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An Investigation into the Decline in the Use of Fresh Potatoes and the Increased Demand for Processed Potato Products in the Foodservice Sector in the Leinster Area

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An investigation into the decline in the use of fresh potatoes and the increased demand for processed potato products in the foodservice sector in the Leinster area

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Abstract

The aim of this article is to examine the decline in use of fresh potatoes and the increased demand for processed potato products in the foodservice sector in Leinster. The study focused on the consumption and use of potatoes by chefs, restauranteurs, hoteliers, and managers in the foodservice sector. This was achieved by a survey questionnaire of one hundred and ten establishments of which sixty-five responded. The research also involved examination of background information and past literature, investigating when the decline of the potato occurred and the cause of that decline, and comparing data from the retail sector to the foodservice sector.

The survey results indicate that the foodservice sector has increased its sales of fresh potatoes and this seems to be driven by consumer demand. Consumption of fresh potatoes is stable and in fact growing. The survey also indicates that there is little demand for processed potato products in the foodservice sector.

Key words: fresh potatoes; processed potato products; foodservice sector; promotions; imports.

1. Introduction

This study aimed to shed light on the attitudes to, and use of, potato products in the foodservice sector in Leinster. Prompted by past literature, research questions were compiled to investigate the demand for fresh potatoes over processed potato products, and the reasons for purchasing fresh or processed potato products. The research methodology provides an insight into the attitudes and knowledge of potato products in the foodservice sector in the Leinster area. The study aimed to investigate how the foodservice sector establishes and identifies the popularity of different potato dishes.

The potato plant is a native of South America with its origins probably in the Andes. Archaeological evidence indicates that the process that ultimately produced edible, cultivated potatoes began more than 8,000 years ago. Potatoes are one of the oldest staple foods in existence, having spread and became fully established as a staple food of Europe's rural and working families during the nineteenth century (Reader, 2008). According to Wilson (1993) the potato was brought to Europe among the spoils of the Spanish Conquest at the end of the sixteenth century.

The Irish Farmer Association (IFA) President Joe Healy said that the Irish potato industry is an important indigenous industry worth €75m at the farm gate, with 500 growers planting over 9,000 hectares annually (IFA, 2015). Potatoes and frozen products together account for 84% of main meal carbohydrates (Lynch, 2014). According to Bord Bia (2014) the retail market in potato consumption has fallen by 55 kilograms per capita per annum since 1970. Research shows potatoes are still Ireland's preferred main meal carbohydrate. However, shoppers in the under forty-five age group account for only 33% of potato sales and these consumers will ultimately make up a major part of the total market in the years to come (Shelflife, 2015).

Current research data indicates that consumption of potatoes is in decline and that if this decline continues the 'fresh potato' will become close to extinct as a main food crop. Changes in consumption patterns leading to reduced consumption of fresh potatoes, and a move to processed products such as frozen chips/french fries which are mostly imported, are reducing the size of the market annually (IFA, 2015). However, the public needs to be educated about the benefits of the potato and it needs to be promoted now if it hopes to survive in the years to come.

Due to constraints of time and resources the study was confined to a particular geographic area imposing some limitations on the research. It should also be noted that there are limited secondary information data-sets available regarding potato consumption. Thus, my research helps fills a gap and contributes somewhat to knowledge in potato consumption in the foodservice sector and the educational sector.

2. The Fresh Potato

We Irish love our potatoes. The humble potato is very much part of our history and who we are. The potato was ideally suited to the Irish moist climate and lighter soils (Gould, 1999). Popular belief is that Sir Walter Raleigh was responsible for the introduction and cultivation of potatoes in Ireland, initially in Cork (Bord Glas, 2001). The potato was probably yielding about 4 tons per hectare and cereals yielding 1.1-1.5 tons. This in itself was a good reason for the change-over to potato cultivation (Burton, 1989).

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Reader (2008) claims that the Irish Famine in the 1840s, which resulted from a failure of several potato crops due to blight, was surely a main event in modern Irish history, as important to Ireland as the French Revolution was to France as the Civil War to America. According to a report by Dochara (2008), the diet eaten by ordinary people changed dramatically after the famine. Potatoes continued to be important but increasingly imports of cornmeal or maize, mainly from America, provided an alternative and cheap source of nutrition for the very poor.

3. Food Value of the Fresh Potato

The potato is rich in nutrients, contains no fat or cholesterol with low salt (Smith, 2011). According to Bell and Watson (2008) potatoes contain carbohydrates, proteins, and mineral salts. The potato has half the number of calories of rice or pasta. A medium sized raw potato contains a mere 100 calories if the skin is eaten. The potato consists of 80% water, and contains essential minerals, vitamins and fibre – including potassium, magnesium, phosphorus, iron and calcium – as well as starch in the form of complex carbohydrates. The potato is a slow energy release food, so it provides a steady stream of energy compared to the ‘rush’ that sugar and fats give.

Potatoes contain vitamin B and it is an excellent source of vitamin C. This helps with the absorption of iron and helps prevent anaemia and support the immune system. Vitamin C is also a powerful antioxidant (International Year of the Potato, 2008). A potato contains more vitamin C than a tomato or same portion of sweet potato. It also contains a variety of B vitamins (thiamine, niacin, riboflavin, folate and B6). This helps with metabolism and energy conversion from food. Potatoes are also a source of calcium (Hearne, 2016). Children get more Vitamin C, B1, B6, folate, iron, magnesium and potassium from the contribution potatoes make in their diet than from so called ‘superfoods’ like beetroot, bananas, nuts, broccoli and avocado.

Potatoes can be a part of many special diets such as coeliac, vegetarian or diabetic (potato.ie 2015). In pre-famine times, the average Irish male farm labourer consumed about 20 large boiled potatoes each per day, washed down with buttermilk for a nutritionally complete meal (Faille Ireland, 2015).

4. Misconceptions Regarding Potatoes

Burke (2014) stated that despite the decline in sales of potatoes it remains Ireland’s main carbohydrate. There is a common misconception that potatoes take a long time to prepare and cook resulting in people switching to other starchy carbohydrates such as pasta or rice. This is especially true amongst the younger generation, so they and their children are missing out on many of the vital nutrients contained in potatoes (2015). According to Burke (2011) people perceive potatoes to be less convenient when compared with rice or pasta.

Younger consumers view potatoes as a traditional, unexciting food and less convenient than modern carbohydrates such as pasta and rice (Burke, 2015). The Irish 'spud' is in a bit of a crisis. Sales are declining and Irish farmers say that in some seasons they are selling potatoes below the cost of production (Basketcasetheblog, 2012). According to Bord Bia (2014) there is a misconception that potatoes are fattening and that this is doing the most damage to potato sales. In contrast to Bord Bia, key analysis from Mintel (2014), explores how the increasing pace of consumers' lives create a greater need to slow things down. This trend is seen where a greater consumer appreciation of taking their time to consume food and seeking classic recipes is symbolic of a less hectic lifestyle.

5. The Decline in Consumption of Fresh Potatoes

The average potato yield of the previous century was 5 tonnes per acre, (Burton, 1989). Today it is 20 tonnes per acre. According to the IFA (2015) the industry produces 350,000 tonnes annually. Last year, the retail market was valued at €184 million. Retail sales of fresh potatoes in Ireland have declined by 25% over the last decade and by as much as one third between 2002 and 2014 (Shelflife, 2015). Potato consumption in Ireland has fallen by 39% in 40 years according to Bord Bia (2014). People in Ireland are no longer buying fresh potatoes in the same large volume as previously seen. Potatoes are losing their share of the carbohydrate market (Bord Bia, 2014). The demand for more processed forms of potatoes, such as frozen chips and packet crisps, have been prominent and has helped recent national consumption levels to rise (Wilson, 1993). If present trends continue, consumption of potatoes in Ireland will drop to less than 100,000 tonnes by 2023, according to Bord Bia analysis Lorcan Bourke (IrishIndependent.ie, 2014).

Britain's bestselling vegetable is out of fashion, says Agriculture and Horticulture Development board (AHDB) potato consumer analyst Rebecca Hughes. British consumers also seem to be dodging carbohydrates: meat and two veg. are passé although the British foodservice market has returned to growth, with total food servings up 1.6% in the year ending June 2015. Increased consumer confidence has encouraged an increase in spend on food out-of-home.

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6. Imports in the Potato Industry

The potato industry is facing increasing competition from imports, particularly from Cyprus and Italy, with the UK and France for main crop and processing varieties. Central Statistics Office (CSO) figures for 2008 indicate that the total imports were 52,000 tonnes of frozen, processed potato products. The threat imposed by imports, currently in excess of 50,000 tonnes of fresh potatoes annually, is putting increasing pressure on Irish growers. This is mainly due to the fact that a significant quantity of Irish main varieties (rooster, whites, kerr pinks) are now grown in the UK. Imports of potatoes further reduce the size of the Irish potato market and effect the supply/demand balance (IFA, 2011).

Processed potato products are mainly volume-driven international commodities and are traded as such, predominantly frozen chips and crisps. The major part of the raw material used to produce these products are grown overseas and imported in to Ireland as a finished product. This is a critical concern for Irish producers due to the high growth rate and size of this market. Convenience has become a very important consideration in consumers' choice. 120,000 tonnes of frozen potato products are imported in to Ireland each year (Meade, 2016). All frozen chips in the Irish market are imported and a considerable amount of the fresh chip market is also served by imported product, mainly from the UK. Approximately €5 million worth of Maris Piper variety of potato are imported into Ireland each year to service the fresh chip market (Department of Agriculture and Food, 2004). Gould (1999) stated that french fries and other frozen potato products are the fasted growing segment of the processed potato industry, mostly due to frozen french fries. Changes in consumption patterns leading to reduced consumption of fresh potatoes and a move to processed potatoes (frozen chips, French fries) which are all imported, are reducing the size of the Irish potato market annually (IFA, 2015). A report by The Department Agriculture and Food (2004), states there has been significant growth in the processing and catering end of the potato market, which has contributed to Ireland having the highest per capita consumption of potatoes in the EU. The major growth area is in the processing end of the market which is serviced mainly by exports. The report also states that there has been over €65 million invested by growers in storage and other infrastructural facilities over the decade. This investment has been supported by approximately €20 million in state grants.

7. The Cause of the Decline in Consumption of Fresh Potatoes

While Ireland still consumes a lot of potatoes by European standards, we now eat less of the tubers, on average, than people in the UK where the downslide has been more gradual (Businessect.thejournal.ie, 2015). One of the main reason for the decline in potatoes is that people have replaced the potato with new glossier contenders with rice, pasta, noodles and bread. Bord Bia figures show potato consumption has fallen by almost 40% in Ireland in the past 40 years (Agriland, 2015).

A paper by Mac Con Iomaire and Gallagher (2009) state the principle competition to the potato among carbohydrates come from bread, pasta and rice. A report by the Department of Agriculture, Food and Marine (DAFM), (2008) states that even within the wider catering sector, the traditional potato is being replaced by mini potatoes. It is also noticeable that the average bag size being sold is shrinking. According to Bord Bia (2014) 77% of all potato purchases are in bags of 10Kg or less compared to 50% in 2002. Sales of 5Kg bags or less account for 26% of volume sales. Mintel (2015) state that bagged potatoes are a staple in Irish households with 91% of the Republic and 82% of Northern Ireland consumers stating they buy a bag of potatoes in a typical week and just over a quarter of consumers in the Republic purchase fresh loose potato.

On the health side, potatoes were perceived as higher in fat and calories than pasta or rice. Older consumers had a different attitude and viewed the potato as the centre of the meal. The potato’s former popularity may never return: with their current image their future looks dim (Consumer choice, 2008). Although according to a report by Mintel (2014), demand for unflavoured/ plain potato products remain strong within the Irish market with a total of 43 product launches. The last four years have consistently seen unflavoured or plain potato products account for the majority of launches within the fruit and vegetable sector, displaying a demand from consumers who wish to purchase potatoes that retain their classic taste without additional seasoning. It also states while the focus remains on providing unflavoured /plain potato products, producers continue to offer options that provide an element of interest to the vegetable.

8. Processed Potato Products

Potatoes are a really good source of nutrition if consumed as an unprocessed food. If they are chipped or roasted in fat, this is going to decrease the potential health value. There are many processed potato products on the market today, such as frozen chips, hash browns and potato waffles. Unlike whole, unprocessed potatoes, they are generally low in fibre. Processing also reduces the vitamin and mineral content, which is mostly found beneath the potato’s skin (Consumer choice, 2008). Commercial potato products are filled with calories and they often contain little nourishment. A large serving (169g)

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French fries, for instance, weighs in at 539 calories; 28g of crisps (10 crisps) contain about 150 calories (Smith, 2011). Even when cooked in vegetable oil, commercial potato products have been criticised for their fat, trans fat and salt content and their generally poor nutritional profile. Deep frying adds saturated fat and cholesterol if they are cooked in bacon fat or butter.

Over one third of Irish consumers (37% of both Republic of Ireland(ROI) and Northern Ireland (NI) consumers) purchase frozen chips on a weekly basis, with usage surging in Irish households with children.

The market for prepared fresh potatoes, example chilled potatoes, seem to be growing in NI as more consumers branch out in trying chilled potato variations such as champ and colcannon. In NI and ROI, 37% of consumers noted they buy processed potato products (chips or wedges) on a weekly basis making these the third most popular potato (Mintel, 2015).The Department of Agriculture and Food (2004) believe there is a demand for fresh prepared potato products which has increased in recent years and which has been driven by consumer needs for quality and convenience. As out-of-home consumption trends increase, it is likely to strengthen demand in the foodservice/catering market.

Milnes (2014) is the only research available regarding the role of processed potato products in the catering industry. Its report indicates that the total spends in fruit and vegetables in 2013 was €172 million in hotels, restaurants and the pub sector. It believes that chips and french fries account for 72% and roast potatoes 8% of the processed potato market in the foodservice sector. Milnes also states that in the quick service restaurants the total spend on fruit and vegetables in 2013 was €129 million, this includes frozen chips and it states that the total spend on fruit and vegetables is minimal when once chips are excluded.

According to a recent report by The Agriculture and Horticulture Development Board (AHDB, 2015) out-of-home potato servings were up 4.3% year-on-year, growing ahead of the overall market. Part of this increase in potato servings is linked to the strong performance of quick service restaurants, where chips feature highly. Fresh potatoes sold in GB retail market were worth £1.1bn in the year ending September 2015. This was 12% lower than the year earlier and is due to lower average retail prices, as volumes have stabilised over the past year.

Processed potato products provide 63% of the value to the potato market in retail. Although a small part of the market by volume, the chilled potato market is an important added value segment. Spend on these products was up 13% between 2014 and 2015, as an increasing number of households buy into the category.

The British foodservice market, valued at £52.2 billion, is vast and the routes to market are many and varied. It consists of a number of different sub sectors, from pubs, quick service restaurants (QSR) and full service restaurants in the commercial or 'profit' sector, to work place, college and universities. These markets are considerable opportunities for potatoes.

Table 1. Servings of potatoes eaten out of home increased by 4.9% year-on-year, boosted by the strong performance of chips/French fries.

Out-of-home Servings of Potatoes			
Servings (millions)	YE Dec 14	YE Dec 15	YOY change
Total Food	16,840.5	17,330.4	2.9%
Total Potatoes*	1,678.0	1,760.6	4.9%
Chips/French Fries	1,219.6	1,299.6	6.6%
Potato Wedges/ Skins	61.4	64.7	5.3%
Jacket Potato	130.9	134.7	2.9%
Mashed Potatoes	90.9	89.6	-1.5%
Roast Potatoes	121.4	119.3	-1.7%
Other Potato	53.8	52.7	-2.0%
Source: AHDB / NPD Crest			*does not include crisps

9. Promotions of Potatoes

The Taoiseach Mr. Enda Kenny (2015) launched a new 10-year strategy for the agri-food sector called Food Wise 2025. Minister Coveney launched a €1 million marketing campaign to boost potato consumption among Irish consumers. This campaign ("Potatoes: more than a bit on the side") coordinated by Bord Bia, will focus on younger consumers, in particular 22-24-year-old females. This campaign has been designed to dispel fattening myths around potatoes and promote potatoes as naturally fat free, tasty and versatile. The EU commission approved a total fund of €4.6 million to

https://arrow.tudublin.ie/level3/vol14/iss1/9
DOI: 10.21427/D7CJ04

promote potatoes on the Irish and British markets over the next three years of which 50% will be funded by the EU. The department is also granting financial support to the Irish potato industry and combined with industry funding the total campaign will be worth €1 million over the three years in Ireland (DAFM, 2015).

The Irish Famers association (IFA, 2015) identified major challenges in the potato sector and recommended that to increase consumption, resources must be put in place for well-timed marketing and target promotions of fresh potatoes to include promotions on the sustainability of locally grown produce and the health benefits of eating potatoes. The IFA also recommended a fully audited and traceable branding system for all Republic of Ireland potatoes and ensure the products that are grown in Ireland is available and identifiable to consumers in the market place and in the catering / services sector.

The IFA (2011) concluded that the threat posed by imports, currently in excess of 50,000 tonnes of fresh potatoes annually, is putting increasing pressure on Irish growers. Changes in consumption patterns leading to reduced consumptions of fresh potatoes and a move to processed products which are all imported is reducing the size of the Irish market.

10. The Potato and the Future

Whelan, (2015) states that moves are underway to create the perfect 'chipping' potato with up to 800 tonnes imported each week mainly for the fast food sector. Teagasc and IMP are working to create new varieties of potatoes grown here for the chipping market to replace the hundreds of tonnes imported each week to meet demand from the processed potato market. Due to shrinkage of the fresh potato market, second generation potato farmer Paul Finnegan and his brother who produce up to 10,000 tonnes of the crop each year, hope to develop a new potato product out of his supermarket rejects, by processing them into par-cooked and chilled chips and mash in a bid to lure people away from the frozen imports (businessect.thejournal.ie, 2015).

There is a vast amount of literature and promotion on potato consumption in the retail sector which includes reports by Bord Bia, Irish Farmers Association (2011), Teagasc (2014) and Department of Food and Marine (2015). In contrast to this, there is little or no research on potato consumption in the foodservice sector which makes a significant contribution to the economy. Bord Fáilte estimates the tourism industry adds €5.7bn a year to the economy (Irish Independent, business, 2017). Policy is highlighting the importance of the fresh potato and the increased consumption of processed potato products which are all imported is reducing the size of the Irish market (IFA, 2011), so it is timely to investigate the foodservice sector to observe patterns of potato consumption there.

There is a gap in the literature regarding potato consumption in the foodservice sector. My research investigated this area and examined the decline in the use of fresh potatoes and the increased demand for processed potato products in the foodservice sector, in Leinster. My research helps fill this gap and contributes to knowledge in potato consumption in the foodservice sector.

The following research questions (RQ) were compiled after a review of the literature:

RQ 1 How often have you included / bought fresh potatoes on your menu in the past?

RQ 2 How often have you include / bought processed potato products on your menu in the past?

RQ 3 Have you had any demand for fresh potato products from your customers?

RQ 4 Why do you buy fresh potato products?

RQ 5 Where would you most likely purchase fresh potatoes from?

RQ 6 Would you purchase fresh potatoes over processed potato products?

RQ 7 Comparisons of popular fresh potato dishes to popular processed potato products

RQ 8 Comparison of the purchase of fresh potatoes over processed potato products and vice versa.

RQ 9 Reasons for buying processed potato products.

11. Research Methodology

This article represents findings from part of a larger study on the decline in use of fresh potatoes and the increased demand for processed potato products in the foodservice sector, in Leinster (Gray, 2016). A survey was the preferred type of data collection procedure for this study. With this in mind a core area of Leinster was selected and included Restaurants, Cafes, Fast Food outlets and Hotels to represent a target population of the foodservice Sector.

A data base of the Foodservice Sector was created through an internet search engine Menu Pages and through the following food guide books: ‘The Bridgestone Irish Food Guide’ by John and Sally McKenna, and ‘Good Food Ireland guide’, edited by Hugo Arnold.

A cross section of the candidates who completed the questionnaires included restauranteurs, hoteliers, chefs and managers.

https://arrow.tudublin.ie/level3/vol14/iss1/9
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The survey took three weeks to complete. This long survey period was required because owners/ chefs/managers were only available at certain times, and in many cases I had to return to some premises more than once to collect the questionnaires. This turned out to be a time-consuming method of collection, but response rates were high. I distributed one hundred and ten questionnaires and sixty-five establishments participated either by email, telephone interview, face to face interview or by the author dropping off and collecting the survey the next day. This represents a response rate of fifty-nine per cent.

The hand-delivering of questionnaires was very successful and effective as I spoke in person with most of the respondents and got a very positive feedback regarding the survey. Before commencing the survey, the questionnaire was pre-tested to ensure that there would be no misunderstanding of questions by respondents. The majority of respondents had no difficulty in comprehending and answering the questionnaire.

Figure 1

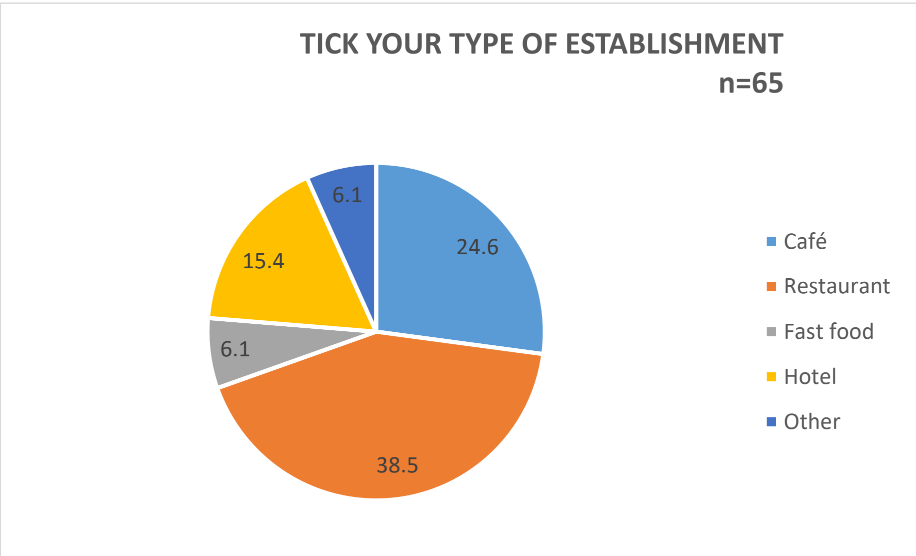

Figure 1 illustrates the type of establishment. The most respondents came from the restaurant sector and the café sector. The least respondents were from the Fast Food sector. Geographical areas surveyed included Dublin, Kildare, Carlow, Meath and Westmeath.

Figure 2

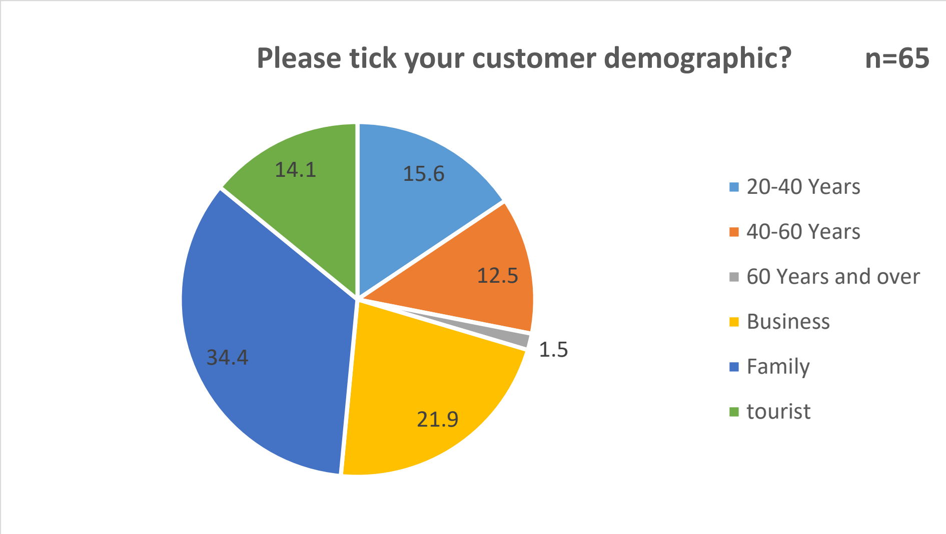

Figure 2 represents the customer demographic of the Leinster area. The majority of the establishments catered for families and business people in the 20-60 age group.

The Survey Instrument

The questionnaire comprised of a series of 22 questions, both open ended and multiple choice.

The purpose of the open-ended questions was to leave the respondent free to offer any replies that seemed appropriate in light of the question.

The advantage of this type of questioning was that the respondents were not influenced by a pretested set of response categories. This provided a basis for judging the actual values and views of the respondent. The questionnaire surveyed the attitudes and use of fresh and processed potatoes in the foodservice sector in the Leinster area.

12. Data Analysis

To analyse the primary research the author used Microsoft Excel. Excel was very effective and provided graphs and tables. The questionnaire responses were coded and the data were inputted into the Excel program allowing the data to be tabulated and formatted into graphs and tables.

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DOI: 10.21427/D7CJ04

I examined and analysed each questionnaire and structured interview. Data from the questionnaire were analysed with the use of statistical tests and with the use of visual analysis displayed in chart form, figures, graphs and tables. Tables and charts provide a distinct and effective way of organising quantitative data and communicating the figures to others, with the aid of computer software (Descombe, 2010).

13. Findings and Discussions

RQ 1 Included/bought fresh potatoes on your menu in the past. (65 responded)

Figure 3

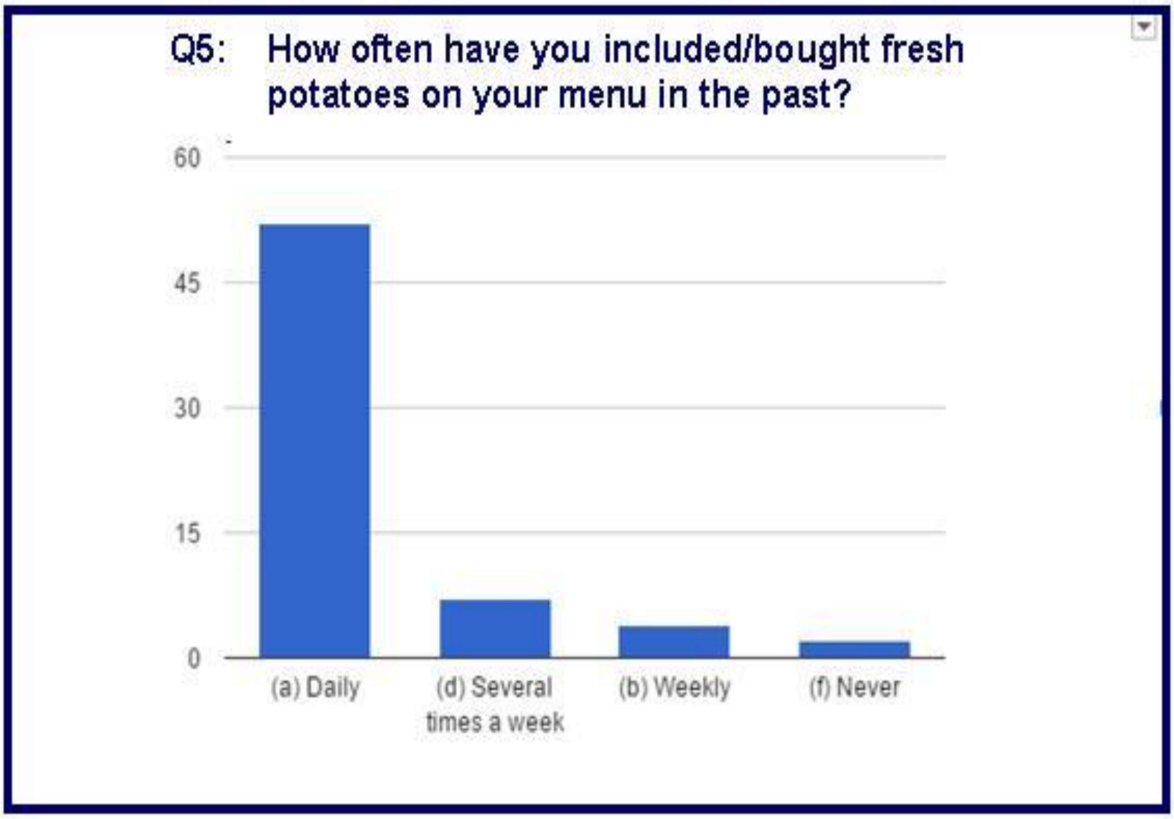

Figure 3 illustrates that the majority of respondents (79.4%) included fresh potatoes on their menu on a daily basis, 11% included fresh potatoes several times a week while only 3% never included fresh potato products on their menu. There certainly seems to be a demand for fresh potatoes in the area surveyed. This is also supported in the report by the Department of Agriculture and Food (2004) where there is strong growth in the catering end of the potato market, prepared potato market, and as out of home consumption trends continue to become more important, it is likely to strengthen demand in the foodservice/catering market.

This insightful information also correlates with the AHDB (2015) where the recent report stated that out-of-home potato servings were up 4.3% year-on-year, growing ahead of the overall market. Part of this increase in potato servings is linked to the strong performance of quick service restaurants.

The increase in potato servings in the foodservice sector is linked to the quick service restaurants and thus this research has limitations as the quick service restaurants were only a small proportion of the overall study and may need to be researched as a stand-alone.

Processed Potato Products

RQ 2 Included /bought processed potato products in the past

Figure 4

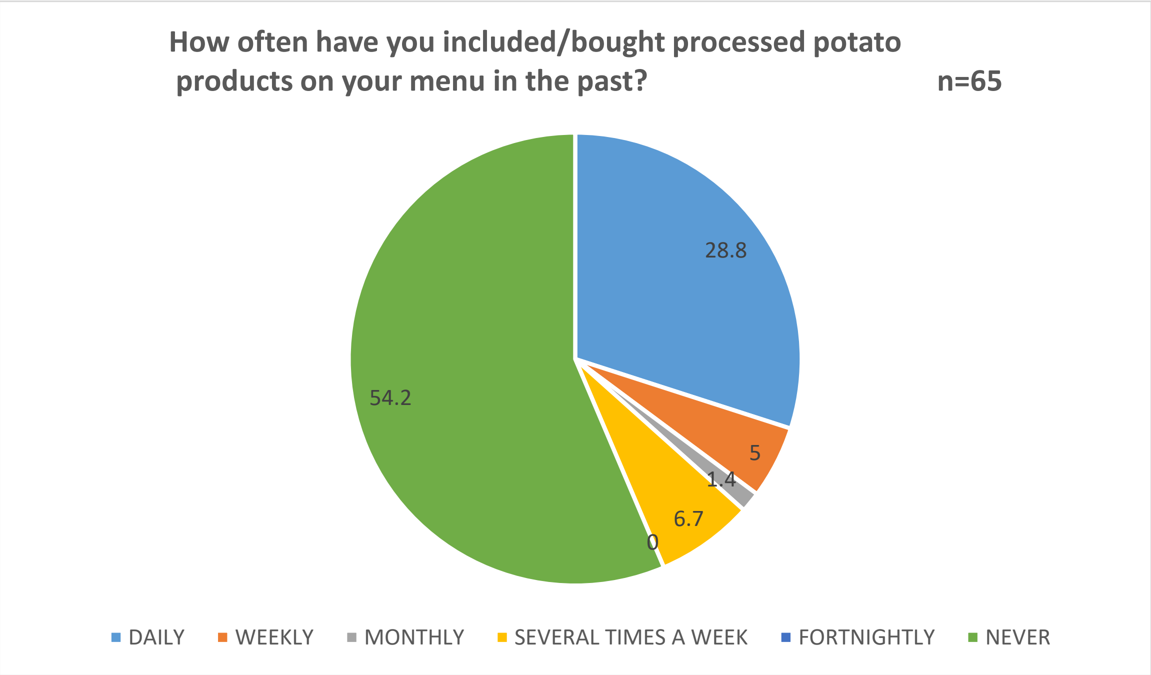

Figure 4 represents inclusion of processed potato products on the menu in the past and of those surveyed over half the respondents never included processed potato products on their menu, this could indicate that they are aware and concerned about the health effects of processed foods.

These findings show that participants are buying fresh potatoes in favour of processed potato products, this contrasts with secondary information where a report by Milnes (2014) indicates that in the foodservice sector chips and French fries (largely frozen import category) account for 72% of the total spend on fruit and vegetables. The findings from the survey also contradicts the report by Mintel (2015) which states 37% of consumers in the Retail sector noted they buy processed frozen potatoes, example chips or wedges, on a weekly basis, making these the third most popular potato products in Ireland.

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DOI: 10.21427/D7CJ04

Further evidence by the IFA (2011) states that in the retail sector changes in consumption patterns leading to reduced consumption of fresh potatoes and a move to processed frozen chips and french fries which are all imported is reducing the size of the Irish potato market annually.

After analysing the findings and investigating the increased demand for processed potato products in the foodservice sector, it seems there is no increase in demand, unlike the findings from the retail sector where there is a definite demand for processed potato products. These findings would lead one to believe that there is very little connection between the retail and foodservices market, perhaps the customers prefer to eat prepared potatoes outside the home as backed up by the Lorcan Burke (Bord Bia, 2014) there is a common misconception that potatoes take longer to prepare and cook, resulting in people choosing potatoes when they dine out.

RQ 3 Demand for fresh potato products from your customers

Figure 5

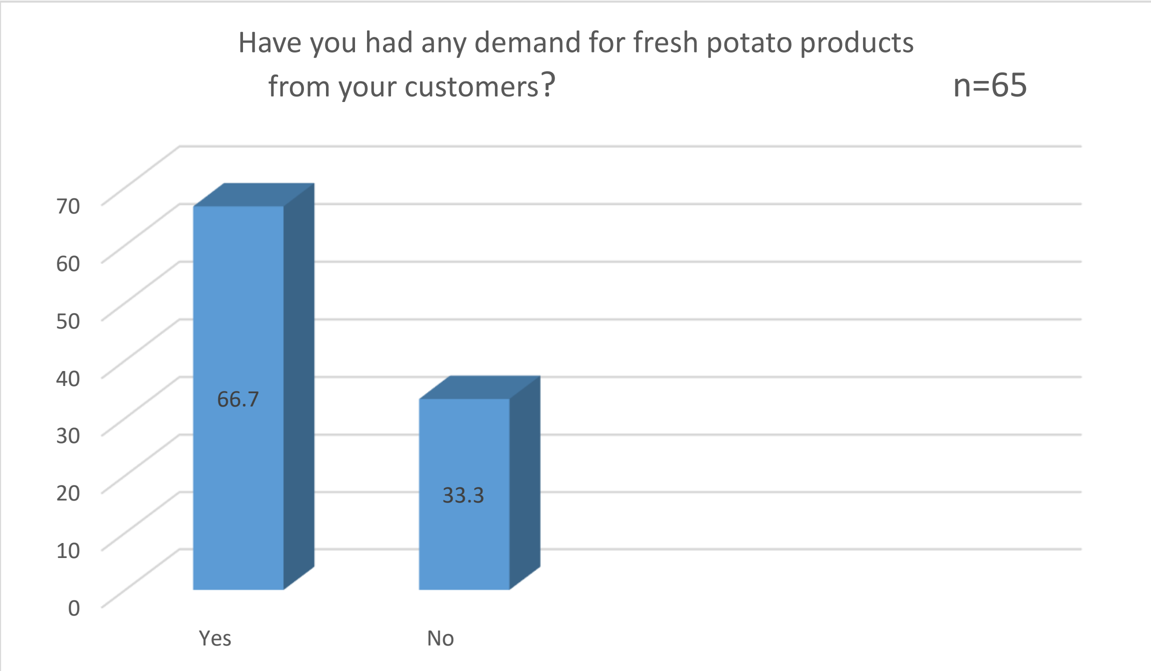

Figure 5 represents the demand for fresh potatoes. 66.7 % of establishments surveyed had demand for fresh potato products from their customers while 33.3% had no demand from customers for fresh potato products. Like all industries the foodservices sector listen to their customers and their demands and preferences. There would seem to be a definite demand for fresh potatoes in the Leinster area.

I also found that there were many and varied reasons for buying fresh potatoes, (RQ 4) some of these reasons included natural, freshness, customer demand and increased sales. This is in keeping with the research where Wynn- Jones (2009) examined how restaurants are using spuds to boost profits and, in his report, potatoes are welcomed by the restaurants he examined.

Extra labour costs and extra work were also mentioned as a disadvantage but overall there seems to be more demand for the fresh potato products from customers and once again this result contrasts with the findings in the retail sector where there is a common misconception that potatoes take a long time to prepare and cook, resulting in people switching to other starchy carbohydrates such as rice or pasta. This is especially true amongst the young generation (potato.ie, 2015). According to Burke (journal.ie, 2015) people perceive potatoes to be less convenient when compared with rice or pasta.

RQ 5 Sources of fresh potatoes products (market, supplier, locally, imported)

Figure 6

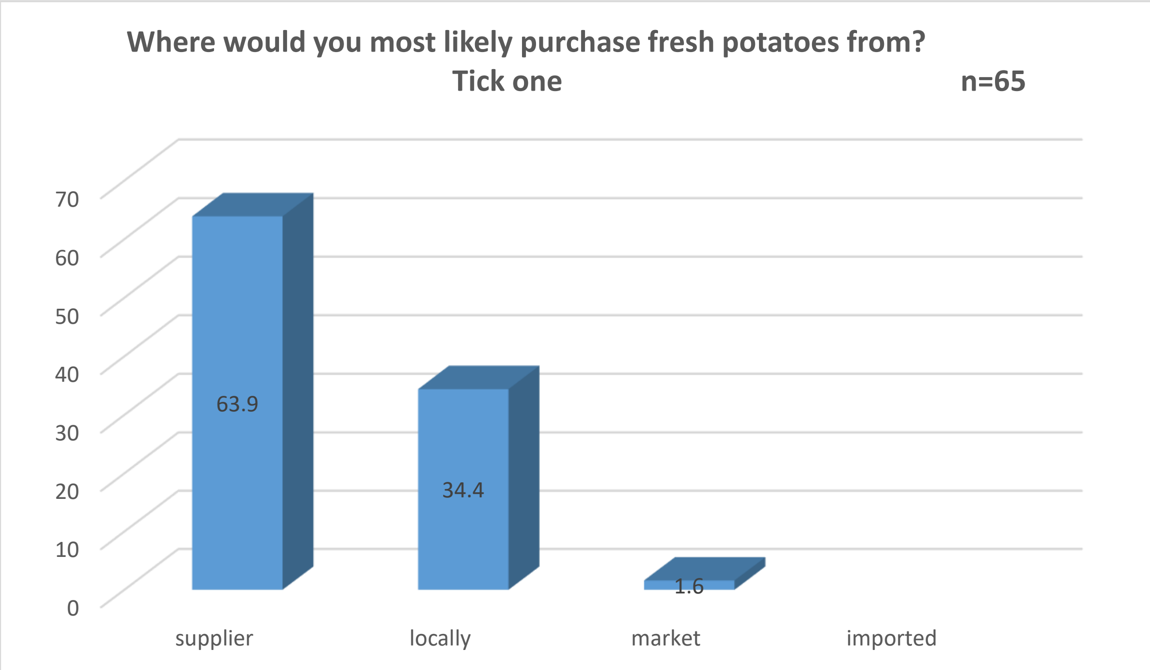

Figure 6 illustrates that 64 % of respondents are most likely to source their fresh potatoes from suppliers, 34.4% source their potatoes locally and 2 % source potatoes from the market taking advantage of shortening the food supply chain. No participants imported their fresh potatoes. A large majority source their potatoes from known suppliers as this seems to be the most convenient method and 34% of the remaining participants bought their supply of fresh potatoes locally.

There are no statistics regarding sales of Irish potatoes in the foodservice sector so this presents a challenge to the study. The majority buy their potatoes from suppliers yet did not state whether they were Irish potatoes, this could put pressure on the potato industry as illustrated by the IFA (2011)

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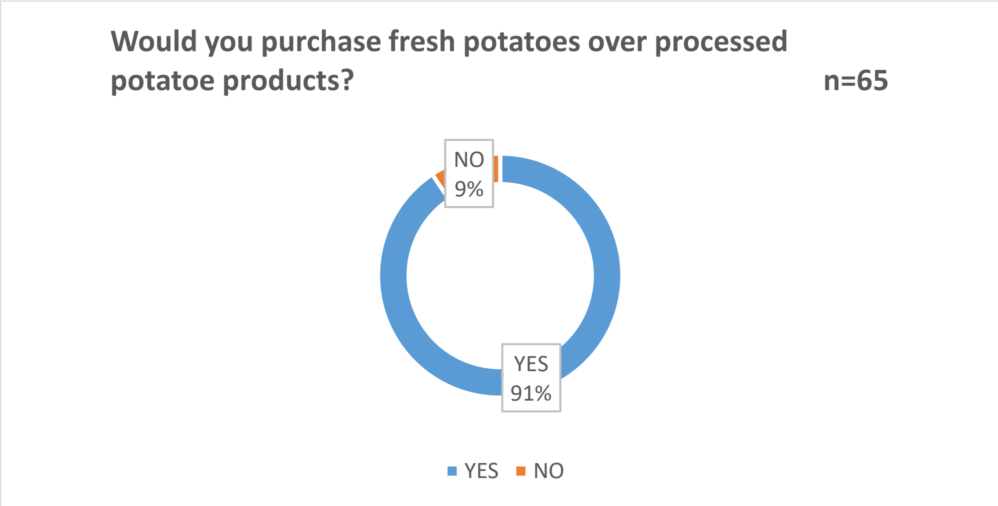
where the threat posed by imports, currently in excess of 50,000 tonnes of fresh potatoes annually, is putting strain on Irish growers.

The supplier option may be the most convenient method of supply but the foodservice sector should insist on sourcing Irish potatoes and work alongside the Irish farmer. The findings indicated that a large proportion of establishments buy more than 150Kg per week which should be significant to other industries.

RQ 6 Preference for fresh potato over processed potato products

Figure 7



This was an open-ended question and an overall majority of 91% would purchase fresh potatoes over processed potatoes as comments include fresh is best, superior quality, natural product and freshness attracts customers. Only a very small minority (9%) said they would not purchase fresh potatoes over process potato products and comments included convenience and value for money as a deciding factor. Respondents from the foodservice sector stated that they were attracted to fresh potatoes because of their superior quality, higher nutritional content and local availability.

The survey illustrates that regarding health concerns of processed potato products there was mixed opinion, most expressed a concern that processed potatoes were high fat and high sugar, causing obesity problems and there was an over-reliance and supply of processed potato products. Too-many additives and chemicals were mentioned and this shows an awareness of the negative effects of processed potato products.

These findings would indicate that the food service sector is educated and knowledgeable about the nutritional value of the potato and the health issues regarding processed potato products. This is in stark contrast to the opinions of consumers in the retail sector where the potato is viewed as a fattening product (Bord Bia, 2014). In the retail sector potato consumption is set to plummet by 40% over the next decade because consumers believe potatoes are fattening, old-fashioned and a hassle to cook, as stated by Bord Bia (Irish independent.ie, 2015). There was a high level of interest among respondents in having fresh potatoes on their menu.

Potatoes are the number one choice to order when it comes to choosing carbohydrates. This is also reflected in the Literature review where Lorcan Burke (Bord Bia, 2014) reported that despite a decline in sales the potato remains Ireland's main carbohydrate. This is also supported in the literature review where a report by DAFM (2008) states that even within the wider catering sector, the traditional potato is being replaced by mini potatoes which enhance potato sales.

RQ 7 Correlations

Figure 8

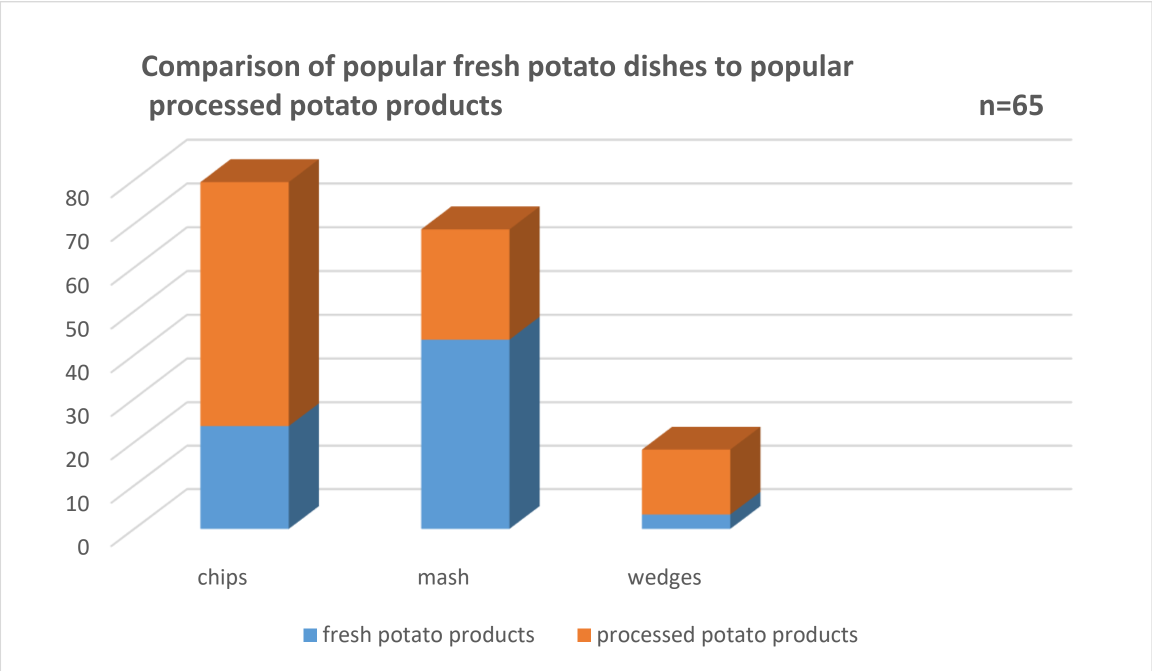


Figure 8 illustrates the similarities in popular potato dishes in fresh potatoes and processed potato dishes. Chips, mash and wedges are the among the most popular dishes in both categories.

https://arrow.tudublin.ie/level3/vol14/iss1/9
DOI: 10.21427/D7CJ04

RQ 8 Correlations

Figure 9

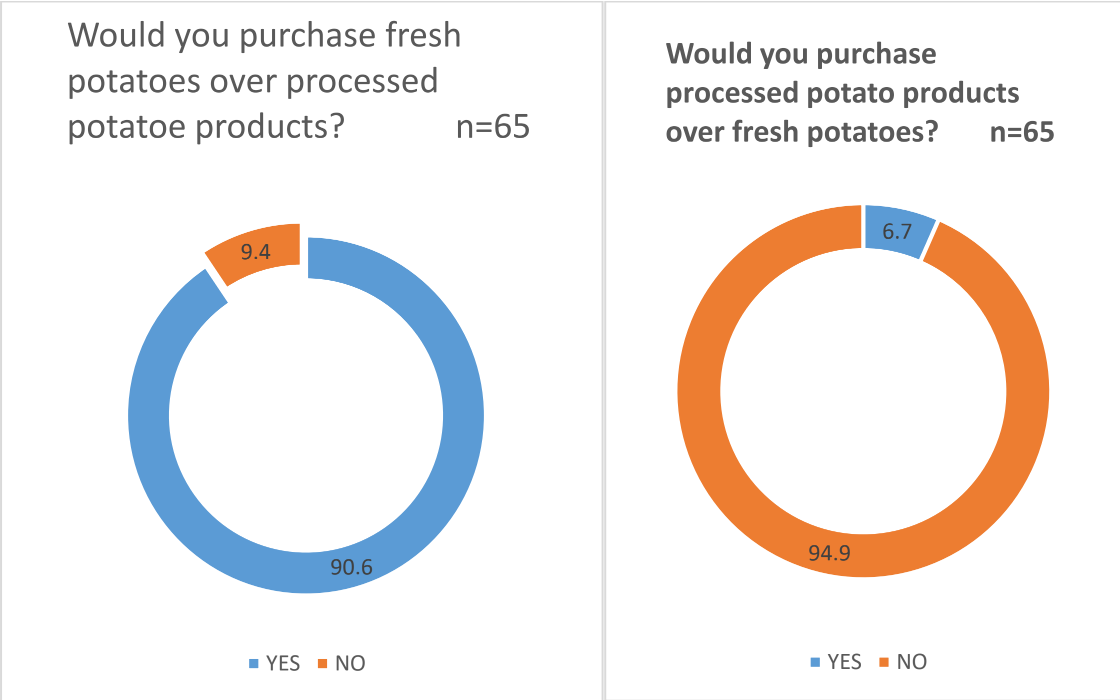
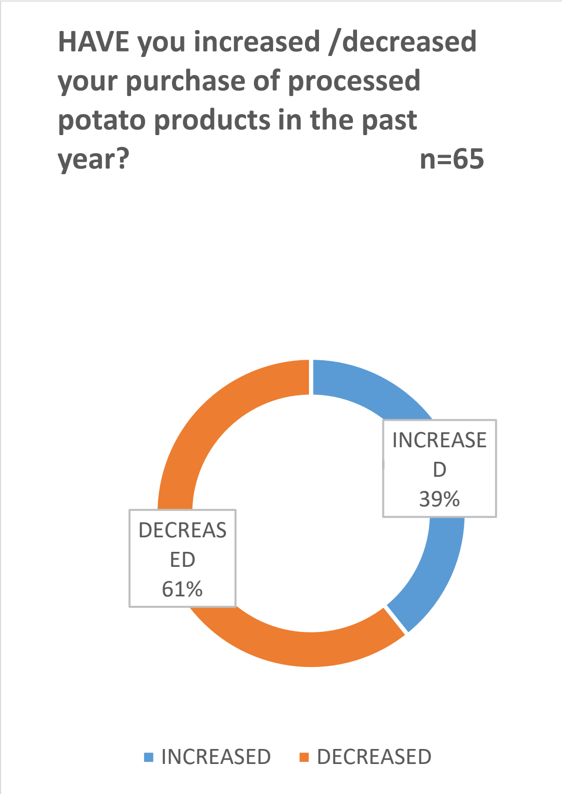


Figure 9 compares the purchase of fresh potatoes over processed and vice versa. There was a strong positive reaction to fresh potatoes and a strong negative reaction to processed potato products. There is a strong motivation to purchase fresh potatoes. As previously discovered this demand for fresh potatoes arises out of a concern for health and a preference to have fresh and natural potatoes over processed potato products.

RQ 9 Correlations

Figure 10



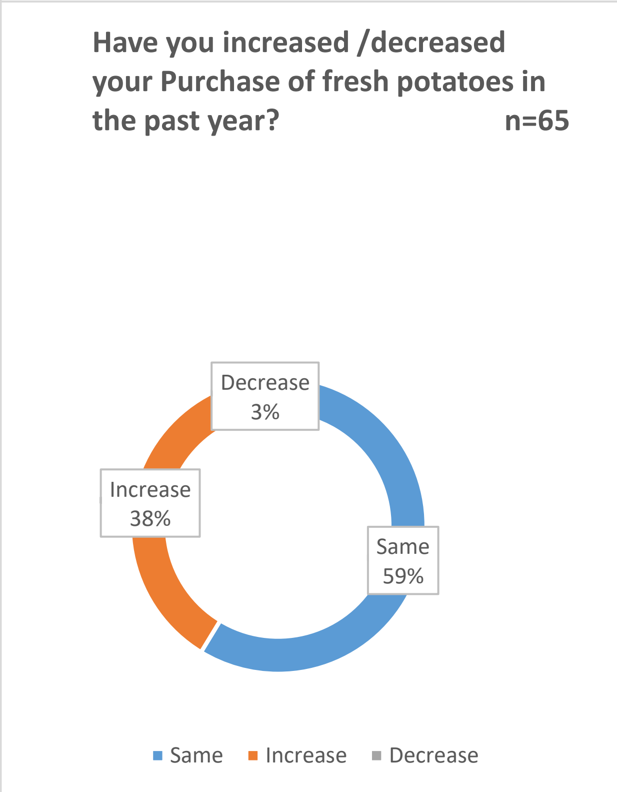


Figure 10 illustrates once again that purchases of fresh potatoes significantly increased or stayed the same compared to the major decline (61%) in purchases of processed potato product. Respondents had many reasons for buying processed potato products, but the main reasons were convenience, cheap, customer demand and practical when dealing with large numbers. The survey indicates that just over half of establishments never included processed potato products on their menu. Overall the majority of participants said convenience was the major factor in their decision to buy processed potato products and that customers demand for chips were high.

This finding is supported by the Department of Agriculture and Food (2004) who believe there is a demand for fresh prepared potato products which has increased in recent years has been driven by consumer needs for quality and convenience. A report by AHDB (2015) also support the evidence whereby processed potato products spend are up 13% between 2014 and 2015. Gould (1999) shows evidence also that French fries and other frozen potato products is the fastest growing segment of the processed potato industry.

https://arrow.tudublin.ie/level3/vol14/iss1/9
DOI: 10.21427/D7CJ04

One of the main findings was that in the foodservice sector chips and mash were the most popular ways to serve potatoes in both the fresh potato products and the processed potato products.

Customer demand has a major influence on chefs/restauranteurs choice of potato dishes on the menu. There appears to be a good relationship between customers and the respondents in the foodservice sector. Presently there is media coverage from Bord Bia promoting the fresh potato, and it is creating an awareness in relation to the benefits of fresh potatoes in the diet. Thus, this media coverage may have prompted the customers to choose fresh potatoes over processed.

These findings contradict the statistics produced by the CSO figures for 2008 which indicates that 52,000 tonnes of frozen processed potatoes are imported (IFA, 2011). These findings are also in contrast to the report by DAFM (2008) which states that even within the wider catering sector, the traditional potato is being replaced by mini potatoes. Mini potatoes were not used/mentioned in the findings from this report.

14. Conclusions and Recommendations

From completing this study, it is very evident that fresh potato consumption is not in decline in the foodservice sector in the Leinster area. This evidence is in sharp contrast to the decline in consumption of fresh potatoes in the retail sector as evident from the secondary research in the literature review.

The study indicated that there is a growing demand for fresh potatoes in the foodservices sector, yet there seems a disconnect between the agricultural sector and the foodservice sector, as illustrated by the sourcing of potatoes where the word Irish potatoes was rarely mentioned. A recommendation arising is that both organisations work together to achieve greater sales in the foodservice sector and a fairer price to the farmer. The IFA (2015) recommended a fully audited and traceable branding system for all Republic of Ireland potatoes to ensure the products that are grown in Ireland are available and identifiable to consumers in the market place and in the catering / services sector.

It is recommended that to increase consumption, resources must be put in place for well-timed marketing plan and target promotions of fresh potatoes to include promotions on sustainability of locally grown produce and the health benefits of eating potatoes. Organisations representing the foodservice sector should promote the health benefits of potatoes and encourage chefs in the industry to use and promote potatoes.

It is also recommended that there is a renewed attitude and renaissance towards the fresh potato by chefs in the foodservice sector. The potato also needs to be considered as an ingredient in a meal rather than as a core component. It is further recommended to modernise the potato and to motivate chefs to be creative and inventive regarding fresh potato dishes on the menu. Promotions and competitions would encourage and develop chef talents as chefs who are very passionate and loyal to the humble spud, as observed in the research.

Potatoes remain Ireland's preferred carbohydrate of choice but needs a 'modern slant'. Consumers need to be educated how to use them 'fashionably' within their own demographic. The research recommended among other things to broaden the image of the potato.

The industry needs to work with key influencers to improve their understanding of the crop's nutrition and sustainability credentials. It is recommended to convert Research and Development into practical beneficial changes in business through events, advisory literature and ecommerce.

It is recommended that the primary focus should be to further develop and research the potato as a fresh and convenient product, targeting the foodservice sector. The potato should be developed and launched as a new product development project, resulting in many new lines as the potato is a very versatile product. Innovation could play a key role in the development of potato products. It is recommended that resources need to be provided to identify market opportunities. Government should introduce a policy and an incentive to potato growers to increase potato production and to ensure that research of the Irish potato product continues to safeguard the future of the Irish potato, as an element of our Irish heritage. Further development and promotion of the fresh potato could be highlighted by the tourist sector, where Ireland's green image is a successful initiative, given the fact that potatoes are a traditional and natural product. Maybe the tourist sector could promote the potato as part of our national heritage in their marketing agenda?

15. Limitations and Suggestions for Further Research

Research on potatoes remain proportionally under-represented in the hospitality literature. In conclusion, the aim of the research was to examine the attitudes to and use of fresh and processed potato products in the foodservice sector in Leinster, and to gain an understanding of the industry. This aim was achieved in some part, but the topic deserves further study as there is no comparative research with which to contrast findings. There is limited information regarding potatoes and processed potato products in the foodservice sector compared to the vast information available in the retail sector. It is recommended that a further, more detailed study into the consumption of fresh potatoes and processed potato products should be undertaken throughout the whole of Ireland as there is no information available comparing the cities to the country towns. It is also recommended

https://arrow.tudublin.ie/level3/vol14/iss1/9
DOI: 10.21427/D7CJ04

that further research includes all food establishments in the foodservice sector such as schools, colleges, hospitals, speciality shops and quick service restaurants, as quick service restaurants have a considerable contribution to make to the fresh potato market.

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