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Research Symposium

Programme & Abstracts

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Whitireia
NEW ZEALAND

Whitireia Auckland Research Symposium

Date – **31st August 2017**		
9:30 - 9:55	Registration *Reception*	
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	Presentation sessions	
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10:30 – 11:00	Hearing parent voices as their infants transition to early childhood centres **Helen Lane & Sujatha Gomathinayagam**	The effect of service firms' acceptance and usage of social media on service innovation and market performance **Sharan Kaur Garib Singh**
11:00 – 11:30	Let's tell a story together **Karishma Kelsey & Andrew Zaliwski**	Four types of credit decision-makers **C. A. Saliya**
11:30 – 11:45	**Morning Tea** *213*	
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12:15 – 12:45	A cluster-based recommender system **Reza Rafeh**	Nutrition literacy among young consumers: An exploratory study in New Zealand **Nisha Rookshana & Yalim Ozdinc**
12:45 – 1:15	Preliminary review of research project conducted in 2016: An analysis of employers' perceptions of business graduates competencies **Adnan Iqbal & Lawton Hakaraia**	What derives purchase-decision for packaged food? Price, health, or else **Yue Yin & Yalim Ozdinc**

1:15 – 1:45pm	**Lunch** *213*	
1:30 – 2:00pm	**Poster session** *213*	
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1:45 – 2:15	Applications of cognitive concepts in teaching **Don Nimal Kannangara**	
2:15 – 2:45	Embedding sustainability in tertiary education: A communication lecturer's journey. **Adele Carson**	
	Afternoon tea *213*	

Welcome

A very warm welcome to all attendees and presenters at the Whitireia Auckland Research Symposium. We are delighted that you are able to attend our fifth annual symposium. The relationship between innovation and applied education is an important aspect of what makes the polytechnic sector a major contributor to growth and development both for industry and students. Research and sharing of findings is part of building this linkage.

The symposium provides a space for researchers to share their work and seek feedback. It also offers us all a chance to draw inspiration and new ideas. Thank you for your participation and support both of the symposium and of each other. We hope you find the day inspiring and enjoyable.

Whitireia Auckland Research Symposium Organising Committee

Acknowledgements

The Committee would like to thank:

- The reviewers for the excellent quality of their feedback to authors
- The session chairs, for giving their time to keep order
- Whitireia New Zealand for allowing us to use the campus and facilities
- The Programme Managers for their support

Especial thanks to Jill Dawson and Barbara Kneur for assisting in running the day.

Reviewer List

Paul Gilmour
Barbara Kneuer
Bo Lin
Steve McKinlay
Thelma Moses
Rohit Pande

Keynote: Innovation, Artificial Intelligence and Business

Jonathan Miller
Callaghan Innovation

Jonathan is in the Technology Futures Team- at Callaghan Innovation (focused on Data & IoT). His area of expertise is at the interface between the worlds of business and technology/science. Jonathan has strong experience in technology strategy, technology transfer, commercialisation and client relationship management, as well as R&D experience inside a large tech company and a UK based start-up. He also recently served a 2 year term on the board of the New Zealand Technology Industry Association.

Callaghan Innovation is the government’s business innovation agency. We’re here to liberate innovators. We connect businesses to the networks, capability and funding they need to make their ideas happen. We challenge both our customers and New Zealand to step up to the challenge of technological change. We have more than 200 of New Zealand's leading scientists dedicated to solving tough technical problems, our programmes help hundreds of companies improve their ability to innovate, and we boost business R&D through more than $140m a year in grants.

Jonathan will talk about Artificial Intelligence, Augmented and Virtual Reality and the Internet of Things, and how New Zealand businesses are reacting and taking advantage of these technologies. He will also comment on how Research Organisations can partner with industry.

Presentation Abstracts

Adele Carson
Embedding sustainability in tertiary education: A communication lecturer's journey.

Sharan Kaur Garib Singh
The effect of service firms' acceptance and usage of social media on service innovation and market performance

Adnan Iqbal & Lawton Hakaraia
An analysis of employers' perceptions of business graduates competencies: A case of the New Zealand Public Sector organisations

Don Nimal Kannangara
Applications of cognitive concepts in teaching

Karishma Kelsey & Andrew Zaliwski
Let's tell a story together

Helen Lane & Sujatha Gomathinayagam
Hearing parent voices as their infants transition to early childhood centres

Bo Lin
The brand loyalty study of New Zealand fast moving consumer goods industry

Rohit Pande
Online hospitality accommodation reviews: threat or opportunity?

Reza Rafeh
A cluster-based recommender system

Nisha Rookshana & Yalim Ozdinc
Nutrition literacy among young consumers: An exploratory study in New Zealand

C. A. Saliya
Four types of credit decision-makers

Yue Yin & Yalim Ozdinc
What derives purchase-decision for packaged food? Price, health, or else

Embedding sustainability in tertiary education: A communication lecturer's journey.

Adele Carson
TOI-OHOMAI Institute of Technology

Worldwide there is growing concern over sustainability, observed in our homes, among governments, within businesses and among education providers. Many tertiary education providers have been committed to embedding sustainability for some time, largely due to the Talloires Declaration (Clugston & Calder, 1999). At Toi Ohomai Institute of Technology, sustainability incorporates six aspects, including financial and environmental sustainability. The researcher was informed by post graduate student feedback that Toi Ohomai requires sustainability to be embedded in the Masters programme. The researcher's preliminary investigations found there was a gap and that sustainability is actually required on all of our programmes. This study is in the early stages, but aims to determine:

In the researcher's experience, to what extent financial and environmental sustainability are embedded into education?
How successful is embedded sustainability in tertiary education elsewhere in the world?
How could sustainability be embedded in education better in the future?

Self-analysis was a key methodology. A literature review regarding the Talloires Declaration and how other tertiary educational facilities were implementing sustainability was also valuable.

An organisational sustainability analysis found that definite and obvious efforts are being made to promote financial sustainability, but fewer tactics concerning environmental sustainability are in place. An analysis of communications papers taught, including course descriptors, assessments and teaching material showed little reference to organisational or environmental sustainability issues. A review of literature around what other educational institutes worldwide are doing showed barriers around implementation to be an issue (Lindgren, Rodhe & Huisingh, 2005), the need for "affective learning" in sustainability education (Shephard, 2007, p.95) and the need for institution leaders and academics to endorse and engage in sustainability (Clugston & Calder, 1999).

In conclusion, this research should improve the researchers teaching, preparing students' more for sustainability challenges ahead. It could highlight to management the need for commitment to a more environmental focus, in line with stated goals. Finally, it may inspire other lecturer's to evaluate their courses and if necessary, nudge change.

Clugston, R. M., & Calder, W. (n.d.). *Critical dimensions of sustainability in higher education.* Retrieved from http://ulsf.org/wp-content/uploads/2015/06/Critical_dimensions_SHE1.pdf

Lidgren, A., Rodhe, H. & Huisingh, D. (2005). A systemic approach to incorporate sustainability into university courses and curricula. *Journal of cleaner production, 14,* 797-809.

Shephard, K. (2007). Higher education for sustainability: seeking affective learning outcomes. *International Journal of Sustainability in Higher Education*, *9 (1),* 87-91.

The effect of service firms' acceptance and usage of social media on service innovation and market performance

Sharan Kaur Garib Singh
Whitireia New Zealand

Introduction:

The Malaysian Productivity Centre (MPC) reported that one of the contributing factors in the increased information and communication technology (ICT) consumption in Malaysia is the strong usage of social media (SM). Hence this study is timely and pertinent because the services sector is the biggest contributor to Malaysia's GDP (MPC, 2016).

Objectives:

The aim of this study is to investigate the effect of the acceptance and usage of SM on market performance through service innovation (SI) within the Malaysian services sector. Narayanan and Hosseini (2014) argued that the usage of and investments in ICT would drive innovation in the Malaysian services sector. Investments in SM correspond with investments in ICT because firms use software tools to analyse SM data (Batrinca & Treleaven, 2015) to profile users, which help identify buying patterns.

Method:

This study includes a survey of 388 employees of 378 service firms in Malaysia. A list of service firms was conveniently generated from online business directories (i.e. www.smecorp.gov.my; www.matrade.gov.my; and www.hrdf.com.my). Thereafter, the HR departments of the firms were contacted for a list of potential respondents from its marketing department. Upon agreement, we emailed or personally delivered the questionnaires to the marketing personnel. Hypotheses testing involve correlation, multiple regression analyses and bootstrapping test.

Results:

Results reveal that (1) ease of use and employees' understanding of SM; (2) employees' positive attitude towards SM; and (3) the influence of others on employees to use SM respectively have a positive impact on SI, which leads to market performance. Thus SI mediates the relationship between the acceptance and usage of SM and market performance.

Conclusions:

This study reveals SM as an effective tool for service firms to strengthen its innovative capability and market performance. SM usage will drive service firms to up-skill their employees to potentially apply market research strategy (Gustafsson, Kristensson, & Witell, 2012), use analytics for data analyses (Batrinca & Treleaven, 2015), and invite lead customers to co-create future products (Pletikosa & Michahelles, 2011).

Batrinca, B. & Treleaven, P. C. (2015). Social media analytics: A survey of techniques, tools and platforms. *AI & Society, 30*(1), 89-116.

Gustafsson, A., Kristensson, P., & Witell, L. (2012). Customer co-creation in service innovation: A matter of communication? *Journal of Service Management, 23*(3), 311-327.

MPC. (2016). *23rd Productivity Report 2015/2016.* Retrieved from http://www.mpc.gov.my/wp-content/uploads/2016/06/Productivity-Report-2016.pdf.

Narayanan, S., & Hosseini, M. P. (2014). Drivers of innovation in the Malaysian services sector: An analysis based on firm-level data. *Institutions and Economies*, *6*(1), 95-118. Pletikosa, I. & Michahelles, F. (2011). *The toolkit approach for end-user participation in the Internet of Things.* Retrieved from https://www.researchgate.net/publication/227244683

Preliminary review of research project conducted in 2016: An analysis of employers' perceptions of business graduates competencies: a case of the New Zealand public sector organisations

Adnan Iqbal
Lawton Hakaraia
Whitireia New Zealand

Introduction:
This is a preliminary review of the research project conducted in 2016 on the compatibility of courses taught in NZ tertiary education organisations alongside the employers' requirements for knowledge application and the wider use of transferrable soft skills such as communication, public speaking, problem solving, and the ability to learn new skills whilst in employment. Tertiary students approach learning institutions such as polytechnics and universities with the assumption that they will be taught the requisite knowledge and skills to become competent employees and possible future leaders. Alternatively, employers are requiring candidates to be employable for not only hard skills (those skills which are taught and developed over time) but also more importantly 'transferrable soft skills' which can be more difficult to assess in candidates because they are essentially intangible.

Method:
For this exploratory study, a mixed approach (qualitative and quantitative) has been deployed. On-line surveys have been distributed to the HR managers/ practitioners from New Zealand public sector organisations via the Human Resource Institute New Zealand (HRINZ), and have also been distributed to tertiary students in Auckland. In order to get in-depth insights, focus interviews (qualitative method) will be conducted in the latter stage of the research process. Whilst we have received small but significant responses from employers and similar with tertiary student respondents to date, we would prefer to continue with our surveying in order to collect sufficient data from a wider sampling audience.

Conclusion and Implications:
The preliminary results of this study revealed the skills and competencies that public sector employers would like to see in future graduates are technical skills, business skills, customer services, Treaty of Waitangi understanding, as well as learning about other cultures. Some respondents highlighted that tertiary students not only require the core competencies (hard skills), but must also have the essential range of broader people management capabilities (transferrable soft skills) in order to secure employment.

Application of Cognitive Concepts in Teaching

Don Nimal Kannangara
TOI-OHOMAI Institute of Technology

There are computer programming concepts which are complex and hard to understand. Many students have had difficulties with such concepts at TOI-OHOMAI Institute of Technology; as a result many students have failed in computer programming courses. Therefore, it was crucial to improve both teaching and learning in this regard. This research was based on a study carried out to explore the possibility of improving teaching such concepts. A number of researchers have studied the limitations of the Working Memory (WM) of the human brain (Clark et al., 2006; Smith, 2000; Smith & Jonides, 1999). A number of Memory Models have been proposed describing how inputs to the human brain are processed (Kieras et al., 1999). The literature on different cognitive loads: intrinsic, extraneous and germane, suggests the importance of manipulating and managing learners' cognitive loads for effective learning (Clark et al., 2006). Some research has also discussed the ways of preparing teaching materials for better utilisation of WM (Yuan et al., 2006). This research was carried out in the classroom environment, teaching complex computer concepts using specifically prepared teaching materials, based on the Executive-Process Interactive Control (EPIC) architecture Memory Model to utilise WM effectively. The effectiveness of the use of new teaching materials was evaluated using a questionnaire and also a number of classroom tests. Since the introduction of the new teaching materials, the performance of students has improved so they achieve higher grades. This result clearly supports the success of teaching activities designed in accordance with the principles of Cognitive Load theory (CLT) with properly managed intrinsic, germane, and extraneous cognitive loads and also EPIC architecture (Kieras et al., 1999). These findings would ideally lead to further studies in designing kinaesthetic and visual teaching materials based on EPIC architecture and also balancing cognitive memory loads to improve teaching programming concepts.

Clark, R., Nguyen, F., & Sweller, J. (2006). *Efficiency in learning: Evidence-based guidelines to manage cognitive load.* San Francisco, CA: Pfeiffer.

Kieras, D. E., Meyer, D. E., Mueller, S., & Seymour, T. (1999). Insights into working memory from the perspective of the EPIC architecture for modelling skilled perceptual-motor and cognitive human performance. In A. Miyake & P. Shah (Eds.), *Models of working memory: Mechanisms of active maintenance and executive control* (pp. 183–223). New York, NY: Cambridge University Press.

Smith, E. E. (2000). Neural bases of human working memory. *Current Directions in Psychological Science, 9*, 45-49.

Smith, E. E., & Jonides, J. (1999). Storage and executive processes in the frontal lobes. *Science*, *283*, 1657-1661.

Yuan, K., Steedle, J., Shavelson, R., Alonzo A., & Oppezzo, M. (2006). Working memory and fluid intelligence and science learning. *Educational Research Review, 1*(2), 83–98.

Let's tell a story together

Karishma Kelsey
Andrew Zaliwski
Whitireia New Zealand

Aim: The teaching solution presented in this paper was implemented to overcome the common learning problems encountered by authors, during years of practice in the teaching of applied business courses.

Background: Whitireia Auckland is a multicultural environment where both teachers and students come from a variety of countries and cultures. The typical problems encountered with students include: the inability to comprehend case studies, language problems, different learning styles, a different understanding of leadership and engagement in teamwork related to various management traditions and a lack of student participation, resulting in high student failure rates.

Methodology: The above problems were solved on the basis of the novelty use of several tools usually used separately: a combination of case studies with visualization and current representation of knowledge related to the case study. The visualization context is provided by "rich picture"to create a shared understanding among students. The other key ingredient of the proposed solution is the case study which is written based on the Pacific storytelling and problem solving methodology of Talanoa.

Findings: Studies and surveys made from 2009 to the present are promising. There is a visible improvement in students' grades, and observed changes in students' behavior towards more active in-class participation.

Recommendation for Researchers: The current results show that the proposed method has the potential to improve students' experience in applied business courses. The project is ongoing and will undergo progressive changes while collecting new experiences. The method may be applied to other types of courses. By focusing on the storytelling and rich picture, we avoid technological bias when we teach business problem-solving. We focus instead on teaching students the social-organizational interactions influencing the problem solution.

Hearing parent voices as their infants transition to early childhood centres

Helen Lane
Sujatha Gomathinayagam
Whitireia New Zealand

Parents in New Zealand are increasingly using early childhood education for their infants. This research sought to find out more about the parents' feelings and thoughts at the time of anticipated use of an early childhood service, and then later their reflections in relation to the actual experience. The aim was to find out about the apprehensions, hopes and aspirations the parents had in relation to using early childhood services for their infants, with the view that knowing more about this could support us as Early Childhood Educators to think about this time of transition. A narrative method was used to capture some of the detail involved in being a parent who was planning and then making use of an early childhood service. Five parents were interviewed before and after they started using the early childhood services and the research findings were analysed qualitatively. The themes found within the interviews were linked to some key concepts from psychoanalytic theory. Our findings noted both concerns and hopes of parents. The parents were emotionally upset in being separated from their children and in juggling multiple responsibilities but they also spoke of a range of hopes as to what early childhood education could offer to their children and which differed to what they might offer at home. All the parents in the studies planned to continue with early childhood education and had confidence in the environments that they were using. Understanding more about this transition experience could help participant groups think more about what is involved in early use of infant out of home services.

The brand loyalty study of New Zealand fast moving consumer goods industry

Bo Lin
Whitireia New Zealand

The fast moving consumer goods industry (FMCG), is one of the pillar industries in the world. With the growing competition in the FMCG the question arises as to how to attract and maintain market share for New Zealand FMCG enterprises given its unique market background. Marketing formats are no longer only focussed on product marketing but gradually shifting towards building stable relationships with consumers (Morgan,1994). There is a growing literature suggesting that consumers' ways and attitudes change with social transitions and economic development.

Objective:
The objective is to explore the key factors that influence consumer loyalty in FMCG markets from the consumer's perspective

Methodology:
The study adopted quantitative research methods, conducting an online survey. To understand loyalty from a behavioural perspective the models of Rackley (2014) and Punniyamoorthy and Raj (2007) were utilised, giving a set of 14 factors such as commitment, satisfaction and referral. Due to time limitations, only 111 questionnaires were received, of which 100 questionnaires had at least 90 percent of the questions completed.

Results:
Six out of the fourteen factors appear to have a strong positive impact on consumer brand loyalty: namely; item price, discount, word of mouth, brand image, product quality and functional benefits. The results show that item price is one of the most important factors on consumer's brand loyalty. Switching cost, although lower than overall average of fourteen factors, appears important in toiletry, cosmetics and processed food categories. Consumers appear price sensitive in FMCG market. Thus, as a marketing manager, it is important to make physiological price strategy to meet consumer's expectation from item price, discount and switching cost perspective.
This study proposes that future managers should study the factors that will impact on consumer brand loyalty which may result in delivering effective marketing to build brand loyalty in New Zealand FMCG market.

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *The Journal of Marketing*, 58(3), 20-38.

Punniyamoorthy, M., & Prasanna Mohan Raj, M. (2007). An empirical model for brand loyalty measurement. *Journal of Targeting, Measurement and Analysis for Marketing, 15*(4), 222-233.

Rackley, J. (2014). The Brand Loyalty Advantage. Demand Metric Research Corporation.

Online hospitality accommodation reviews: threat or opportunity?

Rohit Pande
Whitireia New Zealand

Hotel guests have been found to trust traditional word-of-mouth reviews that are placed online by other guests in order to make hotel booking decisions (Mack, Blose, & Pan, 2008). Such data is openly available on websites like Tripadvisor (TripAdvisor LLC, 2017), Expedia (Expedia Inc., 2017a) and Wotif (Expedia Inc., 2017b) which are some of the most popular travel and tourism-related websites in the world.

As a result of the above, hotels are left with the only option of retrospective management of the "cyberspace of opinion" (Sparks, So, & Bradley, 2016). This represents a lack of control over public perception which can be critical to a hotel's future business. However, this loss of control over online reputation can also be viewed as an opportunity to gain market intelligence by assessing the performance of competitors from the perspective of the customers and gauging their market positioning (Ali Köseoglu, Ross, & Okumus, 2016; He, Zha, & Li, 2013).

Therefore this study aims to assess the issues in this area and tries to determine new methods for gaining such market intelligence.
This study has two research questions:

1. What is the current status of online market knowledge about a hotel's performance?
2. Which technologies can be used to analyse available hotel industry data in order to create market intelligence?

The study has been done through a review of the latest literature and a review of the latest technologies that can help achieve such competitive advantages for hospitality organisations. Some key hospitality business intelligence solutions and technologies and their potential advantages and disadvantages are also discussed.

Ali Köseoglu, M., Ross, G., & Okumus, F. (2016). Competitive intelligence practices in hotels. *International Journal of Hospitality Management*, *53*, 161–172. https://doi.org/10.1016/j.ijhm.2015.11.002

Expedia Inc. (2017a). Expedia.co.nz. Retrieved July 14, 2017, from https://www.expedia.co.nz/

Expedia Inc. (2017b). Wotif. Retrieved July 14, 2017, from https://www.wotif.co.nz/?origUrl=https%3A%2F%2Fwww.wotif.com%2F

He, W., Zha, S., & Li, L. (2013). Social media competitive analysis and text mining: A case study in the pizza industry. *International Journal of Information Management*, *33*(3), 464–472. https://doi.org/10.1016/j.ijinfomgt.2013.01.001

Mack, R., Blose, J., & Pan, B. (2008). Believe it or not: credibility of blogs in tourism. *Journal of Vacation Marketing*, *14*(2), 133–144. https://doi.org/10.1177/1356766707087521

Sparks, B. A., So, K. K. F., & Bradley, G. L. (2016). Responding to negative online reviews: the effects of hotel responses on customer inferences of trust and concern. *Tourism Management*, *53*, 74–85. https://doi.org/10.1016/j.tourman.2015.09.011

TripAdvisor LLC. (2017). TripAdvisor. Retrieved July 14, 2017, from http://www.tripadvisor.co.nz/

A Cluster-based Recommender System

Reza Rafeh
Wintec

Introduction:
E-commerce is growing rapidly offering a vast number of products and services to the users. Facing with a wide range of options, users cannot decide which one would be the most suitable option. Recommender systems help users to find the most suitable item easier and faster. To do this, recommender systems apply machine learning algorithms to user's data to build sophisticated models to predict the user's behavior in the future. There are many recommender systems employed by companies to increase their profitability. Some examples include Amazon, Movielens, Youtube, Facebook, and Linkedin.

Objectives:
The aim of this project is to provide a cluster-based recommender system which cluster users based on their history (previous interactions with the system) to increase the accuracy of recommendations.

Method:
The proposed approach consists of two phases: offline and online. In the offline phase, users are clustered using genetic algorithm. In the online phase, the appropriate cluster or clusters and neighborhood are selected for the target user. Then, his/her interesting items (not chosen yet) are determined using interesting items of his/her neighbors.

Results:
After implementing the proposed approach for the recommender system, it was evaluated in terms of accuracy (the portion of recommended items which have been interesting for the users) and compared it with several existing recommender systems. The results show that our approach outperforms other approaches.

Conclusions:
Having a good recommender system encourages users to buy new products, find new friends, or watch new videos. On the contrary, an inaccurate recommender system may discourage the users and motivates them to sign out of the system or ignore all recommendations.

The approach we proposed for recommendation achieved promising results. We hope by completing the project we can use this approach in developing commercial recommender systems.

Nutrition knowledge among young consumers: An exploratory study in New Zealand

Rookshana Nisha
Yalim Ozdinc
Whitireia New Zealand

Nutrition information panels (NIP) on food packages are informative for consumers in their decision-making for food purchases (Ia Cruz-Gongora et al., 2012). They provide useful information such as recommended daily intake amounts and what is in the food. These help consumers make healthier choices while shopping for food (Mhurchu & Gorton, 2007), and people usually perceive NIP on food packages as a 'friendly' aid (Babio et al., 2014, p.1403).

However, not every food shopper may find them helpful as the NIP jargon contains names of micro/macronutrients and measurement units that require some basic nutrition knowledge for comprehension. Research from around the world, for instance, in Europe (Drichoutis, Lazaridis, & Nayga, 2005; Grunert, Fernandes-Celemin, Wills, Genannt, & Nureeva, 2010), the US, (Byrd-Bredbenner, Alfieri, & Kiefer, 2000), Canada (Lindhorst, Corby, Roberts, & Zeiler, 2007; Mazier, & McLeod, 2007), and Korea (Yon & Hyun, 2008) have shown that consumers find NIP difficult to understand. New Zealand studies have echoed similar results suggesting that people lacking sufficient nutrition knowledge can inadvertently make unhealthy food choices (Gorton, 2007; Gorton, Mhurchu, Chen, & Dixon, 2008; Mhurchu & Gorton, 2007; Signal et al., 2008).

This study aims to test nutrition knowledge among conveniently selected young consumers (n=476, 61% female, 75% below 30 years of age) in two New Zealand cosmopolitan metropolises. Using a bilingual instrument (English and Māori), we provided subjects with two correct and two incorrect statements containing information on micro (sodium/salt) and macronutrients (fat, carbohydrates, proteins) that often appear on NIP. Across the sample, nutrition knowledge ranked somewhat good, M=2.34 (SD=.65) on a 4-point scale (1=poor). Nearly two-thirds (64%) of subjects were aware that brown sugar is not a healthy alternative to white sugar. More than half (56%) knew that the micronutrients of sodium and salt are not the same. However, hits on correct answers to the statements on fats and proteins were much lower as three-quarters (76%) did not know that fat in margarine is less than fat in butter. A consumer misperception (by 92%) also occurred that milk powder is richer in protein than regular milk. These results have practical implications for consumers, food marketers, and policymakers.

Babio, N., Vicent, P., Lopez, L., Benito, A., Basulto, J., & Salas-Salvado, J. (2014). Adolescents ability to select healthy food using two different front-of-pack food labels: a cross-over study. *Public Health Nutrition, 17*(06), 1403-1409.

Byrd-Bredbenner, C., Alfieri, L., & Kiefer, L. (2000). The nutrition label knowledge and usage behaviours of women in the US. *Nutrition Bulletin*, *25*(4), 315-322.

Drichoutis, A. C., Lazaridis, P., & Nayga, R. M. (2005). Nurtrition knowlege and consumer use of nutritional food labels. *European Review of Agricutlural Economics, 32*(1), 93-118.

Gorton, D. (2007). Nutrition labelling-Update of scientific evidence on consumer use and understanding of nutrition labels and claims. *Report prepared for New Zealand Food Safety Authority and the Ministry of Health*.

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Grunert, K. G., Fernandes-Celemin, L., Wills, J. M., Genannt Bonsmann, S. S., & Nureeva, L. (2010). Use and understanding of nurtition information on food labels in six European countries. *Journal of Public Health, 18*(3), 261-277

la Cruz-Gongora, D., Villalpando, S., Rodriguez-Oliveros, G., Castillo-Garcia, M., Mundo-Rosas, V., & Meneses-Navarro, S. (2012). Use and understanding of the nutrition information panel of pre-packed foods in s sample of Mexican consumers. *salud publica de mexico, 54*(2), 158-166.

Lindhorst, K., Corby, L., Roberts, S., & Zeiler, S. (2007). Rural consumers' attitudes: towards nutrition labelling. *Canadian Journal of Dietetic Practice and Research*, *68*(3), 146-149.

Mazier, M. P., & McLeod, S. L. (2007). University science students' knowledge of fats. *Canadian Journal of Dietetic Practice and Research*, *68*(3), 154-159.

Mhurchu, C. N., & Gorton, D. (2007). Nurtrition labels and claims in New Zealand and Australia: A review of use and understanding. *Australian and New Zealand Journal of Public Health, 31*(2), 105-112.

Signal, L., Lanumata, T., Robinson, J., Tavila, A., Wilton, J., & Mhurchu, C.N. (2008). Perceptions of New Zealand nutrition labels by Maori, Pacific and low-income shoppers. *Journal of Publish Health Nutrition, 11*(7), 706- 713.

Yon, M. Y. H. & Hyun, T. S. (2008). Dietary habits, food frequency and dietary attitudes by gender and nutrition knowledge level in upper-grade school children. *Korean Journal of Community Nutrition, 13*(3), 307-322.

Four types of credit decision-makers

C A Saliya
Whitireia New Zealand

Introduction:
According to some scholars (for example: Barry 2001; Cialdini 1993; Kipnis 2001;Pearce II & Robinson Jr., 1987; Peay & Dyer Jr., 1989; Molm, David, & Collett, 2007), decision-makers (credit officers) are influenced by symbolic gains and feelings such as achievement, being powerful or successful, and even by benefits of reciprocity apart from the key 5Cs of credit evaluation rules; ***c**haracter, **c**apacity, **c**apital, **c**ollateral and **c**onditions*. However, these credit decisions are also interpreted as fulfilment of "social responsibility" as argued by certain decision-makers, especially the perpetrators of unrealistic/irrational credit decisions.

Objectives/Research Problem:
To broaden understanding how are certain credit decisions made and to explore why do credit officers make such decisions; the motives behind such decisions?

Methods:
I-witnessing (Geertz 1973), connecting with personal experience (Wolcott 1994) and daily diary narrations (Hyers et al. 2006) of the researcher were reconstructed while experiences of other research participants were also collected, especially to gather perspectives of decision-seekers (credit customers – borrowers), within the case study research methodology.

Results:
The research revealed two major traits/characteristics, based on which credit decisions are made; (a) the nature of decision-making (**F**ormal or **I**nformal approach) and, (b) manifested sense/logic (**R**ational or **I**rrational judgment).

Conclusions:
Based on the above results, four types of decision-makers are identified; **BOSS, ROBOT, REBEL** and **BUDDY** as illustrated in the table below. The Bosses make irrational decisions employing informal methods. The Robots make irrational decisions using formal methods. The Rebels make rational decisions but employ informal methods and The Buddies make rational decisions using formal methods. These findings provide guidance for better understanding of how and why credit decisions are made and could empower decision-makers (lenders) and decision-seekers (borrowers) to employ appropriate techniques to make effective credit decisions.

Matrix of Credit Decision-Making

Variable		***Manifested sense/logic***	
		Rational	Irrational
Method used	Formal	**BUDDY**	**ROBOT**
	Informal	**REBEL**	**BOSS**

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What derives purchase-decision for packaged health foods? Price cuts, health messages, or both?

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Health-conscious individuals tend to make healthier choices when buying food (Eyles, Mhurchu, Nghiem, & Blakely, 2012; Lee, Ralston, & Truby, 2011). However, one's food choice can be influenced by many factors; some situational, for instance, health (Schwarz, 2004) and affective state (Garg, Wansink, & Inman, 2007), some impulsive such as hunger (Nederkoorn, Guerrieri, Havermans, Roefs, & Jansen, 2009).

The retail price of healthier food is expensive (McIntyre & Baid, 2009). Thus, supermarket shoppers mostly associate high prices with healthiness (French, 2003) and are inclined to pay more to buy food with health messages on their packages, such as 'sugar-free' and 'low-fat' (McIntyre & Baid, 2009; Wansink & Chandon, 2006). A behavioural economics stream of research provided support to the notion that demand for healthier food is sporadically insensitive to price increases (Andreyeva, Long, & Brownell, 2010; Tiffin & Arnoult, 2010), for instance, in the mother-child paired shopping (Epstein, Dearing, Handley, Roemmich, & Paluch, 2006) and pregnancy cases (Epstein, Dearing, Paluch, Roemmich, & Cho, 2007). Nevertheless, the fact is that not all can afford to buy healthy food. Studies with black American women in the US (DiSantis, Grier, Oakes, & Kumanyika, 2014) and Māori and Pacifica in New Zealand (Signal et al., 2008) have shown that minority and lower-income groups prioritise their budget over health when food shopping. In summary, the indications of this literature is twofold: (1) the contemporary use of succint on-package health messages influences food purchase decision, (2) consumers sometimes value health over money, or vice versa, when shopping for food.

Accordingly, we attempted to examine whether a health message, a price cut, or the tandem use of both influences food purchase decision more. On a randomised sample of young adults (n = 300; 51% female, 61% married, 79% 30 years old or younger), we conducted a 2 (product: regular vs. '75% less saturated fat' product) x 2 (price: recommended retail vs. discount price) experiment using two Solomon four-group designs. Results showed that a health message does not trigger purchase even when backed by a price cut. However, the same discount on regular product significantly tempted subjects. By making referrals to obesity figures by New Zealand Statistics, we discuss the practical implications of our findings in consumer well-being and social marketing contexts.

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Poster Abstracts

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Web analytics: A framework based on on-site and off-site analytics data

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Web Analytics: A Framework based on On-Site and Off-Site Analytics Data

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Introduction:
Web analytics is a mechanism through which statistics about website use are collected and composed electronically. The web data is collected, measured and analysed in order to understand and optimise web usage (Beri & Singh, 2013; Marek, 2011). With a better understanding of visitors, website owners can make better improvement to suit visitor's needs.

Generally, web analytics are categorised into two groups: ***On-site and off-site web analytics***. *On-site web analytics* measure actual visitor's traffic or behaviour on a website. It is used to improve the website or marketing campaign's audience response (Clifton, 2009).
Off-site web analytics measure the website's hid-den audience, visibility, and discussion on the Internet. It collects the data from other sites rather than an individual or company owns. It shows the comparisons of individual owned website to others (Clifton, 2009).

Objective:
This poster provides an overview of processes included in Web Analytics Framework and how the framework can be used to enhance and improve website based on analysis of on-site and off-site web analytics data.

Method:
Literature review is conducted on On-site and Off-site Web Analytics and a suitable framework for website enhancement and improvements in business decisions is created.

Findings:
To succeed in business over the website, it is very important for companies who own websites to consider the following aspects:
1) Whether the visitors are doing what the website owner expects them to do;
2) Whether the visitors are following the path that is designed for them to follow.(Budd, 2012).
By using web analytics process provided in the framework, companies can gather the information of visitor behaviour on their website.

Conclusion:
Web analytics provide various metrics statistics to find out their web-site's performance against other websites or whether it produces profits effectively. Based on the processes included in the framework, website owners can modify their websites to better meet visitors' needs.

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How do organisations view their ‘future’ within the strategic management process- a literature review?

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Introduction:
‘The future’ is a difficult concept for individuals and organisations to think about. It also has philosophical challenges, as in reality, it does not exist. Conceptually, ‘the present’ is also a challenge, because whatever is deemed to be in the future moves straight to the past. Only ‘the past’ appears certain, (Cornish, 2001).

In an organisational context, ‘the future’ is not only difficult to think about, define and analyse, but also to plan for and manage. Hence, many organisations avoid committing resources (people, time, technology) to take responsibility for thinking about, scanning, analyzing, synthesizing or planning for the future.

Objective:
To explore the use of strategic foresight (Coates, 2010) as part of an organisation’s strategic management, strategy formulation and strategic planning activities.

Method:
Review strategic foresight, strategic management, and strategy formulation literature (e.g. the ‘dynamic capabilities’ framework, (Teece 2007)).

Results:
Future related academic research has evolved from ‘futures studies’, ‘foresight’, (Voros, J, 2003) through to ‘strategic foresight’ (Coates, 2010). Within the strategic management field, the ‘future’ is usually addressed in the environmental scanning stage of a typical 4-stage strategic management process (Ansoff & McDonnell, 1984). However, little evidence exists that the future is regularly considered in this first stage of the strategic management process or indeed in any strategy formulation frameworks or strategic planning processes.

Conclusion:
In an increasingly turbulent and unpredictable global environment, it is imperative that organisations commit more resources to think more regularly about the future as well as to analyse and plan for it.

The strategic foresight construct looks to address ‘the future five or more years beyond the present’, (Coates, 2010). However, strategic foresight also needs to become an integral component of the strategic management field in general and of a strategy development framework in particular, such as Teece’s (2007) ‘dynamic capability’ framework.

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The seven phases (7Ps) of social research design

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Introduction:
Research methodology involves selection, justification and sequential arranging of activities, procedures and tasks in a research project (Denzin & Lincoln, 2005). Designing research involves planning a research project in several stages from clarifying the world-views (philosophy) of the researcher to selection of methods employed in gathering, analysing and interpreting data (Saliya, 2010, Saunders, Lewis, & Thornhill, 2007).

Objectives:
To show a holistic picture of essential functions of research process in a form of a poster by compressing them into seven universally recognised phases.

Method:
A review of existing literature on research methodology is used to identify essential phases and dimensions of a research project.

Results:
Positivists believe that research should be objective and value-free. Interpretivists seek understanding of the world in multiple realities while critical theorists aim to criticize social reality by empowering and liberating people, and proposing solutions to social problems.

The major criticism made of qualitative methods is that they are impressionistic and non-verifiable (Jon & Gordon, 1991), post-positivists (for example Denzin & Lincoln, 2003; O'Leary, 2004 & 2005; Quantz, 1992; Yin, 2003) who reject this charge, claim that qualitative data is auditable and therefore dependable. Further, quantitative research is considered hard-nosed, data-driven, outcome-oriented, and truly scientific, however, even qualitative research can be in same spirit.The less structured qualitative methodologies reject many of the positivists' constructions over what constitutes rigour, favouring instead the flexibility, creativity and otherwise inaccessible insights afforded by alternative routes of inquiry that embrace storytelling, recollection, and dialogue.

Seven phases (**7Ps**) are identified in a research process; Philosophy, Perspective, Persuasion, Plot, Practice, Processes and Procedure (Saliya, 2010).

Conclusions:
Research methodology can no longer be confined to a set of universally applicable rules, conventions and traditions. The **7Ps** shows applicability? of any type of research methodology to a variety of contexts across several dimensions.

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Agile Testing practices in Academia

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Recently software development has become flexible and dynamic due to ever-changing customer needs and competitive pressure. This competitive pressure increases the importance of Agile methods in software development and testing practices. In traditional approach the software development and testing methods are treated as a two-team two-step process. In this process the bugs are discovered in software at later stage of development. Further, this traditional process involves more cost and more time for fixing the identified bugs. Often this process is criticised for leading to an illusory divide among developers and testers. The critique is also that traditional methods are heavily regulated, regimented and micro-managed. New Agile and light-weight methods were introduced in the 1990s to avoid shortcomings in traditional methods. Agile methodologies are emphasised to deliver software in iterations and with user priority in mind. As industry adopted Agile methodologies and approach extensively in software developments likewise academics embraced the Agile software developments. However, Agile Testing (AT) is still in its infancy in academia. The purpose of this poster is adoption of Agile testing practices in Level 6 and Level 8 Software Quality and testing paper. AT means testing within the context of an Agile process such as Scrum or XP. Agile suggests that development and testing, are two essential functions of software development which proceed concurrently. Development and testing teams are united based on Agile principles to perform Agile testing. Therefore, illusory divide between testers and developers is reduced. An Agile team is usually a cross-functional team, and Agile testing is involved in every stage in the process. The poster will illustrate how the key Agile testing practices such as Test-Driven Development (TDD), Automated tests, writing unit tests, support of team work and constant collaboration have been adopted in Software Quality and Testing paper. A literature review is conducted to investigate the adoption of Agile Testing practices in academia.

Evolution of Canopy Adventure Tourism in New Zealand: how it grew and is distributed

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Introduction:

Canopy adventure is a comparatively new activity which can be placed between nature-based and adventure tourism (Hudson, 2003; Ramlan et al. 2012). This adventure activity is more special than other economic activities or other types of tourism activities done in the forest as it is in line with the principles and rules of sustainable tourism development (Senarathna, 2017). This research emphasizes the importance of canopy adventures for New Zealand tourism because these adventures lure tourists to come here and is in line with nature conservation to maintain NZ's image of being '100% pure' or 'clean & green' (Bell 2008).

Objectives:

Aims of this research are to identify the temporal (chronological development) and spatial distribution (spread) of canopy adventures in New Zealand.

Methods:

Information was gathered through doing web research as well as personal communication (emails) was used to clarify details which were not available on the websites. Time duration for the data collection was five months (Jun-Nov 2016). Thematic analysis was used for analyzing data.

Results:

The main outcome of this research was a map and a database. New Zealand has only 16 years of history for canopy adventures and relatively fewer businesses (around 12) compared with other developed counties. The most operators are still beginners to consider the side benefits they could generate for charity and community services.

Conclusion:

New Zealand has the potential to develop this industry as a special interest tourism sector under their clean and green image theme. It would then stimulate nature-based tourism generally as there is quite a bit of that already going on in the country, using the beautiful landscapes as a backdrop (Seibel, 2005). It could also create opportunities to educate people about nature, community participation and conservation, since canopy adventures bring people close to nature (Lowman 2009; Stork 2001; Weinberg et al. 2002). Therefore, further research should be conducted to find whether these businesses are responsible and in what ways they can contribute to sustainable tourism and to maintaining New Zealand's clean and green image

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How to enhance the academic outcomes and student satisfaction in graduate education for non-native English speaking students

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Introduction:
Whitireia Polytechnic Auckland School of Business caters primarily to non-native English speaking (*NNES*) overseas students. As the medium of instruction on campus is English, it poses challenges to both the students and the tutors, in achieving their desired academic outcomes.

This poster aims to shed light on this challenge faced by the students, analyze the key contributors and provide facilitators with basic tools to address issues in ways that could contribute to better academic outcomes and student satisfaction.

Methodology:
Literature review.

Results/Discussion:
Our literature review has reveals that;

a. When students enter a new social environment they actually undertake an **intercultural crossing** journey which adds additional hurdles to the path of success i.e. ability to communicate grammatically, etc.
b. In the new environment students face **linguistic**, **cultural** and **instructional** challenges that impact on their academic outcomes.
c. There are a number of strategies that facilitators could employ i.e. **scaffolding learning, internationalizing teaching**, avoiding **cultural slang**, etc. that will enhance academic outcomes and student satisfaction.

Conclusion:
Language and cultural identity are central to academic experience of NNES students (Lin & Scherz, 2014). Educators need to address not just academic but also the relational and emotional issues. The strategies discussed above will contribute towards improving the academic outcomes.

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