they need to be mitigated if dairy farm employer satisfaction levels with formal training and development programmes are to be increased. To discover ways this could happen, dairy farm employers were asked to make suggestions for improvement

Of the 49 suggestions made for improvements to formal training and development programmes, the most common suggestion made was to include more practical training in them. This supports the earlier finding that dairy farmers are unhappy with the current course content of these programmes. Dairy farm employers do not think that there is a large enough practical component, which is significant given that many of them consider dairy farming to be a job that can only be learnt by doing. This has repercussions for dairy industry training providers because to earn employer credibility, they need to be providing courses that have the practical component integrated into it, to teach trainees how to actually be a dairy farmer.

Conclusions

We have used the Human Capability Framework to identify the changes in the environment that have led to a gap between capacity and opportunity in the dairy interest. While some of these changes are likely to be one-off adjustments, the world has changed and there is a critical shortage of people and skills likely to hold the industry back.

Although there is a shortage of people – the need is to not only address the shortage of people but to build the right attitudes rather than the current an emphasis on knowledge and skills. Our study made it clear that although there have been some changes in the skills required and a need for further training, dairy farmers were more concerned with the attitudes of dairy assistants than the skills required. While the tasks have not changed greatly there has been a significant

change in that more and more dairy assistants are unable to, or chose not to, carry out tasks unasked of them. One suggestion we make is that the continual breaking down of the job to smaller and smaller components has led to what is regarded by educationalists as reductionism, by which we mean the assumption that if you know all the component parts you know a whole job and can be successful at it.

Further research could now explore how to develop rounded aptitudes and characteristics in the industry.

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