UKCES:
Understanding Human Centred Management

Authors: Peter York; Prof. Graham Bonwick; Dr. Catherine Birch

Author organisation: Institute of Food Science & Innovation

University of Chester

UK Commission for Employment and Skills

November 2015

[This page is intentionally left blank]

Foreword

The UK Commission for Employment and Skills (UKCES) is a publicly funded, industry-led organisation providing leadership in skills and employment issues across the UK. Together, our Commissioners comprise a social partnership of senior leaders of large and small employers from across industry, trade unions, the third sector, further and higher education and all four UK nations.

Our vision is to create, with industry, the best opportunities for the talents and skills of people to drive competitiveness, enterprise and growth in a global economy.

Over the next three years our ambition is to see industry in the UK create "ladders of opportunity" for everyone to get in and on in work. This means employers improving entry routes into the labour market for young people, ensuring the existing workforce has the skills businesses need to compete and individuals need to progress and deploying those skills in a way that drives productivity and growth. This is a collective agenda for employers working in partnership with government, trade unions, education providers, industry bodies and local organisations.

Our Research

Our research mobilises impartial and robust national and international business and labour market research to inform choice, practice and policy. We aim to lead the debate with industry to drive better outcomes for skills, jobs and growth.

Our ambition is to cement the UK Commission's reputation as the 'go-to' organisation for distinct high quality business intelligence and communicate compelling research insights that shape policy development and influence behaviour change.

In order to achieve this, we produce and promote robust business intelligence and insights to ensure that skills development supports choice, competitiveness and growth for local and industrial strategies.

Our programme of research includes:

- producing and updating robust **labour market intelligence**, including though our core products (the Employer Skills Survey (ESS), Employer Perspectives Survey (EPS) and Working Futures Series)

- developing an understanding of what works in policy and practice through **evaluative research**

- providing research **insight** by undertaking targeted thematic reviews which pool and synthesise a range of existing intelligence.

Our research programme is underpinned by a number of core principles, including:

- providing **business intelligence**: through our employer surveys and Commissioner leadership we provide insight on employers' most pressing priorities

- using evaluative insights to identify **what works** to improve policy and practice, which ensures that our advice and investments are **evidence based**.

- adopting a **longer term, UK-wide, holistic perspective**, which allows us to focus on big issues and cross cutting policy areas, as well as assessing the relative merits of differing approaches to employer engagement in skills

- providing **high quality, authoritative and robust data** and developing a consistent core baseline which allows comparison over time and between countries and sectors.

- being **objective, impartial, transparent and user-friendly**. We are free of any vested interest and make our LMI as accessible as possible.

We work in strategic partnership with national and international bodies to ensure a co-ordinated approach to research and combine robust business intelligence with Commissioner leadership and insight.

The overall aim of this project is to investigate whether a behavioural framework is required to facilitate a 21st Century approach to managing and retaining staff and to effectively coordinate supply chains.

Sharing the findings of our research and engaging with our audience is important to further develop the evidence on which we base our work. Evidence Reports are our chief means of reporting our detailed analytical work. All of our outputs can be accessed at www.gov.uk/government/organisations/uk-commission-for-employment-and-skills

We hope you find this report useful and informative. If you would like to provide any feedback or comments, or have any queries please e-mail info@ukces.org.uk, quoting the report title or series number. We also welcome feedback on Twitter.

Lesley Giles

Deputy Director

UK Commission for Employment and Skills

Table of Contents

Tables and Figures

Executive Summary

The Human Centred Management project was required to solve the problem of supply chain inefficiencies brought about by unproductive human behaviours. Specifically, the project sought to used Behavioural Economics to improve the decisions made by making people aware of their illogical 'Biases' and 'Heuristics'. Use of Transactional Analysis to make people more aware of their impressions and their audience to reduce antagonism in communication. Combine these methods using Behavioural Management Theory to create one unified approach which will create a 21st century solution to behavioural inefficiencies.

The project primarily targeted two supply chains, led by two larger or 'Prime' organisations that had SME's feeding the production process. The two supply chains underwent a number of interventions in the form of one-to-one sessions, workshops, master classes and simulations, in order to understand and influence the behavioural inefficiencies they were suffering. An Action Research methodology was used to both provide a flexible approach and also generate qualitative data. Before each intervention, questionnaire data and in some cases a behavioural health check was carried out in order to gain baseline data. Once complete the same questionnaires were completed and interviews with key participants were carried out.

The interventions were a success producing a large amount of positive change and behavioural insights for analysis. Such improvements included dramatically improving the supply chain communication leading to claims of improved supply chain effectiveness over all, development of closer ties between supply chains in a geographically separated area and improved logical decision making where managers are aware of their biases and take the time to reflect on all the options. The three areas of psychology introduced proved to combine extremely well, complimenting one another's weaker areas in order to produce the unified approach envisaged. Behavioural Economics was found to be an excellent analytical tool capable of deconstructing the root causes of behaviours. Transactional Analysis provided a suite of easily implementable and practical techniques for improving communication. Behavioural Management Theory provided a flexible approach to implementing the changes required.

From the experience of the project and analysis of the data a Behavioural Framework was generated in order to allow other supply chains to benefit from this effective 21st century solution to behavioural inefficiencies.

1   Introduction

To compete in a global market, food & drink businesses often need to outsource aspects of production. Over the past decade unprecedented competition and worldwide access to low-cost labour markets have escalated this trend beyond previous expectation (Gray, Roth, & Tomlin, 2009). Increased complexity and interdependence of aspects of the supply chain has in many cases traded savings for resilience, increasing many companies vulnerability to the smallest of impacts (Pettit, Fiksel & Croxton (2010). This trend has highlighted the importance for correct supply chain management both inside and outside an organisation. In order to get the most from employees and contractors businesses need to deal with supply chains, not simply in terms of systems/processes but acknowledge employees are not rational; instead exhibit normal human 'Biases' (behaviours) that can cause poor decision making leading to inefficiency. The case for using a behavioural approach to supply chain management is clearly required as experts state that there is a "dual realization—that the coordinating system needs to account for individual Biases and that the coordinating system is in part responsible for an individual's Biases—creates a level of design complexity not currently explored by the supply chain literature" (Johnston, 2014). This project has drawn on Transactional Analysis, Behavioural Economics and Behavioural Management Theory to create a comprehensive delivery approach implemented through Master Classes, innovative educational engagement and a mini-leadership convention to create a behavioural framework and lasting change. These primarily took place in 'Prime' led SME supply chains but were also tested in independent SME's. The combination of behavioural techniques chosen for these interventions contained a complimentary structure making them suitable for a unified approach explored in greater detail later in this report.

 "Understanding Human Centred Management" has tested the hypothesis that a behavioural framework is required to facilitate a 21st century approach to recruiting and managing staff and to effectively coordinate supply chains. A behavioural framework provides guidance to employees, informing them what types of behaviour are required to function well in their position and progress in their role. In the context of this project a behavioural framework is the formalisation of the techniques found to be most of use in stimulating positive behaviour in working within a supply chain. This has been combined with a guide to their best practice in order to bring about supply chain efficiencies.

Hypothesis Testing: A behavioural framework is required to facilitate a 21st Century approach to recruiting, managing and retaining staff and to effectively coordinate supply chains.

• Behavioural Economics (BE) can improve decision making in general management and specifically in supply chain management (SCM).

• Transactional Analysis (TA) can improve the way in which individuals, teams, departments and businesses interact. Providing managers with the tools to enhance interactions and ultimately enhance business resilience.

• Behavioural Management Theory (BMT), as opposed to command and control, is crucial when managing Generation Y/ Millennial (definition of Generation Y may be found in Appendix A).

2 The Traditional approach

Chapter Summary

- Behavioural Economics

  Key principles, strengths and weaknesses and the use in supply chain management

- Transactional Analysis

  Key principles, strengths and weaknesses and the use in supply chain management

- Behavioural Management Theory

  Key principles, strengths and weaknesses and the use in supply chain management

This project was inspired by the work of psychologists and innovators who have shaped the working environment for the better in numerous different ways. In order to better understand the impact of combining behavioural theories, it is important that an understanding is first gathered to introduce Transactional Analysis, Behavioural Economics and Behavioural Management Theory used in isolation. This section will highlight the core concepts used by this study, the strengths of each component theory and where they can complement one another.

2.1   Behavioural Economics

2.1.1   Key principles of Behavioural Economics

As part of this project a number of concepts were drawn from the plethora of theories which make up the study of Behavioural Economics. Behavioural Economics is a branch of traditional economics used to explain why the reality of human interaction deviates from models of optimal human interaction (Mullainathan & Thaler, 2000). The techniques from this area are used in a number of ways. 'Heuristic' concepts give the user a better understanding of how they may be unconsciously making irrational decisions based on subconscious stimuli. For example, a team leader may decide to move their team to working on laptops because this as increased productivity in every other team they have managed, This 'Representative Heuristic' disregards unique qualities or situations which should be considered before making this decision. Bias concepts give the user insight into the way the mind may alter the perception of a decision. For example the 'endowment effect' places greater value on an idea or product that 'you' have produced. For example, a team leader may value a design or proposal they have created, because it took them a long time, disregarding the amount of time others spent on their idea. To complement the 'Biases' and 'Heuristics' 'Two Systems Cognition' was introduced as a concept. This theory introduces the concepts of 'fast thinking' where users are subject to 'Biases' and 'Heuristics'; and slow thinking where deeper consideration may result in a more considered and logical result. A full glossary of concepts used in this project can be found in Appendix A.

2.1.2   Strengths and Weaknesses of the Behavioural Economics Theory

A literature review of the strengths and weaknesses of all behavioural theories is available in Appendix B. To summarise, compared to other psychological approaches Behavioural Economics is an immature field of psychology. This produces a dynamic and ever growing field, exploring innovative approaches to complex problems, however the field has not yet produced a cohesive philosophy and critics have asked whether it can be anything more than a set of circumstantial rules (Lunn, 2008).

2.1.3   Use of Behavioural Economics in industry

Behavioural Economics is undertaking a trend in industry and is being used in a wide number of scenarios. Most pertinent to this research, the use of Behavioural Economics has found a number of applications in supply chain management from investigating motivations behind contracting and information transition during industrial instability. On an individual level Behavioural Economics has been used to 'nudge' people's perception of a choice, or allow them to understand their 'Biases' or 'Heuristics' in order to make optimal decisions. Case studies for the use of Behavioural Economics are available in Appendix C.

2.1.4   Summary

Behavioural Economics is a very young field of research compared to Transactional Analysis and Behavioural Management Theory. This shows in many of the criticisms levelled at the research which has lack in command of drivers of behaviour and lack of cohesion. Despite what may be viewed as a flaw it is possible to see Behavioural Economics as the field which is most vital in current practice and because there are gaps in knowledge, new research is being undertaken to explore new horizons. Additionally, because of the nature the field of Behavioural Economics is a science of planning and decision making, this leads to a cohesion with the more personal and practical study of Transactional Analysis and nurturing Behavioural Management Theory.

2.2   Transactional Analysis

2.2.1   Key Principles of Transactional Analysis

The field of Transactional Analysis was pioneered by Dr Eric Burn, as a tool with which to understand the interactions (Transactions) between individuals. This understanding seeks to place participants of a transaction in a position of mutual communication tone in the case of 'Egostates', equal respect through 'Life Positions' and understanding of 'Working Style' by understanding 'Drivers'. Through these tools it is possible for an individual who is resentful and reacts by acting with hostility, to understand the truer motivations of others and explore the way they may appear to others to break a self-perpetuating cycle. Cycles such as this can be broken by 'Contracting' or agreements for change based on facilitated a non-judgmental process of understanding. These changes are assisted by mutual 'Strokes', that when positively applied can comprise of encouraging comments and compliments. The theory of Transactional Analysis is built around some key principles that though small in number are powerful and complex tools for understanding human communication. The tools touched upon in this summary are further explained in the glossary of behavioural concepts found in Appendix A.

2.2.2   Strengths and weaknesses of the Transactional Analysis Theory

Transactional Analysis has emerged from psychiatry to become a much used and well thought of tool for behavioural change. A literature review of the strengths and weaknesses of all behavioural theories is available in Appendix B. To summarise a review of Transactional Analysis, it is clearly a flexible set of tools capable of complementing a number of other psychological techniques due to its simplicity and adaptability. However, it has been said that a focus on maximisation of transactions does not address the underlying issues which may create disturbance between individuals (Patel, 2007).

2.2.3　Use of Behavioural Economics in Industry

Transactional Analysis has long been used as a tool for improving business communication for all of the reasons discussed. In supply chains Transactional Analysis has been effectively used to understand supplier / purchaser, employee / employer and team / team relationships to uncover sources of tension. These tensions created an inefficient system where personal offence went unaddressed and influenced the decisions made and the information transmitted. Once issues were addressed, under a framework of Transactional Analysis concepts inter personal tensions were alleviated and a common goal was prioritised.

2.2.4　Summary

Transactional Analysis is a highly regarded tool in professional psychology and also in business. It has many strengths and complements other theories well with little modification, making it well suited to this study. The limitations of Transactional Analysis are accounted for by Behavioural Economics' capability to identify root causes. Transactional Analysis further complements other research areas by providing a number of effective tools for breaking down silos and improving supply chain communication.

2.3   Behavioural Management Theory

2.3.1   Key Principles of Behavioural Management Theory

Behavioural Management Theory began as a science after the well documented Hawthorne experiments conducted by Elton Mayo and Fritz Roethlisberger in the 1920s (Gillespie, 1993). Here experimentation found that employee's productivity responded most positively to sympathetic supervision, being treated as special and self-determination. Whereas in the past monetary incentives and favourable working conditions had been thought to be most instrumental. From these initial findings Behavioural Management Theory has become not only a psychological study but also a method for implementing other psychological practices, as such there are very few tools derived from Behavioural Management Theory. The core concept to understand in Behavioural Management Theory is Maslow's Hierarchy of Needs and Generations. Maslow's Hierarchy of needs refers to the drive for people to satisfy a base need before a further need can be satisfied. The needs begin with "Physiological" needs of food and shelter and end with the need for "Self-Transcendence" in finding something greater than you self in religion, nature or other people. There are 6 needs to be fulfilled, however generational core values can place greater or lesser importance on specific needs. For example, a "Traditionalist" born in rationing and uncertainty, values the safety of a good wage and a secure position more than a "Millennial" who highly values a work life balance. A full explanation of each of the generations and hierarchical levels are available in Appendix A.

2.3.2   Strengths and weaknesses of the Behavioural Management Theory

Behavioural Management Theory revolutionised the method by which managers treat their employees. The main strength of the approach used is the productivity received if the employee is satisfied and feels they have self-determination. The tools used in implementing Behavioural Management Theory though limited are effective and simple. One of the weaknesses of behavioural management is that a lack of a solid framework from which to work can make implementation difficult. Later research has also indicated that in some cases worker productivity can be improved more by wage increases than by behavioural management, though these instances are drawn from professions with particularly low salaries. Behavioural Management Theory has also been seen to be less effective in environments with a culture of mistrust between management and employee (Luthans Stajkovic Luthans & Luthans, 1998)

2.3.3   Use of Behavioural Management Theory in Industry

Behavioural Management Theory has become a mainstay of employee efficiency maximisation. In many instances companies have used the philosophy of Behavioural Management Theory without implicit knowledge of its influence and has been so wide ranging as to become integrated onto modern Human Resource practice. In companies such as Tesco and Virgin, peer appraisals and congratulations give employees a feeling of institutional value. Some businesses such as Zappos have taken this mentality further creating an employee charter with goals to make the company inclusive, open minded and "Build a positive team and family spirit".

2.3.4   Summary

Behavioural Management Theory is a powerful tool in isolation, allowing companies to increase productivity through getting to know employee needs and instilling a sense of self determination. However Behavioural Management becomes doubly influential as a delivery mechanism for other psychological theories such as Transactional Analysis and Behavioural Economics.

3 A Behavioural Framework Approach

Chapter Summary

- Work undertaken to influence change and collect data

- Action taken to combine the Behavioural Theories

The theories introduced in the "Traditional Approach" show how Transactional Analysis, Behavioural Economics and Behavioural Management Theory may be used in isolation. This project however, will create a comprehensive delivery approach that will transform performance and be innovative. Through this project this has been interpreted as a need to use Behavioural Economics to understand the 'Biases' inherent in the system and using Transactional Analysis to reduce the occurrence of 'Bias' brought about through lack of communication.

This chapter describes the type of work undertaken by the project delivery partner (Pixel Fountain) in order to make the changes to the supply chains through a number of workshops, master classes and one to one intensive sessions. These included a number of different tools drawn from the theories, combined to create the behavioural health check to first understand the behavioural issues, then the behaviour framework was created through the project in order to provide guidance on overcoming barriers to effective supply chain management. These tools were developed through a process of action research, which enabled the facilitators to work reflectively in order to both produce a quality product and also meet the needs of the supply chain. Data were collected throughout the action research process through questionnaires, feedback and interview, in order to qualitatively and quantitatively measure the effectiveness of the approach.

3.1 Work undertaken to influence change and collect data

As proposed in the study, the interventions took place between November 2014 and March 2015. Each intervention with a Prime began with an initial consultation with influential individuals within the organisation in order to better understand any underlying issues and gain "Buy In" from the organisations. Following the consultation, a plan of action was agreed with the Prime comprising a number of strands of action based on the issues uncovered. From this point each strand was explored through 57 activities driven by continued re-evaluation. Activities consisted of the following:

- Workshops (15.4%)

- One-on-one sessions (35.4%)

- Master Class (7.7%)

- Group work (12.3%)

- Further planning sessions (29.2%)

Over the course of the interactive phase of the project, aspects of Behavioural Economics, Transactional Analysis and Behavioural Management Theory have been explored with the groups involved. Figure 1 shows the frequency of these topics usage in the study and the total number of individuals present.
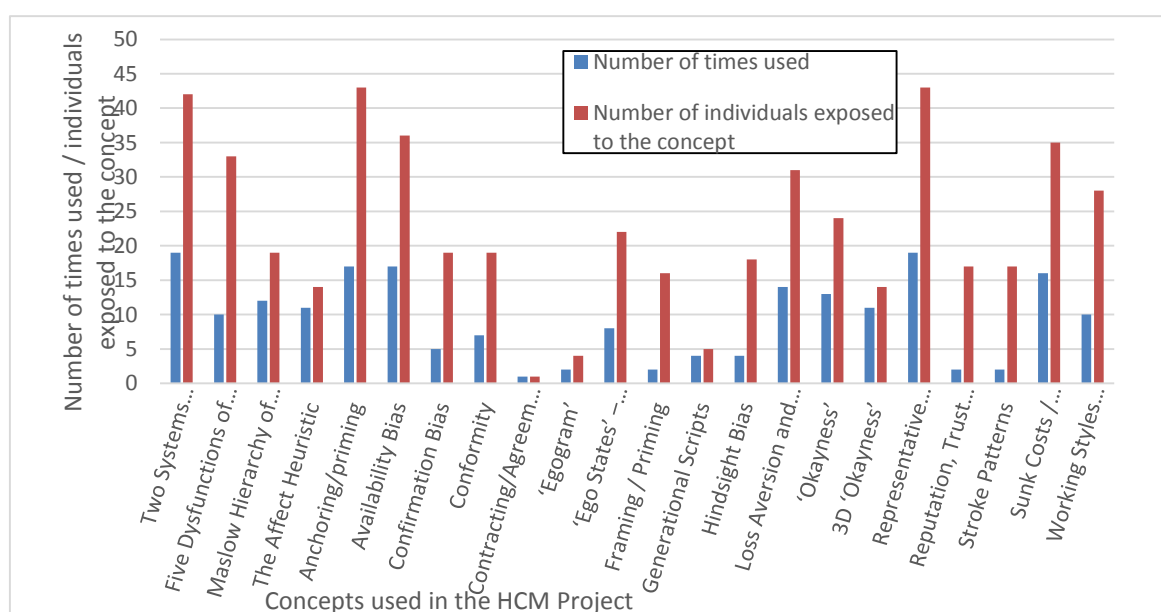
Figure 1. Number of times the concepts were used and number of individuals exposed to concepts.

'Through Action Research' experiences and data were used to both influence further iterations of research and create the Behavioural Health Check and Behavioural Framework.

Behavioural Health Check

Solutions to many institutional issues often focus on processes, whereas the problem may be an underlying behavioural issue. A behavioural health check helps business identify and consider behavioural barriers to people based growth.

These barriers have been split into 4 dimensions:

Organisational   The core dimension includes issues such as vision, direction and communications; culture; and change/resilience.

Transactional   Analyses the interactions that occur within and outside the company, accounting for multi-generational working.

Decision making   Examines sub-optimal decision making in general terms and specifically around risk and group think.

Employee   Looking at motivation (recruitment and retention); and self-awareness/personal effectiveness.

The Behavioural Health Check was developed and tested over the course of this project.

Behavioural Framework

Behavioural frameworks have been used by a number of organisations including Councils (Wiltshire Council, 2015) Universities (Cambridge University, 2011; UCL, 2013) and even the National Health Service. A behavioural framework is a matrix of expected or recommended behaviours required for an institution. In the context of this project the Behavioural Framework outlines the behaviours drawn from Transactional Analysis, Behavioural Economics and Behavioural Management Theory which are required to produce positive interactions for a number of situations and may be considered a universal behavioural framework for supply chain management. The Behavioural Framework was constructed and refined over the course of this project from primary research and feedback from industrial partners and experts. The final product can be found in Appendix E.

Action Research

Data to construct the Behavioural Framework, Behavioural Health Check and Final report was collected through Action Research, questionnaires and interviews. Action Research as described by Kemmis, McTaggart & Nixon (2013) involves actively participating in a change situation, whilst simultaneously conducting research. This was undertaken cyclically with iterations of planning, acting, observing then reflecting. This method was chosen because Action Research is fundamentally self-critical allowing for an openness to change, a responsive mode to unexpected opportunities, aims at understanding the relationship between the actions, circumstances and consequences in the given situation.

In order to meet the targets of this project, live employer programmes were established in the Primes to test the understanding and applicability of the Behavioural Framework. In order to do this Kolb's Cycle of Planning, Acting, Observing and Reflecting was adopted and modified to merge 'Acting' and 'Observing':

1. Planning – This begins the Kolb's cycle with the baseline position (needs analysis) were established *via* narrative enquiry and questionnaires, this constitutes the "Behavioural Health Check". Subsequent planning was then based upon prior 'Reflecting' sections.

2. Acting & Observing – Action was carried out based upon the 'Planning' conducted previously. 'Acting' in the context of this project was made up of group work, workshops, master classes and one-to-one sessions. This action was observed by experts in Transactional Analysis and Behavioural Economics, making up the 'Observing' phase of Kolb's cycle.

3. Reflecting – 'Reflecting' on the actions and observations provided guidance for further planning. The initial Behavioural Framework (developed at the start of the project) was also modified in response to observations and reflections generated from the actions.

The iterative cycles of planning, acting, observing and reflecting were continued throughout the action learning. The integration of observation and reflection on the effectiveness of the intervention meant that the facilitators could react to changes organically and adjust the delivery of the project based upon progress and need. The process undertaken in the action learning was fully recorded in a research journal used as primary material for this report.

Events

As part of this project's milestones a number of events took place to engage with the companies in the study.

The convention took place on the 12th of March toward the end of the project in order to share experiences of the project with other businesses. This event also served as a testing ground for the Behavioural Framework document.

The schools careers event took place at the University of Chester's NoWFOOD Building to bring the working generations into contact with those of 'Generation Z' on the cusp of entering the work place. The careers event was structured in the form of a game focusing around the activities undertaken in order to bring a product to market. Each team had the opportunity to take a product they had developed from idea, to suitability testing, to marketing, to sensory analysis, then to pitching to a company. This not only provided 'Generation Z' with a demonstrative illustration of the activities of a food business in order to change perceptions, but also provided an opportunity for food industry professionals trained in Transactional Analysis to observe and partake in the action learning event investigating the interaction between the Working Generations and 'Generation Z'. Data gathered from this event concerning changes in opinion can be found in Appendix D.

Further data collection

In order to complement the data collected through Action Research the participants were subject to further questioning by interview and questionnaire.

The Questionnaire issued to all the participants between four to five months after the completion of their intervention was modified from the questionnaire issued as part of the narrative enquiry phase of the Action Research. This continuity allowed for comparison between answers given at the start of the project (representing the 'Before' state) and at the end of the project (representing the 'After' state). In addition to these needs analysis questions, further queries were posed to measure the project success.

The Interviews took place during the same period as the questionnaires (see chronology). Invitations for interview were issued to participants who had attended two or more workshops. Priority was placed on interviewing those who had experienced most from the project. Fourteen candidates were chosen to provide a balance of seniority in each Prime organisation and SME. The questions presented to the interviewees focused on their personal experiences, observations and opinions of the project, the concepts and the impact of the study. The data collected was largely qualitative and analysed using NVivo Data Analyses Software in order to extract themes.

The chronology of the intervention phase and further data collection was as follows:

Table 1. Chronology of the intervention phase

10th November	Recorded project meetings began with Prime A and B
12th November	First workshop with Prime B
21st November	First workshop with Prime A
11th December	Prime B intervention split into two strands
19th December	First recorded meetings with Independent SMEs
7th January	Prime A intervention split into three strands
20th January	First use of Behavioural Health check
6th March	Prime A intervention complete
10th March	Prime B intervention complete
12th March	Convention
16th March	Schools event
18th March	First SME Workshops
25th March	End of Intervention phase
22nd June	Follow up questionnaire issued to participants
29th June	Interviews began
23rd July	Final interview takes place

As identified in the chronology of the project the intervention phase focuses on the assistance of two Primes and their respective supply chains. The findings from this work then went on to inform the convention, schools event and SME Workshops. The Primes involved were each dealing with SME based external and Prime based internal supply chain issues.

Prime A

Prime A were a multinational food processing organisation that produce a wide range of notable brands. The business structure allows for a diverse networked group to have a high degree of autonomy in the running of their operations. The supply chain is mostly internal as they have acquired a number of key suppliers, although Prime A has committed to sharing the learning experience with the SMEs in their external supply chain as much as possible.

A key element of the organisation's supply chain is the Financial Operations, which has dealing with all levels of the internal and external supply chains. It is this aspect of the organisation which has been studied in greatest detail by this project because of the broad reaching scope of their involvement.

Prime B

Prime B are an international food retailer who produce and package their own lines of food, this project will focus on the packaging design process. The Prime package design structure focuses on a core team which contract out a number of different aspects of the design process to smaller SMEs and Freelancer specialists. This makes for an extensive external supply chain which needs to communicate with the core Prime team, who then need to report progress to a senior managerial team.

The key element of this supply chain is the core prime product design team who need to communicate both upward to the senior management team and downward to the Freelancers and SMEs contracted to complete different aspects of work. This complex system requires the coordination of a number of individuals, requiring each to have a common goal.

Independent SMEs

The independent SMEs were drawn from a number of areas of the food and drink sector including condiment, preserve, baked goods and dried goods production. Each was part of a larger supply chain and produced a product for sale by another company or to be used as an ingredient by another food company.

SMEs face many of the same supply chain communication and decision making issues as Primes. Maintaining a positive relationship with all areas of a supply chain is especially important for an SME, as they often don't have the negotiating power of a larger company, or the marketing power available to larger companies. For this reason smaller SMEs are often fronted by one person who is responsible for the entire image of that business.

3.2　　Action taken to combine the Behavioural Theories

Throughout the project, Action Research activities were undertaken to identify which of the concept areas had greatest influence. It is through these activities that we understood trigger mechanisms and the steps that leaders & managers / organisations need to take to become behaviourally competent. The activity mix described in Table 8 proved useful in delving into the subject but it also helped in understanding the learning and development needs of the individuals.

Table 2. Approaches used to communicate concepts

Activity Type	Benefit
Experiential Learning	• Can set the scene and can create an opportunity to put understanding into practice. • Enable facilitators and participants to see behaviours in action. • Builds trust allowing breakthrough moments for key individuals and teams.
Scenario-based learning	• Videos provide an excellent way to explore concepts such as 'Ego States'.
Games	• Provide a powerful yet simple way to explain the concept of reputation, trust and fairness.
Combined Learning and Coaching	• Coaching combined with learning accelerates the embedding of behavioural concepts. • The approach can be used in Group Work and One-to-One.

As part of these sessions the behavioural concepts from each of the different subject areas were actively combined in a number of ways including:

- An adaptation of the Game Planit-Sustainability Simulation Game developed by Pixel Fountain to look at the interconnectedness of communities was used to highlight the 'Biases' and misconceptions which can lead to wrong decisions. Whilst the simulation was conducted the facilitators analysed the 'Ego States' observed and fed back to the participants. This work highlighted the need for mindful consideration of Behavioural Economics and Transactional Analysis principles, as those who made good decisions and communicated most effectively produced the best results. This combined use of concept areas looked at Behavioural Economics as a trigger for behaviours which was found to be a common theme in this research.

- Investigation of real world examples of behaviour from inside the company highlight the cycles of behaviour perpetuated. Subsequently, the benefits of implementing theories from Behavioural Economics and Transactional Analysis are proposed to end these cycles.

- Behavioural mapping was used by the facilitators to highlight the triggering mechanisms which people are susceptible to. In this study, many of the triggers are the Behavioural Economics concepts such as 'Heuristics' leading to irrational behaviour. The methods by which negative behaviours can perpetuate were then discussed. This may be negative 'Life Positions' manifested under stress. Finally, tools for overcoming this vicious cycle were discussed using Transactional Analysis and Behavioural Management Theory.

- An adaptation of the 'Egogram' which highlights the participants own triggers for behaviour. Here a participant quickly draws a 'blob' to indicate the time spent in a particular 'Ego State'. The facilitators talked to the participant about the triggers for various 'Egos States' which are often contained within Behavioural Economics. Methods for maintaining positive 'Ego States' and escaping negative states were discussed using Transactional Analysis and Behavioural Management Theory.

- One-on-one sessions to discuss the individual and their team if applicable, referring to Behavioural Economics and Transactional Analysis concepts and how they can be implemented using Behavioural Management Theory. For example, one session with Prime B produced the following Reflection:

    o Having a <u>Hurry Up</u> Driver makes the **Representative Heuristic** more likely due to less time for consideration.

    o <u>Be Perfect</u> will be likely to have strong **Loss Aversion** and **Sunk Cost Fallacy** and **Endowment Effect**, due to the time they expend on an idea.

    o A <u>Try Hard</u> Driver means a lower susceptibility to '**Availability Bias'**, but instead to a drive to fully research a topic.

The subjects of these sessions were drawn from a representative sample of the wide demographic of the positions of authority, gender and age groups.

These individuals were drawn from 20 active Companies:

2 Primes:	8 Micro:
1 Large:	7 Freelancer specialists:
2 SMEs:	

4 Results and Discussion

Chapter Summary

1. Behavioural Economics and its role in decision making in general and supply chain management.

2. Can Transactional Analysis (TA) improve the way in which individuals, teams, departments and business interact?

3. Behavioural Management Theory *vs* Command and Control: use when managing Generation Y and Z.

4. A behavioural framework is required to facilitate a 21st Century approach to effectively coordinate supply chains.

5. How effective was the methodology used?

The Human Centred management project has been formulated to validate or disprove the statement "A behavioural framework is required to facilitate a 21st Century approach to recruiting, managing and retaining staff and to effectively coordinate supply chains." In order to make a balanced judgement on the validity of this statement three hypotheses were formulated to test aspects of the Behavioural Framework. This chapter report how tested each hypothesis in turn by investigating the usefulness of the theories and their combination. This was achieved by deconstructing each hypothesis and discussing the components in relation to the whole.

Through this process a number of significant findings were revealed:

- Before the intervention by the facilitators, participants were not aware of their own biases and heuristics or the impact they may have in their decision making. Through observing and reflecting in their behaviours and the behaviours of others people improved their understanding of themselves, others and their teams allowing for more effective decision making.

- The decision to change destructive behaviour in the workplace was followed up by a number of influential actions which are elucidated through numerous case studies. In general people are optimistic for the future of their supply chain and believe that behavioural change can improve the working environment.

- Reflection on the way you portray your self can dramatically improve the way people receive you.

- Slight changes to the way people deliver tasks, questions and feedback have a huge impact on the way they are received. Taking the time to reflect on the way a situation is "Framed" can make the difference between empowering or infuriating a colleague.

- Knowledge of a colleagues abilities and working styles needs to be considered when providing information and instructing on tasks.

- Inter-generational working is not often an issue if people consider one another as individuals, however this becomes more difficult between generations who are more distant in age.

The overarching hypothesis of the study was then discussed and the extent to which a combined approach to Human Centred Management meets the needs of the supply chain was explored. This concluded that the use of action research was instrumental in the success of the project. Which conclusively demonstrated that a combination of behavioural theories in the form of a frame work allow for a symbiosis of techniques where the strengths of one theory compliment the weakness of another creating a powerful tool greater than its constituent parts.

4.1 Behavioural Economics and its role in decision making in general to supply chain management.

The first hypothesis of this project concerns the importance of Behavioural Economics as a tool for improvement in decision making. Decision making in the context of this report will range from the larger broad ranging managerial decisions to the smaller scale decisions made by individuals on a day-to-day basis. The evidence from the work conducted shows that Behavioural Economics has proven to be a valuable analytical tool in bringing about positive behavioural change in the supply chains under investigation. This was determined through the positive indications that subjects were now more aware of their own behaviours and those of others around them. Feedback has indicated that though many of the participants have difficulty naming the concept they are using, they are however using a large number to great effect. The ability to use concepts has been shown to have been improved when participants integrate 'Two Systems Cognition' to allow slow thinking to give them the time to consider other concepts. This ability to 'Slow Think' has been shown in some cases to have the potential to relieve stress in high pressure situations.   .

4.1.1 Were the subjects aware of Biases and Heuristics?

As part of the interventions, subjects were confronted with the 'Biases' and 'Heuristics' present in their day-to-day lives. These may be the misconceptions they observe other people acting under or confronting their own illogical actions.

The quantitative evidence from the questionnaires provided to subjects shows the responses of individual understanding of the self, others and the team (Table. 3).

Table 3. Understanding of the self, others and team

	I understand myself ('Working Styles', Bias, Motivation):		I understand others ('Working Styles', Bias, Motivation):		I understand my team ('Working Styles', Bias, and Motivation):	
	Before	After	Before	After	Before	After
Disagree	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%
Somewhat Disagree	0.0%	0.0%	0.0%	3.2%	1.9%	3.2%
Nether Agree nor Disagree	9.3%	0.0%	44.4%	3.2%	29.6%	3.2%
Somewhat Agree	51.9%	38.7%	46.3%	67.7%	48.1%	64.5%
Agree	35.2%	61.3%	7.4%	25.8%	18.5%	29.0%

Each of these areas of understanding indicated an increase in agreement with the statements.

From feedback on the individual sessions recorded as part of the action learning process it is possible to determine anecdotally that participants understood their 'Biases' and 'Heuristics'. These aspects of Behavioural Economics were discussed early on in the process of the intervention to give the participants an underlying understanding of their own motivations and those of their colleagues. Feedback was gathered from some of the intervention sessions to gauge what the participants understood. Most responses indicated that 'Biases' and 'Heuristics' were used to some degree however, analysis of this feedback indicated that people may have understood the concepts, but had found them difficult to implement in high stress situations. Most people reflected that the knowledge gained about team mates has helped people "to communicate better", realise "how things may be miscommunicated" and "not to assume everyone thinks as you do". Some were even very honest diagnosing the issues faced in their teams "People are keen to defend their teams I expressed a view that our team would act in an over self-centred resource indicating bias". However, some found the exercises too fast paced to completely identify their or other people's biases stating they needed "clearer explanations" and said it "Felt the theory was a bit rushed, would need more time to absorb the information".

It is not surprising that many of the participants accepted the concepts found in the 'Biases' and 'Heuristics' as they have been featured in popular science books such as 'Nudge' and 'Predictably Irrational'. Both books have been New York Times Bestsellers (New York Times, 2015) showing that the proponents of these theories have been able to communicate their message in an easily understandable and often entertaining way. It has also been indicated by participants that some of what was being said seemed to be common sense and that they were "applying them and didn't know I was using them" and "It was nice the fact that it was new to me, but the concepts; some of them I was sort of doing subconsciously anyway".

4.1.2 Did an understanding of Behavioural Economics in the classroom become an awareness in the workplace?

The progress of individuals who took part in the study was revisited between four and five months after the conclusion of the interventions. The interviews and questionnaires conducted, highlighted that while concepts from Transactional Analysis and Behavioural Management Theory were both understood and applied, the application of Behavioural Economics concepts was not as prolific.

Participants were asked about their agreement with four statements in relation to their memory and use of concepts. They were asked to rate agreement from 1 to 5 where 1 is disagree and 5 is agree. Figure 2 summarises the participant's responses. These questions looked at a participant's memory of the concept, how much their understanding of the concepts has improved, how useful they have found the concept, how often they used a concept and how much of a difference the concept has made to their business. Not all workshops contained all the concepts, consequently in this line of questioning participants were also given the option to decline to answer if they had not come across any concept in their workshops.
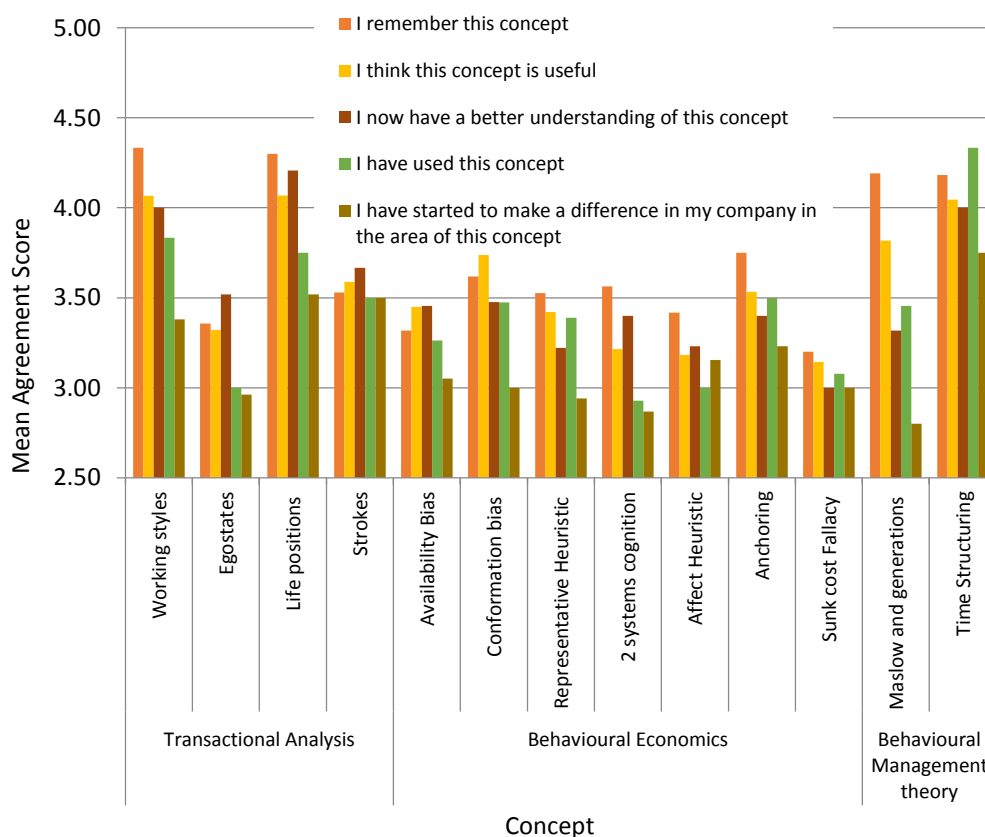
Figure 2. The mean agreement with the statements concerning the concepts.
1 - Disagree   2 - Somewhat Disagree   3 - Nither Agree nor Disagree   4 - Somewhat Agree   5 – Agree

Figure 2 indicates that there is greatest agreement in remembering a concept, then finding it useful, then understanding it, then personally using it and finally making a difference in the company. This trend is not mirrored by all the concept responses. Notably the use of Maslow's hierarchy in application to generational theory is well remembered but not well used. This may be because differences in working style and personality have greater impact on the supply chain than generation (this theory is explored later in this report).

Further questions were presented to participants to investigate the anticipated continuation of impact of the workshops. These are depicted in Figure 3 showing the percentage responses from full agreement with the statement to complete disagreement. Statements received a majority of participant's agreement. The statement "I think people are important for business progress" received 100% agreement, however when discussing the belief that the concepts will bring lasting change it appeared that people were more tentative in stating that they somewhat agree or were more ambivalent. In all cases 0% of people disagreed with the statements. Splitting the results by generation organisation and gender show that the Millennials are consistently less optimistic than other working generations, this is especially marked in respect to personal belief that they can make a change.
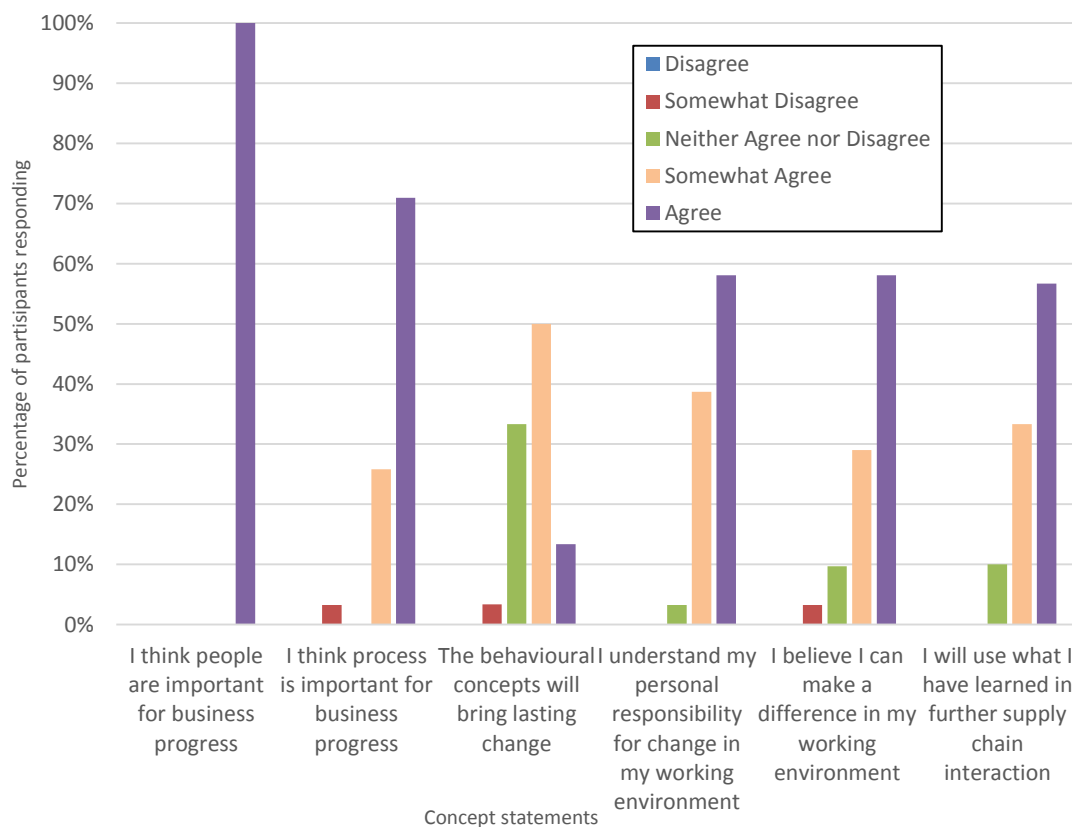
Figure 3. Optimism of participants for future change

There is little to no difference in optimism when comparing the genders of participants or the companies for which they work.

Despite the graphical representation's uniformity, most of the individual responses are not significantly correlated, nor are they close to correlation. There are however exceptions as shown in Table 4. This demonstrates a chain of logic that a person must first understand their role in change, then believe they can make a difference, commit to using the concepts resulting in the belief that change will last.

Table 4. The significance of correlation between measures of concept positivity

Concept 1	Concept 2	Correlation coefficient and significance
I understand my personal responsibility for change in my working environment	I believe I can make a difference in my working environment	0.48 (p=0.004)
I believe I can make a difference in my working environment	I will use what I have learned in further supply chain interaction	0.45 (p= 0.006)
I will use what I have learned in further supply chain interaction	The behavioural concepts will bring lasting change	0.43 (p=0.008)

It is notable that among the results there appears to be two tiers. The higher tier includes 'Working Styles', 'Life Positions', 'Time Structuring' and 'Maslow and Generations'. The lower tier is made up mainly of the 'Biases' and 'Heuristics'. This trend has been mirrored by the interviews and feedback, showing that though there was a high level of understanding of the 'Biases' and 'Heuristics', there has not been as great a retention or usage.

It has been determined from Figure 2 that the knowledge of behavioural motives has increased, however the memory and use of concepts is not high (Figure 3). It is possible that there were too many concepts introduced to the participants under the umbrella of 'Biases and Heuristics' and because of this people cannot recall individual concepts but can remember the underlying principles and therefore report a higher level of understanding. This could be explained by the feedback from the sessions presented previously; indicating that more time was needed to be spent on understanding the theories possibly with the aid of a greater amount of reading material such as the Behavioural Framework document.

Alternatively it is possible that participants are under-reporting their individual concept use as they are not able to identify which concepts are being used on reflection. Each participant cannot be expected to have an expert knowledge of the concepts on which Behavioural Economics is based upon. It appears more expert knowledge may be required as under-analysis at the interviews reveal people's inadvertent concept use. Despite appearances these concepts have been used to great effect to improve the decisions involved in workload planning to overcome the endowment effect. For instance one participant stated that:

"*I sometimes find it quite difficult to let go of designs and end up giving myself a larger workload. I have now started to try and trust other people to be able to couple certain parts of projects without being over controlling*"

Others have used the knowledge gained about team mates to help people to understand that "everyone has different drives, so be aware of this", and also using the 'Representative Heuristic' and a spectrum of other 'Biases' and 'Heuristics' to make improved communication decisions in general.

The decision to 'Frame' a situation has been taken based on Behavioural Economics concepts by one interviewee who instead of calling a concern a "problem" or "issue" the situation would be re-framed as a "challenge". As the interviewee says:

"We are just trying to make things in a positive light rather than the negative terms that come out in the day to day business" and "that is a far better way of wording it and you know if we go from a day to day basis calling everything and issue and a problem we are never really going to get positive"

One barrier to the use of concepts such as the 'Biases' and 'Heuristics' could be that individuals are not allowing themselves enough time to reflect upon the situation and process the motives of themselves and others. One interviewee took some time to use 'Two Systems Cognition' to slow their thinking concerning their communication style and came to consider what 'Biases' and 'Heuristics' people generated about their personality stating that, "that some ways of portraying myself… yeah that is something I have always have had to take a step back and think about how I treat people and try to work on getting better".

4.1.3 Was 'Two Systems Cognition' used to effectively to introduce concepts into the workplace?

The ability to make a decision based upon the concepts featured in this study relies heavily on the user's ability to consider the concept before acting. Through analysis of feedback and interviews it has become evident that 'Two Systems Cognition' is being used, either consciously or subconsciously to heighten the subjects awareness of the decision options available to them. Slowing down thinking is allowing individuals to both consider concepts and consider the decision and make a more rational choice.

The questionnaire presented to participants before and after the supply chain intervention asked individuals "I consider behavioural aspects of decision making". Before the session's responses were focused on a level of agreement, however after the sessions, agreement had increased considerably (Figure 4).
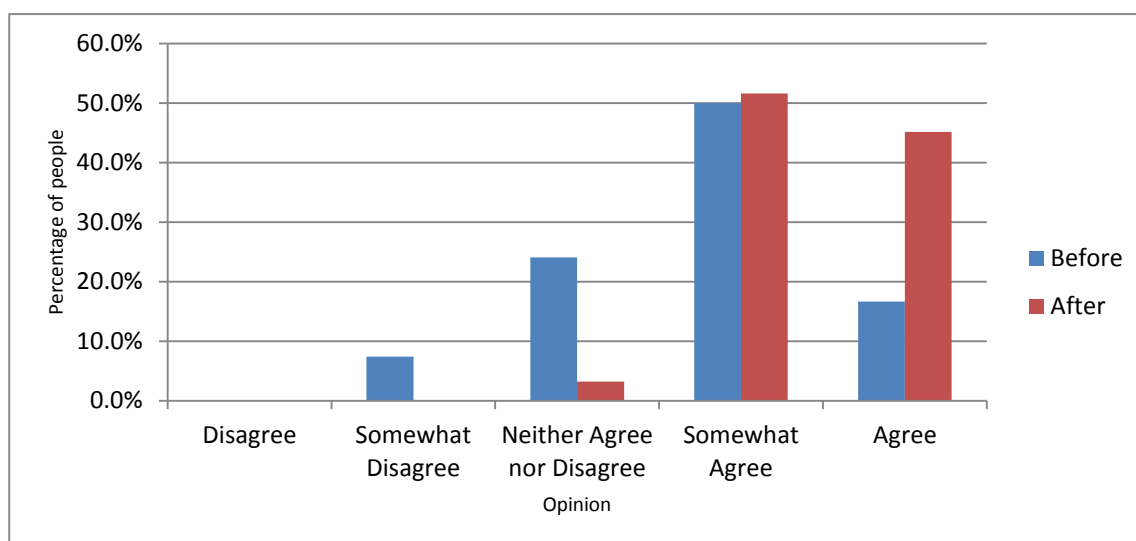
Figure 4. Agreement with the statement "I consider behavioural aspects of decision making"

Individuals reflected on 'Two Systems Cognition', stating that "slowed thinking is more logical thinking", "intuition has its place but slower thinking is preferable" and "use intuition when rushed. Trust my instincts when more time is available then think more about options."

One person shared the awareness that as a team people tend to work quickly and sometimes hastily, even when they have the time to consider actions. This was exemplified in an instance where it was decided that 150 product lines would be sent to a convention these were dealt with quickly and other work then took over. Later closer to the date a further 450 lines were added to the convention listing and it was a rush to get them ready. When it came to the convention there were the same amounts of issues with the first 150 lines as there were with the subsequent 450. They reflected that had they applied 'Two Systems Cognition' these errors may not have occurred.

Figure 2 suggests 'Two Systems Cognition' does not appear to have been used as heavily as some of the other concepts. This could be the case as some participants say there is no time. Stating that "There is no time to think slower" and I "Mostly have to instantly react to the client's needs, not really much time to overthink in current working climate". Showing that in some people's opinions there is no time to apply a more rational layer of thinking. It could however be the case that people are applying this theory subconsciously to allow them time to process a situation and apply the concepts. Alternatively as concepts from Behavioural Economics may seem common place participants have not considered that they may be using 'Two Systems Cognition' when reflecting, or considering.

Despite people's possible lack of awareness of applying 'Two Systems Cognition' it appears to have been quite instrumental in the further application of other concepts. One interviewee combined Behavioural Economics and Transactional Analysis teachings to improve their weekly Forum meetings which they had described as "like a dragons den". After the workshop they noticed the difference in the communication exhibited by the people who had been on the workshops and those who had not stating "I think the people who have not been involved with the workshops, just the way that they talk to you and the aggression. You think 'you have to go on a workshop!'" However because of the workshops the interviewee was now more mindful of their own 'Life Position', 'Ego State' and slower thinking to allow for a calmer reaction stating that "I don't feel as intimidated as much anymore I don't take it to heart as much, as I did before I feel strong enough not to" and went on to say "I think perhaps my more relaxed approach has relaxed my audience".

The feedback from some of the events showed that people paid a lot of attention to 'Working Styles' and used 'Two Systems Cognition' to reflect on their actions. Some saw that they are "very different inside/outside of the office" and others found that the "workshop helped to reinforce most of what I had already thought true, it was interesting to see where my personality may clash with others". The sessions helped "teams to reflect on their own behaviours and how they interact with each other - understanding themselves."

4.1.4 Slower thinking as a stress management tool

Incorrect decisions made in haste are a source of stress in the work place. These decisions often snowball and result in larger difficulties in the future. In a number of cases throughout this research it has become evident that decisions based on optimism Bias and other Behavioural Economics concepts have resulted in higher stress and loss in efficiency. The participants generally responded well to the Two Systems Cognition concepts and their relation to stress and even explored their reactions to different mental states, i.e. stress boredom etc. some participants explored methods of escaping negative 'Life Positions' but often had reservations over their self-belief to be able to make change.

One participant reflected on the way they collected information and decided to extend deadlines based on realistic time scales. They stated "We are currently working on the Budget for 2016. There are deadlines to adhere to and I am giving people the opportunity to achieve their deadlines without constantly nagging them as I would have done previously". This more hands off approach with more achievable deadlines has been seen to lower stress in the workplace and encourage cohesion (Aitken & Crawford, 2007).

Another individual was recommended to use 'Two Systems Cognition' through a one-to-one session because they had been observed by a supervisor to get confused when overcome by pressure. Consequently, the subject recalled an instance where they had actively slowed their thinking and considered 'Life Positions' when presenting findings at a meeting. The facilitators then reported significant breakthroughs brought about by integrating 'Two Systems Cognition'. The subject was progressing well with their ability to reflect, using the concepts.

4.2 Can Transactional Analysis improve the way in which individuals, teams, departments and business interact?

Transactional Analysis has long been held as a powerful tool for bringing about positive changes in behaviour in relationships and in the workplace. This project hypothesised that through Transactional Analysis these tools could be used to improve the communication between areas of the supply chain in the food and drink industry. Evidence presented in this report shows that a better understanding of those you are speaking to can improve the transmission of your message by allowing you to speak in a more equitable and considered fashion. Self-belief and self-knowledge gives people the confidence to communicate all that needs to be said and allows people to reflect on how a message would be delivered most effectively. It was discovered through the workshops that the tools used in Transactional Analysis can be used as a gateway to further discussion, as the greater self and team knowledge creates an environment of honesty and openness. As Transactional Analysis is a largely facilitator driven process relying upon an independent medium for arbitration, it was expected that without the facilitator impact may reduce, however when combined with other concepts the subjects became their own arbitrators and have perpetuated change through greater knowledge and positive strokes.

4.2.1 Improving communication through a better understanding of the audience.

At the outset of this project the institutions under examination had created silos within which people had created an image of themselves and an image of members of other silos. It was believed that Transactional Analysis could play a pivotal role in improving the participant understanding of their colleagues and counterparts within the wider supply chain. Overcoming these barriers to supply chain progress was one of the largest successes of the HCM project. The sessions enabled participants to build trust allowing breakthrough moments for key individuals and teams. The concepts of 'Working Style' were received particularly well as participants could most readily observe the concept in themselves and quantify the impact that understanding others 'Working Style' could have on their efficiency. The responses from feedback indicated a high level of trust being fostered within teams. Responses included "Lots of trust produces good working sessions", "Believed in people doing the right thing", "Felt trusted and could trust" and "Decisions made equally and fairly". This sentiment is reflected by the quantitative data. When individuals were asked whether they trust, respect and communicate with others in their supply chain the response was a shift positively toward agreement in all cases (Table. 5).

Table 5. Questionnaire results showing the level of agreement with statements relating to trust, respect and communication.

	Individuals/teams trust each other		There is mutual respect between teams/organisations		The different parts of our supply chain communicate well	
	Before	After	Before	After	Before	After
Disagree	0.0%	0.0%	1.9%	3.2%	3.8%	0.0%
Somewhat Disagree	5.6%	6.5%	13.0%	19.4%	17.0%	29.6%
Neither Agree nor Disagree	37.0%	22.6%	44.4%	19.4%	43.4%	18.5%
Somewhat Agree	46.3%	58.1%	27.8%	48.4%	34.0%	44.4%
Agree	7.4%	12.9%	11.1%	9.7%	1.9%	7.4%

Prior to the sessions the silos which had developed were presenting a barrier to progress. For example, when providing costing for other teams the accounts team in Prime A would get many urgent requests. They then got frustrated that other teams did not seem to learn that they need to give the accounts team time and be realistic about demands which placed them deeper into their silo. When these transactions were analysed it appeared that the repeated chain in Table 6 occurs.

Table 6. A summary of the transaction with 'Ego States'

Life Position	Action
1. Adult to Adult	Request from sales discussed with Finance
2. Controlling Parent + to Adaptive Child	Finance are instructed as to what needs doing by Sales
3. Controlling Parent + to Adaptive Child	Finance accept work but can't really do it
4. Controlling Parent - to Adaptive Child	Later a conflict happens and someone backs down.

This interaction resulted in the Sales team losing trust in the Finance team to be able to deliver on their request. This led some to say "There's evidently a lot of frustration deep down and well shielded at middle management level and the most mundane thing can set a trigger into action", and "The majority of the team see themselves at Round 1 (silo) thinking, which is true so quite interesting to hear them say it, they also feel they are not trusted from above to do their job and accept that they know what they are doing (in) some cases".   In order to overcome these issues many discussions were assisted by the facilitators using the concepts and some debates were heated. Some participants described the sessions as "being like group therapy". They collectively came to the conclusion that they had developed an I+U- mind-set which had brought about a lack of knowledge of the other team and their goals. This was exemplified by the comment "if we were a simulation, it's like we are stuck in round one" (Round 1 was where they are getting up to speed and don't understand the need to collaborate). It became apparent that long term plans suffered from 'Optimism Bias' and as such were considered unrealistic leading to a state of apathy and focus on the present and not the future. This was exemplified by the comment "What can we do as there are unrealistic plans from above?" 'Representative Heuristics' have developed between departments for example "HR is slow", "Technical never give an answer" and "Finance might not turn up". The discussions resolved into two viewpoints, those who felt powerless to make change and those who wanted to become empowered to make a difference. Finally, a breakthrough was achieved and some aims were resolved to outline a process to avoid issue, it was resolved also to use the behavioural framework should issues occur.

Transactional Analysis contains powerful tools for implementing change which are easily applied, remembered (Figure 2) and combined. The combination of concepts will be discussed later in this report.

4.2.2 Self-belief and personal value as a driver of more honest communication.

It was believed that a greater understanding of an individual's own motivations and drivers would give them a greater sense of self. As this better understanding of their own 'Working Styles' would enable subjects to understand how they complimented their team. The understanding of drivers in others, also placed subjects in equal positions when communicating allowing for a more honest and open communication.

Through the sessions there has been a great gain in self-belief and the capacity to produce positive behaviours has also increased. The self-revelations included "communicate better and work as a team", "I can collaborate with people even though we don't always work together in the best way in our day jobs" and "I can see the bigger picture and see how we can collaborate". 'Ego states' and behavioural models were found to be of particular use and allowed people to discuss examples of understanding that neither dominating nor passive behaviours are most effective:

"Don't be so dominating, consider the opinions of others"

"Knowing when to speak up and not being passive to those I thought in charge"

The 'Ego States' also allowed people to discuss being more positive in communication with others:

"Look to use the positive areas to nurture, be co-operative and spontaneous to work better as a team."

"Be mindful of the negative behaviours I exhibit most. Marsh mellowing in particular."

"Try to move to more positive states, rather than being drawn into the negative."

Seeing yourself "as 'equal' when communicating with more senior people and peers" shows a positive use of 'Ego States' to overcome the Framing Effects of hierarchies. Similar group images have been overcome or created by use of the 'Ego States' to give more realisations of common goals. For example one person stated "my overall outlook at the greater [Prime] team and the suppliers that aid our daily process has changed in the understanding that we are all working to achieve a common goal".

The 'Working Styles' and Drivers have allowed for some generic improvements such as allowing "self-empowerment", "focus", "understanding that the limitations" and drive improve on "the negative points in my Working Style". 'Working Styles' have been used to understand the self and overcome negative qualities:

"Monitor myself to prevent negative effects or may be perfect and people pleaser attributes."

"Not be such a perfectionist or thinking I have to complete everything in one day"

"Improve myself, be more optimistic, deal with stress"

Discussion of 'Working Styles' can however lead to an individual becoming negative about themselves. In one instance the subject was encouraged to confront the negative aspects of his 'Working Styles' and develop tools to cope with stress.

Confidence appears to be a large theme in many of the individual changes for example one person has been given the confidence to "just come out of a bubble out of the studio and put myself forward for some committees in the working environments", another person was observed to be "a little less nervous when talking about suppliers and conflict has gone, there is more discussion". Some of the SMEs stated that the workshops have given them more confidence to take on further members of staff and the concepts will come into real use when they have more people to manage. The largest individual change was in one person who was both observed by two interviewees and interviewed themselves. They were described before the workshops as quite introverted and shy, which hindered them in their position where they may need to disagree with opinionated people. It was said in the interview "the individual we are talking about is finding the transition from different finance functions to commercial finance of sale and marketing finance a difficult transition because you have to have those difficult conversations". This person was described as "one of the more open" people in the workshops and the impression was given that they were given "some tools to think about when you know approach a difficult subject or having general discussions". This person was descried later as having made a significant change since the workshops and they self-reported as having improved self-belief.

4.2.3 Transactional Analysis' continued use to provide lasting change.

Transactional Analysis has been established as a powerful tool, strengthened by knowledge of 'Biases' and 'Heuristics' and implemented using slowed thinking. However much of its usage has been with the facilitation of an independent therapist or enabler. If the effect of the dramatic change observed is to be maintained consideration of Transactional Analysis concepts must continue beyond the intervention period.

The interviews reported a large amount of practical use in improving communication through use of the 'Ego States', 'Life Positions' and greater awareness of people's 'Biases' and 'Heuristics'. One example in particular is the development of a new "Explain don't blame" mantra for communication between the Prime and SME which lead to the following explanation.

"if the business unit says to [SME] 'why is this late?' instead of [SME] just saying 'well the design files were late!' which puts the blame onto us they will look at it and say 'that is because you changed the cutter guide at two days before final the design team then had to rework all the design to fit the new cutter guide and therefor weren't able to release the design files on time'". This mentality was then used in the context of one individual who was seen to be difficult. Instead of blaming the individual and keeping the resentment in the Prime, the manager fed back constructive criticism to the SME. It was reported that this individual then "totally changed their attitude toward [the project] and this was the person who was negative and its absolutely brilliant they couldn't have done more to help me they did the greatest work and made it really successful. It was amazing that in a really short space of time just from people slightly changing the way they work, can make a real difference".

This practical use took place without the prompting of an instructor. Similarly change observed in the workplace has prompted people to make further steps not envisaged by the project. It came to light that part of one of the primes felt like an SME outside of the core business and were misunderstood by the rest of the company. In order to improve things they will create a guidance document "a sort of hand book to explain what we do in very simple terms, so a sort of dummies guide".

The session's success appears to also have encouraged further training as in one instance in order to continue the progress made the finance manager discussed the workshops with his team two weeks after the session. Personally the manager reflected that they were inspired to seek further training in becoming more effective in difficult situations. His team also had similar realisations that further targeted training was required, shaping further actions.

4.2.4   Positive strokes and their role in perpetuation positive behaviour

In many interactions strokes are the impact of communication. It was evident from the literature that positive strokes formed the basis of conditioning a positive behaviour in Transactional Analysis.

The interviews produced some excellent insights into the tangible changes which occurred in the businesses who partook in the study. The effective uses of the concepts have created a considerably improved working relationship between Prime A and their SME supply chain. After the workshop session in which the prime and SME collaborated, the Prime manager opened a dialogue with the SME saying "I really enjoyed working with you on the workshop and that you were really nice to collaborate on a project and feel like we succeeded because I think we all realised that there is not a great relationship at the moment so it would be really nice to take some of that thinking and have a bit of a brain storm on how we could work better." This lead to a number of brainstorming sessions which not only produced the mantra "explain don't blame" but also changed the tone of conversation for the better. This is exemplified by one of the interviewees from the Prime stating "I think before we used to have lots of difficulties with one of our supplies and it was bit out of control and it has all calmed down now because the relationship is a lot better, yeah it's really good". This was confirmed by an interviewee from the SME stating, "if you look at how things were before then to now I think there has been a significant improvement". This Prime also felt like they did not give enough positive group Strokes each time a target was met so they decided to meet their key people with their SME partner at the completion of a target to let everyone get to know one another and discuss what went well and what could be improved. Positive strokes such as this can perpetuate the positive action of a supply chain through conditioning. It has been stated by a number of authors that "Conditional stroking constitutes an example of operant reinforcement to the extent that contingencies are manipulated in accordance with response criteria" (Getty, 1976). This means that a manager can provide a positive stroke for example praising a supplier on the condition that they come to them early with an issue, as in the example given. This positive stroke constitutes a reward which reinforces the conditional behaviour, thereby making it more likely that it will be repeated. Through questionnaire responses and interviews discussed it became apparent that the term "Stroke" was very rarely referred to without prompting, it is perhaps because this term has amusing connotations for example an SME stated "One of the daft things that was referred to was the strokes, and I thought about somebody having a stroke". It may be advisable in future to rename this term to promote recollection and reduce misunderstanding.

Negative strokes can function in the opposite way by dissuading a person from completing a behaviour as can be seen in the following example. Person X who was inexperienced provided information to the senior manager. They expected the senior manager to tell them the information was correct or not. He said at the time it was all okay but when the senior manager was questioned by his bosses and couldn't justify the information. He then blamed Person X who was told he should have challenged the senior manager. Person X learnt it is his responsibility to take full responsibility for this figures. This negative stroke provided by the manager had the impact of altering Person X's behaviour by negatively reinforcing the condition of not checking their work. However this method of behavioural control is not as effective as a positive stroke may have been as punishment's effects are short lived (Skinner, 1953).

4.2.5 Transactional Analysis used for drawing out discussion

Concepts in this project were not only of use of tools to be applied in the work place, but also as pathways to a broader and more honest discussion in the sessions. Through reflection on the topics discussed in the sessions and feedback from the participants it is possible to isolate the concepts which brought about these revelations.

It was found that Drivers in particular provided a large number of discussions from which a number of solutions arose. One such example included member of staff X who had a Driver profile showing high levels of Be Perfect and Please Others with some aspects of Be Strong. This gave them a drive to get things right to a high level of detail, but also making assumptions about what others want (Please Others) and a tendency to not ask for help or express difficulty. During the experiential activity of one of the workshops the Finance Director noticed the way X was communicating. At the same time person X had a "light bulb" moment on discovering their own Driver profile and spoke to one of the trainers about the struggles X was having and how X thought understanding Drivers would explain these problems. X was "close to burn out" and couldn't reconcile the need to get things right/accurate/perfect with the need to Please Others and not make a fuss (Be Strong). The same session raised the issue that one member of staff found her job title demotivating and not correct for her role. The manager didn't really understand the importance but talked it through, acknowledging the validity of her experience and changed the job title to something more representative (giving proper status) of what she does. This change was agreed with the team and the implications were discussed.

Discussions were also prompted by other concepts, for example on discussing 'Ego States' and interactions with suppliers it came to light that one supplier often collaborates with other known suppliers to meet the needs of a client. Discussing this relationship openly allowed the supplier manager to realise they are "in it together and commiserate with each other" and "There is a competition to be the favourite child. [The Client] makes this happen by suggesting things like we like the way Supplier B does reports (or something like that) and that maybe Supplier A can learn something from that". They then reflected whether the client was playing them off one another on purpose.

4.3   Behavioural Management Theory Vs Command and control: use when managing Generation Y and Z.

In a 21st century business there are a number of generations working alongside one another toward a common goal. In this study there was little evidence to show that generational theory had a greater impact on the behaviour than participant's age, 'Working Style', gender or other cultural cues. Consequently it was not possible to isolate the impact of Behavioural Management Theory's more human centric style as opposed to a prescriptive command and control management type. However from the large impact on behaviour observed in this study it was obvious that Behavioural Management Theory was an effective delivery mechanism for other psychological concepts.

When generational theory was applied to the 'Generation Z' it was clear that a strong hierarchical force came into play. Compelling 'Generation Z' to be subordinate to Millennials and both younger generations to be subordinate to 'Generation X' and 'Baby Boomer'.

4.3.1   A look at the interplay of generations and the effectiveness of the concepts.

It was hypothesised within this project that implementing Behavioural Economics and Transactional Analysis through Behavioural Management Theory would have a more positive impact on 'Generation Y/Millennial', when compared to a more traditional approach.   However from the outset of the Action Learning the question of whether generational theory could be observed was in question. Each prime had questions over generational integration however it was most easily investigated in Prime B. In Prime B there was a large mix of generations and generations mix at all levels of the hierarchy. Some managers once introduced to the concepts believed they are superseded by 'Working Styles', but others saw the communication between managers and freelancers as a generational issue. Through further exploration the project investigated the interplay of generations, speaking to one pair in particular who undertake a job share and have a distinct age gap. Later when interviewed the youngest of the pair stated:

"There isn't really that gap there there's no you're a junior or senior or you're a 50 year old and you're a 20 year old. Nothing like that we just seemed to just flow together we just seem to have a point of view that works and everyone is open to it that's really that aspect of that project there"

Reflections such as these led the researchers to reflect on the comments from other interviewees, especially the freelancers, one of whom stated:

"I think it is a bit different here I don't think people fit into the generations …. People tend to be sort of happy to work alongside other generations and wanting to have more a goal which relates to one another more"

With these comments in mind the text was analysed to find evidence of generational influence and found that culture, common goals 'Working Style', respect and position had a much larger role than generation. If anything generational differences were not clearly defined and differences seemed to be based more on hierarchy and experience (number of years in the job) and the perception that the experiences staff and managers know best. The company culture in Prime B in particular seems to have a 'Representative Heuristic' around experience.

At some level however generational differences may well be at play as the quantitative data showed that when participants were asked their agreement with the statement "The generations in our workforce get on" there was a dramatic shift from 27.8% to 44.4% of people agreeing.

This sentiment was reflected by a small number of comments also such as:

"Started working on better communication with those of different generations to myself. E.g. Before a meeting, anticipating the factors they would be most interested in and highlight those. Also preparing some questions or topics to discuss that they might not touch on due to different 'Working Styles'."

The evidence from this study indicates that whilst there may be some perceived differences between generations, there was a far greater amount of evidence to the contrary. The scientific literature investigating the impact of a generation's culture on individual personality raises a note of caution. Arguing that the universality of many of the generational traits are misleading and do not account for interactions between among other things culture (Triandis & Suh, 2002), gender (Murray & Chua, 2014) & age (Parry & Urwin, 2011). From this interpretation it would appear that it would be most logical to consider generation as one factor amongst many rather than as one overriding influence.

Therefore the current study does not have been enough evidence of clearly defined generations to appropriately test the hypothesis that Behavioural Management Theory, as opposed to command and control, is crucial when managing 'Generation Y'. Behavioural Management Theory does however appear to have been a very flexible tool with which to apply the theories to an audience of mixed generations.

4.3.2 Application of Behavioural Management Theory as a method of introducing complex conversations

Behavioural Management Theory contains concepts which are focused on a two way dialogue between the worker and their supervisor to enable trust to develop in order for the worker to be satisfied and the company to achieve a goal. The focus on a two way dialogue has allowed complex concepts and conversations to occur. The two way dialogue approach has been adopted by Prime B who identified that at the end of each product launch there was no closure to allow for feedback and deconstruction of the process. Having attended sessions introducing the trust and communication concepts they decided the following:

"Instead of it just being 'this happens all the time thank god for that'. [The two companies will look at] Actually what we are going of do as a combined sort of visit with the key people from [The SME] and key people from our team and just go and look at [the newly created product in the store] and go you know what we did a really good job and it might just be half an hour to just go and look at [the product]. It might just be half an hour and sit down for a coffee all together and think about what went well what we could do better"

Behavioural Management Theory has proven to be a good way to introduce concepts into the workplace. The first example introduces the concept of strokes to the workplace by facilitating the feedback mechanism and setting time aside to value the contribution of key employees. These theories are embraced by the Action Research approach of the intervention allowing for feedback from the participants to be acted upon to improve the delivery of the sessions. In one instance a participant mentioned that the terminology was too dense, but would like to see the concepts applied to improving aspects of food safety. The open dialogue allowed the facilitators to explore with the participant how this could be brought about and integrated into the project with the wider supply chain.

4.3.3   Generational mixing in a non-work setting

Having investigated generational interplay in a vocational setting, it was unclear whether the character of a generation had a large enough effect on an individual's personality to manifest over the top of the noise generated by different 'Working Styles', culture and individual personality. It was there for necessary to widen the generational gap and observe the interaction between 'Generation Z' and those generations currently in the workplace.

The core values and working beliefs of the four Working Generations have been described in the first section of this report. Many of 'Generation Z' are yet to enter the workforce however some characteristics of this generation are already known from their observation at school and the environment they have grown up in. 'Generation Z' are most environmentally aware, with a mistrust of corporations leading to a readiness to leave a position if unhappy. This generation wants choice and needs structure and customisation in all aspects of life, so may not respond the culture of yearly performance reviews (Montana & Petit, 2008). This generation has been brought up on computers, the internet, mass media and social media; this makes for a technological savvy generation but also one that wants everything quickly with a short attention span (Berkup, 2014)

During all sessions of the careers event expert observers scrutinised the interaction between 'Generation Z' and the facilitators from 'Millennial' generation.

Millennial – Generation Z

The observed interaction between the young people and facilitators from the food business varied depending upon the group. The most positive interactions occurred when the 'Generation Z' participants accepted the facilitator into the group but did not rely upon them for leadership. From a Transactional Analysis perspective groups where this occurred held a positive set of 'Ego States' which promoted the use of Adult – Adult interaction. Some groups however "appeared to want the volunteers to play a leadership role in their teams". In these groups the natural assumed superiority of the food industry facilitator because the 'Generation Z' participants to interact with the facilitator 'Child – Parent'. It was observed that some facilitators successfully broke out of this type of interaction without causing damaging crossed life positions and entered into an Adult – Adult relationship, however, some groups could not break out of the established Child – Parent paradigm. In a minority of cases the facilitator was rejected by the 'Generation Z' participants and from observation over the course of the day, it appeared that these participants not only had a U- position in relation to the facilitator, but also had a T- position in relation to the event and caused upsets during the event and at lunch.

Although 'Life Positions' were established quickly at the start of the session changes in position did occur in reaction to situational stressors. One example of this was observed when a group's leadership broke down resulting in an ineffective and loud squabble over whose idea was best. This prompted the facilitating Millennial who was aware of the task and time pressures to react "very Parent at one point stood up and said 'lots of shouting, not much doing'. This assumption of 'Parent – Child' communication altered the communication paradigm for a short time after the stress related response until Adult – Adult 'Life Position' could be re-established.

The fact the facilitator was also an outsider as well as of a different generation may have impacted on the interactions observed. The experts were questioned on this topic and agreed that this could have been an issue as some facilitators were naturally less effective than others, for example when talking about one facilitator it was said "she was introverted and did not participate, disconnected". It was however observed that the "adult couldn't find a way in to interact with the pupils, the pupils were comfortable together i.e. naturally exclude adults." Showing that any interaction is at least partly influenced by generation.

Generation Z – Generation Z

In order to normalise the observations between the generations it was necessary to observe the interaction within generations. The experts observed that the interaction within the team was different depending upon the team and the stage in the event. Teams were allowed to choose their own team mates to ensure the only new factor introduced was the facilitator. As teams were often already acquainted the interaction within generations was largely amicable. Observers recorded that they "seemed comfortable", were "supportive and encouraging one another", formed "very chatty, two sub groups" and there was "open discussion, (Adult to Adult) with people sitting nearby". This remained the normal state of communication for the majority of the event however as with the interaction with the facilitator some students were forced into 'Parent – Child' 'communication by distracted teammates "the leader (a pupil) got frustrated because of their team". Some group's normal state of interaction was in the form of sub-groups which did not interact. While interaction was positive within these groups the facilitator had to intervene to bring the group back together. This occurrence was reported only in one group in one session where the observer reported the participants were "in sub-groups, pairs 1-2 people worked alone" and there was "little interaction and discussion as a team". As this was a transient state and quickly passed it was not clear whether silos had formed within the group due to U- states.

Generation Z/ Millennial – Generation X/ Baby Boomer

An extra unintentional element of generational interaction came about when the 'Generation Z' and millennial facilitators interacted with 'Generation X'/ 'Baby Boomer' volunteers from the University of Chester. During sessions featuring 'Generation X'/ 'Baby Boomer' volunteers, the two younger generations appeared to fully lose all barriers and merge into one subordinate group. This is exemplified by one particular comment "The Millennials had been converted from the role of 'Adult' to 'Child' by the change of situation and the presence of a baby boomer / Gen X who take on the Parent roll." This subordinate behaviour may have been forced by the volunteer who stated that "due to the lack of time the behavioural management approach becomes un-workable so the instructors adopt a command and control role." Which meant that they were more domineering over the participants.

4.4 A behavioural framework is required to facilitate a 21st Century approach to effectively coordinate supply chains.

The evidence from this project indicates that the concepts used in this project have had a marked positive impact upon the subjects and supply chains featured in this study. This project however not only used the concepts but also combined them to generate a greater impact. It is this aspect of the project which is believed to have shown that a Behavioural Framework is and essential tool for positive change. The Behavioural Framework has been shown to be effective in bringing about a positive change by measuring a number of different indicators of effectiveness. This was brought about by effective combination of the theories of Transactional Analysis, Behavioural Economics and Behavioural Management Theory. Which have been shown to have worked in effective combination in order to produce a more holistic impact on behaviour.

4.4.1 Effectiveness of the Behavioural Framework

The success of the interventions show that a combined use of behavioural concepts is an effective method to bring about change. Through analysis of the feedback and questionnaires it is possible to investigate the participant's views on a Behavioural Framework as a driver of change.

The quantitative evidence of the before and after questionnaire shows that when asked "I think people are as important as process" participants agreement with the statement increased from 63% to 70%. Through use of the Behavioural framework it has been clear that people are valuing the resources other people present. This has become most clear in people overcoming the endowment effect by considering the value of other people.

The questionnaire supplied to participants before and after the intervention showed that there was a positive shift in agreement with the statement "Our supply chain is effective".
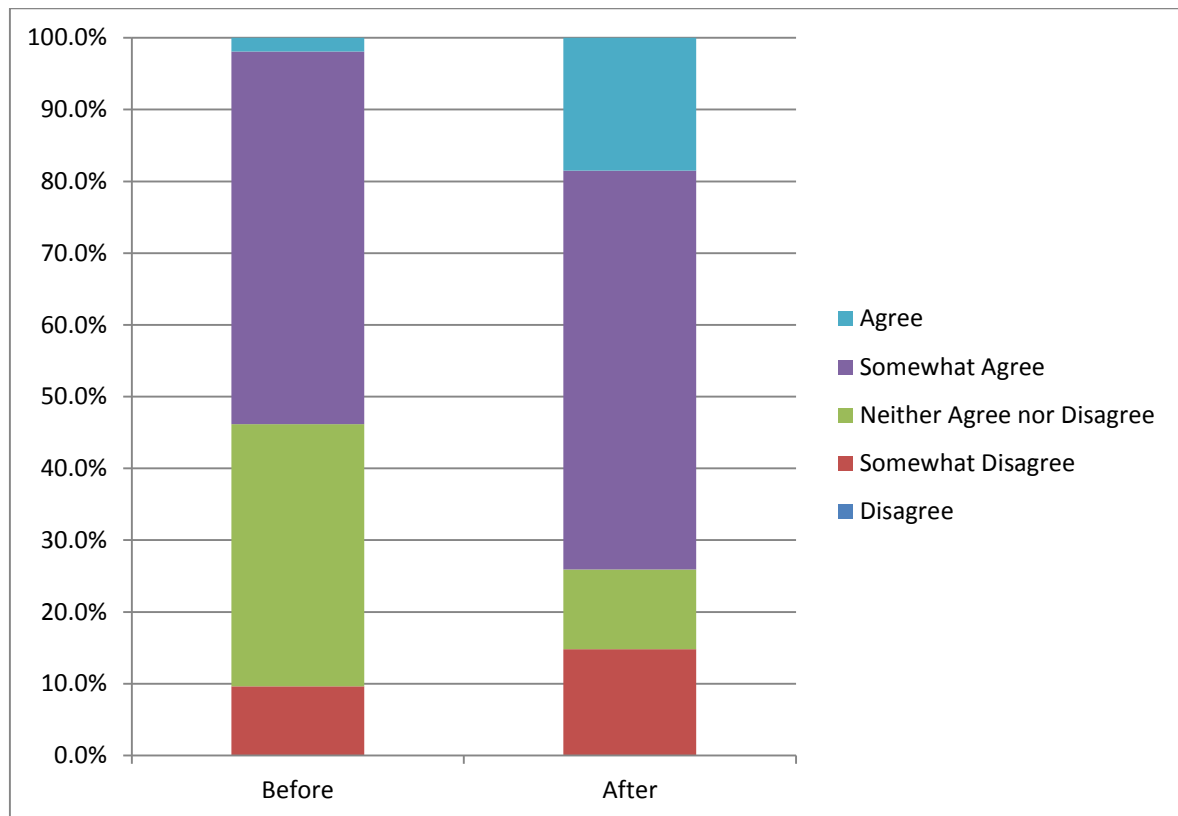
Figure 5. Agreement with the statement "Our supply chain is effective".

When asked questions concerning the effectiveness of the approach on the participants awareness of self, awareness of others, ability to take personal responsibility and belief in the ability to change. It is clearly indicated in Figure 6 that the impacts of each are evenly split between very effective and moderately effective.
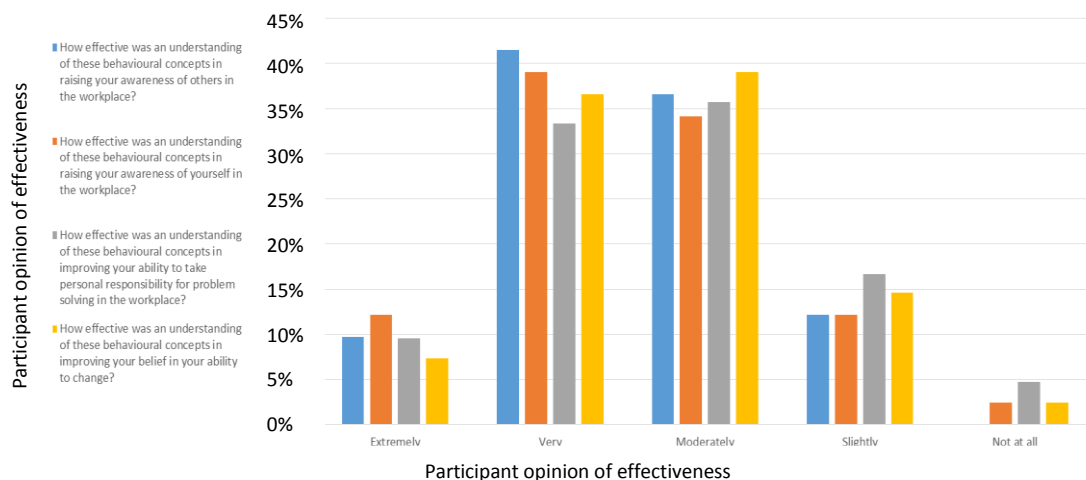
Figure 6. The understanding of concept use.

These results indicate a very encouraging impact for the Behavioural Framework as the vast majority of recipients claim to have been impacted to a large degree by the activities of the project. Of those reporting an extremely high impact of the study, three had been to one session, three had been to two sessions and one had been to six and eight sessions respectively. Showing that high attendance at sessions is not a requirement for high impact. One individual reported no impact at all for all except the question regarding awareness of others. This individual attended one session and individual feedback from that session shows no discontent, so it is unclear what resulted in a lack of understanding in these areas. Table 7 reports the statistical significance of a correlation between the number of sessions attended and the opinion of their effectiveness.

Table 7. The significance of correlation between the number of sessions and understanding of concept use

	number of sessions	How effective was an understanding of these behavioural concepts in raising your awareness of yourself in the workplace?	How effective was an understanding of these behavioural concepts in raising your awareness of others in the workplace?	How effective was an understanding of these behavioural concepts in improving your ability to take personal responsibility for problem solving in the workplace?	How effective was an understanding of these behavioural concepts in improving your belief in your ability to change?
number of sessions	1				
How effective was an understanding of these behavioural concepts in raising your awareness of yourself in the workplace?	0.2688 (P=0.0045)	1			
How effective was an understanding of these behavioural concepts in raising your awareness of others in the workplace?	0.2508 (P=0.0082)	0.9785 (P>0.000)	1		
How effective was an understanding of these behavioural concepts in improving your ability to take personal responsibility for problem solving in the workplace?	0.2660 (P=0.0049)	0.9547 (P>0.000)	0.9533 (P>0.000)	1	
How effective was an understanding of these behavioural concepts in improving your belief in your ability to change?	0.2966 (P=0.0016)	0.9529 (P>0.000)	0.9512 (P>0.000)	0.9698 (P>0.000)	1

All the correlations were highly significant which showed that the more sessions experienced the greater the self-reported effect of the concepts. Likewise there was a very strong correlation between the responses to all the questions showing that a participant who thought one area was effective is more likely to have thought others were also effective (Table. 7).

Effective use of concepts may possibly have translated into a positive impact in one of the teams in the supply chain of Prime A. This team was experiencing an increase in complaints during the period of 2013/14 (Figure 7).
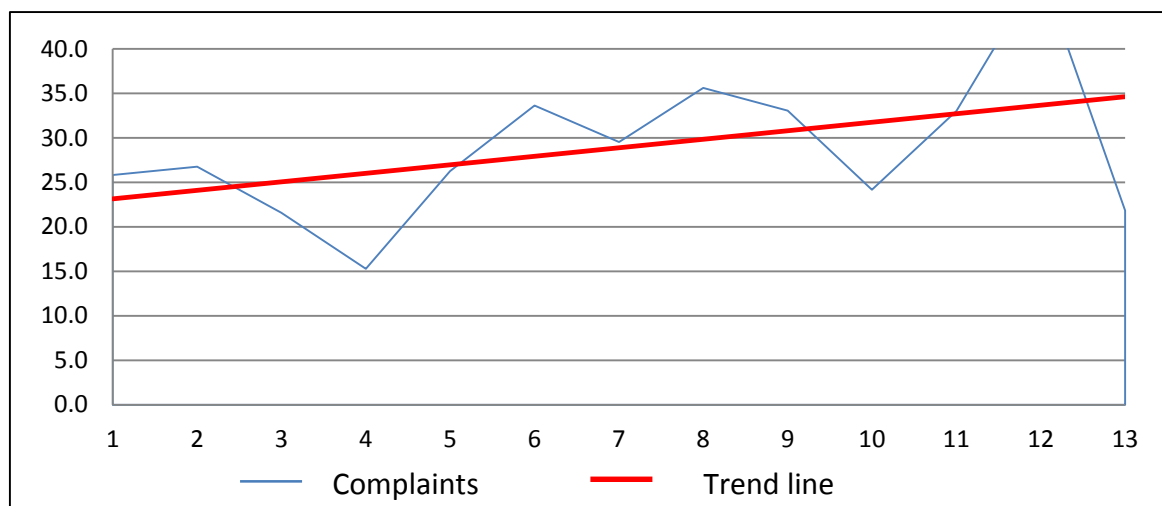
Figure 7. Complaints in Prime A team from Period 1 (September) to 13 (August) 2013/14

The HCM project then took place from November 2014 to March 2015. Over the 2014/15 period the complaints from the Prime A team decreased.
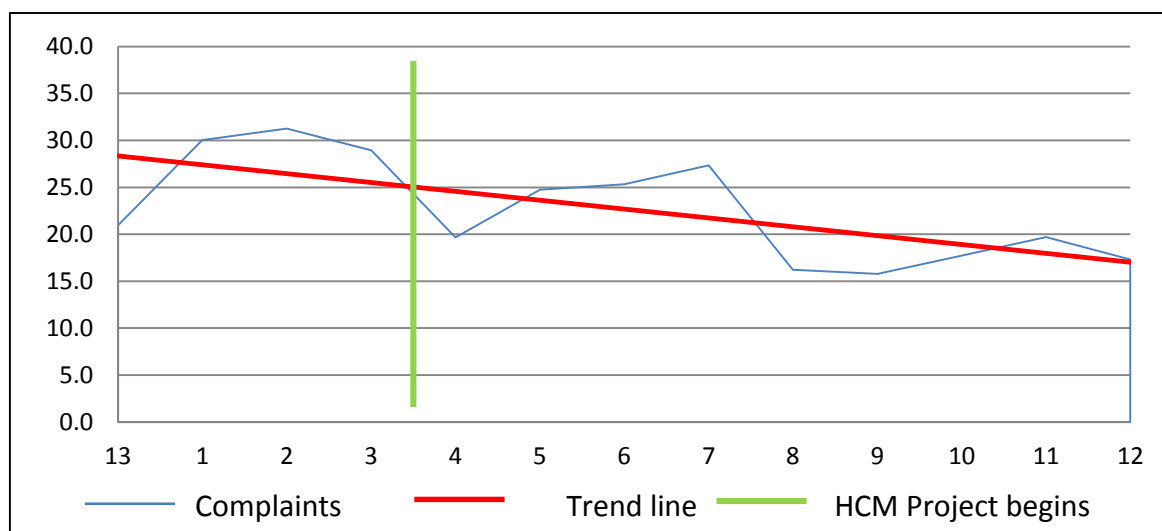
Figure 8. Complaints in Prime A team from Period 1 (September) to 13 (August) 2014/15

This chart indicates that since the start of the HCM project there has been a decrease in complaints from the Prime A team. This however should not be treated as a correlation as there are a number of other factors which could have resulted in this trend.

Though effectiveness of a supply chain may be high it is interesting to note that when asked in the questionnaire whether "Employees are satisfied" the greatest number (46%) of participants neither agreed nor disagreed, however after the sessions this figure dropped (19.4%). The after response became polarised with 48.4% now stating they somewhat agree and 22.6% now somewhat disagree. It is interesting to note that while perception of effectiveness has strongly increased, satisfaction with the supply chain is the measure with the greatest polarisation. This is possibly because satisfaction is a very nebulous concept which is personal in nature (Oliver, 2014). The activities in this study may even have tapped into honeymoon and hangover effects where "low satisfaction would precede a voluntary job change, with an increase in job satisfaction immediately following a job change (the honeymoon effect), followed by a decline in job satisfaction (the hangover effect)" (Boswell, Boudreau & Tichy, 2005).

4.4.2 Value of single concept use *vs* multiple concept use.

The areas of psychology utilised in this project are each a valued and successful method for bringing about change in the workplace. However the HCM project was carried out to understand how a Behavioural Framework comprised of multiple psychological theories could use this combination to greater effect.

Self-development

The workshops have allowed people to develop qualities within themselves in combination with the behavioural concepts. Alone the 'Working Styles' and Drivers have allowed for some generic improvements such as allowing "self-empowerment", "focus", "understanding that the limitations" and drive improve on "the negative points in my 'Working Style'". When combined with concepts from Behavioural Economics and Behavioural Management Theory it is possible to advance these generic improvements to more valuable change. When combined with an improved sense of trust one person claimed that they saw the bigger picture and could improve their contribution by "allowing others to help when necessary rather than thinking I need to do everything myself to ensure it's done". The 'Working Style' Driver has combined well with the 'Ego States' concept to allow people to think both about the people involved and the mode of communication leading one participant to say "these sessions have helped to put some science to why we may behave as we do … it may help me to become more understanding of others' behaviour". The 'Ego State' concept has also been combined with 'Framing' leading people to think about their "approach to different individuals in different ways to achieve a more beneficial outcome". This use of 'Framing' a situation differently depending on the desired 'Ego State' was also used by a number of others. One individual was also slowing down this thinking to consider the situation by "trying to adapt [their] way of dealing with staff in relation to 'Ego State'. [They] are aware that [they] use the Parent style and trying to adapt this more to Adult". A strong personal effect has been seen between the way people see themselves and the 'Life Positions' combined with other effects. Seeing others as 'Okay' has influenced trust and allowed people to overcome Loss Aversion brought on by the Endowment Effect exhibited by a number of people:

"I've just taken on a new cafe and the only way I can make it happen is by letting go a bit and getting someone else to join me and run it together. They would have a lot more autonomy than what I've been used to giving, but it is the move I need to make to get it going."

Seeing yourself "as 'equal' when communicating with more senior people and peers" shows a positive use of 'Ego States' to overcome the Framing Effects of hierarchies. Similar group images have been overcome or created by use of the 'Ego States' to give more realisations of common goals. For example one person stated "my overall outlook at the greater [Prime] team and the suppliers that aid our daily process has changed in the understanding that we are all working to achieve a common goal". Greatest personal effect can be has when the entire spectrum of techniques are used to create a positive attitude to others and overcome any negative 'Biases'. Exemplified by one person reflecting on their experience "It has made me think more about how colleagues may view themselves at work and how changing 'Working Styles' and 'Life Positions' can have a positive impact on our working environment as a whole. I shall continue to work with the premise 'I'm Okay/You're Okay'."

Small scale inter-staff relations

The workshops developed the participants' ability to work in a team by enhancing the way they consider others and themselves. The primary way this has been achieved on a small scale is through the 'Working Styles' alone. 'Working Styles' on their own have allowed people to understand the Driver of others for example "I have adjusted to respect the way of working of my colleague in the [Prime] Studio". However when combined with theories from Behavioural Economics and Behavioural Management Theory the 'Working Styles' have made further impacts on teams. In order to overcome the 'Affect Heuristic' that all people work the same managers are using 'Working Styles' to plan their teams.

- "In developing my team, the 'Working Style Drivers' will be a useful tool to get discussion started and give people good awareness of how they are working/interacting together."

- "I am currently revising the future team planning for my team and this knowledge is proving a useful underpinning to this process."

At an interpersonal level people are becoming aware of the false consensus generated by a 'Representative Heuristic' that everyone functions like they do and combining this with 'Working Styles' to overcome this misconception.

- "I've started adjusting the way I approach members of my team depending on their Working Style, this seems to work Okay."

- "I am able to understand the key differentials in people's 'Working Styles' and how I need to behave when interacting with them to generate mutual engagement and benefit"

- "An appreciation for people's different personalities, 'Working Styles' and thought processes certainly allows for more effective communication and collaborative working so I do feel that these sessions have been beneficial to us as a team"

This notion of acceptance of different 'Working Styles' has been used more specifically by one participant and now combines this knowledge with framing to present frames tasks differently to produce more positive results.

"My internal admin assistant in the studio is very slow and does not respond as quick as I would like to work. Taking into account his 'Working Style' is the opposite of mine; I have to take this into account when communicating with him, and now give him a deadline to work towards however small the project."

Supply chain relations

The workshops also influenced the behaviour of people communicating with one another along the supply chain, both within organisations and between organisations. Some of these effects are generalised but reveal very positive results. For instance "Working closer with the teams to problem solve has helped with the communication and decision making, resulting in a greater level of productivity". Other effects show positive use of specific behaviours from Behavioural Economics "Carrying out root cause analysis without blame [and] working with different teams to implement corrective actions and long term fixes".

Most however have combined theories and made change using Transactional Analysis which is informed by Behavioural Economics and Behavioural Management Theory. 'Ego States' of 'You're Okay' build trust allowing for managers to allow multiple teams to be more autonomous. "Encouraging Implementers to take ownership of their work and trusting them follow up and track down all information required to complete their tasks."

Two specific examples of this came to light through this project. The first shows how realisation of negative group images created by an 'Affect Heuristic' can be false and the behavioural concepts have provided the tools to repair the rifts between teams.

"The workshop really helped me to see how teams which had been opposing & very negative with each other were all just people trying to achieve the same goals. It made me see them as 'you're alright, I'm alright' and helped me see how working together we could make 'their alright' and achieve a better result. This understanding has helped me to instigate a series of discussions so our two teams can collaborate better to create a stronger united team. Even after our first meeting we have seen big positive changes and a more positive and collaborative working relationship between the two teams. A great example of this was instead of a blaming email being sent last week I received an email from my team saying how great the other team were (an external supplier) and how well a project had gone. This is a huge move forward so we are very pleased with how the training has helped us already."

The second shows how trust based on positive 'Ego States' can help organisations overcome 'Discounting Bias' and avoid being too optimistic about targets making deadlines more reasonable.

"We've recently started a budgeting process - one of the stages is review of the promotional plans for main retailers (checks in promotions are in line with internal guidelines, if they make sense financially, etc.). Although I would very much prefer to be able to review the promotional plans right away - in the first week of the budgeting cycle I gave a deadline of 2 weeks for the team of [Store X] and [Store Y] to work on their plans before I review them. This was the outcome of the discussion with them - deadline that they all agreed to as achievable, giving them more time for self - review, still leaving me enough time for final sign off of promotions."

Some single concepts have found effective use in negotiations between organisations "the concept 'I'm Okay – You're Okay' seems particularly useful. I tend to think about it while contacting internal/external customers." The 'Life Positions' have also been used in this way to help individuals in "reverting to constructive discussion rather than aggressive behaviour in meetings"

'Working Styles' have been extensively used to improve the communication in the supply chain. Some people used the theory generically by getting "to know the behaviour of each person they work with and change or adapt myself to meet them". Others have combined theories to apply both 'Working Styles' and Generational Scripts to inform their communication.

"Started working on better communication with those of different generations to myself. E.g. Before a meeting, anticipating the factors they would be most interested in and highlight those. Also preparing some questions or topics to discuss that they might not touch on due to different 'Working Styles'."

This way of working highlights people's ability to adapt their communication to match their audience by approaching "different 'Working Styles' in a more efficient way and ensuring the communication style reflects their 'Working Style' to achieve more effective results." This is indicated explicitly in one example of communication with another team where it is possible to see a combination of concepts using 'Working Styles' to provide a basis on which to overcome the false consensus that people are all like them:

"I work very closely with one of the category teams and after learning about 'Working Styles' I have been able to identify her as 'Be Perfect' Working Style, which I scored moderately low on. Previously I had frustrations with her need to go over even the smallest of matters in the greatest detail, which meant she quite often disrupted me to ask questions etc. However after learning about 'Working Styles' I definitely have more patience with her and have included more details on my tracker which allows her to see everything without having to ask me directly all the time. I recognised that even if I don't need to know each and every detail some people do and giving her this detail upfront has also allowed more effective communication between us and also enforced trust as she knows the jobs are all under control."

4.4.3 Look at weaknesses of concepts and see where others have been shown to fill the gaps.

As was discussed in the introduction to the concepts, each area of psychology utilised in this project does not reach its potential in isolation. This is because each has intrinsic strengths and weaknesses which can be supplemented by a complimentary theory.

Behavioural Economics has been criticised for not having an integrated method of implementing the concepts in order to bring about positive change. Transactional Analysis complements this shortcoming with some powerful implementable tools. In many situations it became apparent that a 'Bias' or 'Heuristic' was having an impact on a situation, however without the ability to communicate this irrationality in a sensitive way the situation could be made worse. The Transactional Analysis concepts of 'Ego States' and 'Life Positions' allowed people to communicate and respond in a considered way and confront barriers to progress rationally. This is not always easy as improvements brought on by the workshops are not always pleasant. Two interviewees reported on a meeting in which people overcame their 'Optimism Biases' and realistically talked about forecasts and the market. One interviewee stated "today I think there was more of honest communication, it was not a pleasant discussion to be honest" and later said "but I think more probably we're more honest at this session than the one which happened half a year ago". Other comments concerning communication present the impression that because of Transactional Analysis communication is "more honest"; there are "more and better debates and not just accepting things at face value"

Transactional Analysis has been criticised for being too superficial in its approach and not allowing for the underlying issues to be addressed. This weakness is the strength of Behavioural Economics which deals almost entirely with the underlying irrationalities behind behaviour. In one case the facilitators deconstructed a conversation recounted to them by a participant:

Table 8. A summary of the transaction with 'Life Positions'

Speaker	Life position	Summarised content
Person X	I+U-	"Person Y is lacking ambition"
Person Y	I+U+	Person Y expected the challenge and was prepared and "explained that Person Y is in a strong position because the company doesn't meet its targets and is under pressure from Prime A"
Person X & Y	I+U+T-	Met an understanding and Person X saw Person Y point of view

Transactional Analysis may only be able to analyse the surface Life Positions and prescribe to maintain a positive effect. However Behavioural Economics was able to deconstruct the 'Optimism Bias' that was at play which was resulting in company targets not being met.

One of the criticisms of both Transactional Analysis and Behavioural Economics stated that they are heavily reliant on jargon and terminology. However, the more flexible and nurturing approach of Behavioural Management Theory allowed people to take the essence of what was said and use the concepts how they saw fit.

In one instance a participant was having issues with an area of the supply chain who was not communicating and letting issues fester. This person could have used Transactional Analysis terminology to ask them to communicate sooner on an I+ U+ level before things get worse and fall into an I-U+ position. Instead in a briefing meeting they said "look if you guys are struggling you need to let me know so that we can try and work things out and make sure that you are able to achieve what is based in your plan and in that way we will work". This gets the message across and shows a consideration for Behavioural Management Theory's regard for trust in the individual.

4.5   How effective was the methodology used

The methods used to combine the concepts through a flexible Action Research approach appear to have been very successful and the fact that there were multiple areas of psychology being used was often not recognised. The concepts were drawn together effectively through the behavioural health check, real world examples and particularly the simulation which was praised for delivering a number of otherwise undiscovered insights. Likewise connecting people from separated areas of the supply chain to talk face-to-face was a highly effective mechanism for producing honest and beneficial conversation.

The feedback and interviews show some very encouraging use of the concepts four to five months after the end of the interventions. The discussions also show areas that can be improved to overcome the knowledge action gap.

4.6   Combining the concepts

In introducing the project and the methodology behind its implementation a number of methods of combining the behavioural theories were outlined. These methods were used by this project in the interventions which took place in the supply chains. By the nature of Action Research these methods were appraised and a number of other methods of implementation came to light through systematic observation and reflection.

The vast majority of interviewees thought that the approach of the workshops was effective in promoting behavioural change. The combination of Behavioural Economics, Transactional Analysis and Behavioural Management Theory was known about in every case and all interviewees thought the combination was effective. In reference to the combination interviewees reported that "they flowed on quite well", a "very effective and very nice to recap on everything within the industry environment" and "There was quite a lot of cross over". Some thought the combination was so seamless that they could not tell which area a concept was drawn from. It was also interesting that some people also reported that the concepts integrated well with insights training which had happened previously.

The feedback shows that people enjoyed interacting with others whom they do not normally meet, and found the simulation and game environment was not only fun but helped them communicate issues. The simulation was described as "practical" "dynamic" and "very interactive". Participants liked the way it brought people out of their adopted work personas and they became relatable people. Participants also enjoyed "working together", "working as a team for a bigger picture" and "seeing the results immediately". Figure 9 shows the specific opinions of the participants on the topic of the simulation. All responses were positive one of the best exclaimed "everyone is suddenly normal!"

Figure 9. Opinion of the simulation.

Behavioural mapping through the behavioural health check was a useful tool, however this did not come out in the reflections as it was a tool for the facilitators to use. The participants reported that they were often unsure what they were doing and did not see the value of the Health Check until they saw results. One interviewee said "but I thought these questions were asked previously and what was the purpose".

Real world examples were a very useful technique for deconstructing a normal occurrence and extracting the 'Biases' and 'Heuristics' inherent in the situation, highlighting the antagonism caused by crossed 'Life Positions' and suggesting ways that a solution could be brought about through better communication and decision making.

One instance of the process being used, was to understand the Behavioural Economics underpinning a tension between Sales and Finance, then overcame the issue with Transactional Analysis. The finance team provided some insights in to their relationship with the sales and marketing team, believing them to be too rash in changing approved figures. In this example the sales team member had come into an interaction having invested time and money into a solution ('Sunk Costs' and 'Availability Bias'). Wanting to protect this investment the sales team member was on their guard for any criticism/questioning of their sales targets. The sales team member also had a representation ('Representative Heuristic') of the finance team as always putting the break on decisions. The Facilitators workshopped this example and brought the parties to a solution through understanding how the 'Heuristics' they held effected their 'Ego States' on entering a conversation.

The 'Egogram' visualisation tool allowed the user to draw 'blobs' of a size which represents their association with an 'Ego State'. The facilitators found this to be a more effective tool than a straight forward 'Egogram', as it relied less heavily on a rational balancing of factors and more on honest gut feeling of how they felt. This method takes advantage of theories from Art Therapy, allowing an individual to more honestly reflect their mental status through drawing (Fink, 1973).

4.6.1 Kolb's cycle

The Action Research taking place in this project hinged on the effective use of Kolb's cycle of 'Preparing', 'Acting', 'Observing' and 'Reflecting'. It is believed that a large proportion of the success of the interventions was due to the flexibility of the approach allowing for both long term planning and considered reaction.

Kolb's cycle was firstly effective in achieving "buy in" from the Primes by reassuring them that the approach was flexible and not prescriptive. The "buy in" session then allowed the facilitators to learn about the supply chain and create an approach which would be most appropriate. From that point the reflexive cycles allowed the facilitators and participants to both learn to produce a positive impact. Reflection occurred both from observations of the sessions and from feedback from the participants. Observation of the participants was used to gauge how the participants understanding of concepts was progressing over time for instance in some one-to-one sessions the facilitators commented on the progressive use of the concept language. Observation allowed the facilitators to record what had worked particularly well and reflect on its use in further sessions for example significant breakthroughs were brought about by integrating 'Two Systems Cognition' into one particular session then replicated further. The participant feedback was constructive on the whole. For instance one session's feedback asked for "breaks in between activities", "maybe a bit more explaining of the harder subjects" and "more time on call trying to reflect". These effectively informed facilitators how the event could have been improved with more time given to reflection to allow the theory to be better understood.

4.6.2   Geographical separation

It became apparent from feedback and interviews with participants that one of the key methodological impacts of this study was enabling face-to-face communication between individuals who are involved in a supply chain separated by a great distance. When combined with the simulations and exercises, communication and trust appear to have broken down many of the silos which had been present within the supply chains. Individuals working in dispersed teams met and learned new things about one another one person stated "we don't get to spend much time together it's basically just phone calls and emails and you know having us in one room and sharing some of the challenges that we have, I think it was really good. One of my colleagues when she was describing some of the challenges that she has she tried to profile herself she found she had a lot of Inhibited 'Child' in her and I would never say that of her". Primes and SMEs were brought together to discuss the challenges of their relationship and also learned they had a lot in common, as one person said "it is just great to get everybody in a room together and talk over things which connect us all without really realising". All the individual connections have led to a more unified way of working by breaking down some of the silos created by misunderstanding and negative group images. One interviewee said "we are now communicating on a daily basis and in a face-to-face way twice a week with the suppliers to see if there are any things that they have a problem with. So it's more instead of just an email which is impersonal it's more face-to-face"

Research indicates that an over reliance on technology is damaging our ability to communicate in person (Turkle, 2012). Face-to-face meetings facilitate communication through allowing nonverbal cues to be observed, which would not be understood over the telephone or in an email (Henkel, 2007). Meeting in person also encourages communicating by allowing multiple people to express ideas rapidly and generate instant feedback. It may be possible to replicate some of the essence of a face-to-face meeting using virtual methods; however many business' technology platforms are not yet sophisticated enough to ensure full participation (Cameron, 2005).

4.6.3   Turning Knowledge into action

The knowledge action gap is a well-known phenomenon explored by behavioural change research. This discrepancy between what is known by the individual and what is carried out occurs in a number of fields, most notably when there is a large discrepancy between what is known about sustainable action and what is done in reality.

One source of the knowledge action discrepancy is the feeling that what is known does not apply to you or you cannot relate to an issue. This was explored through analysis of the responses to how people felt they understood concepts and how they acted on concepts.
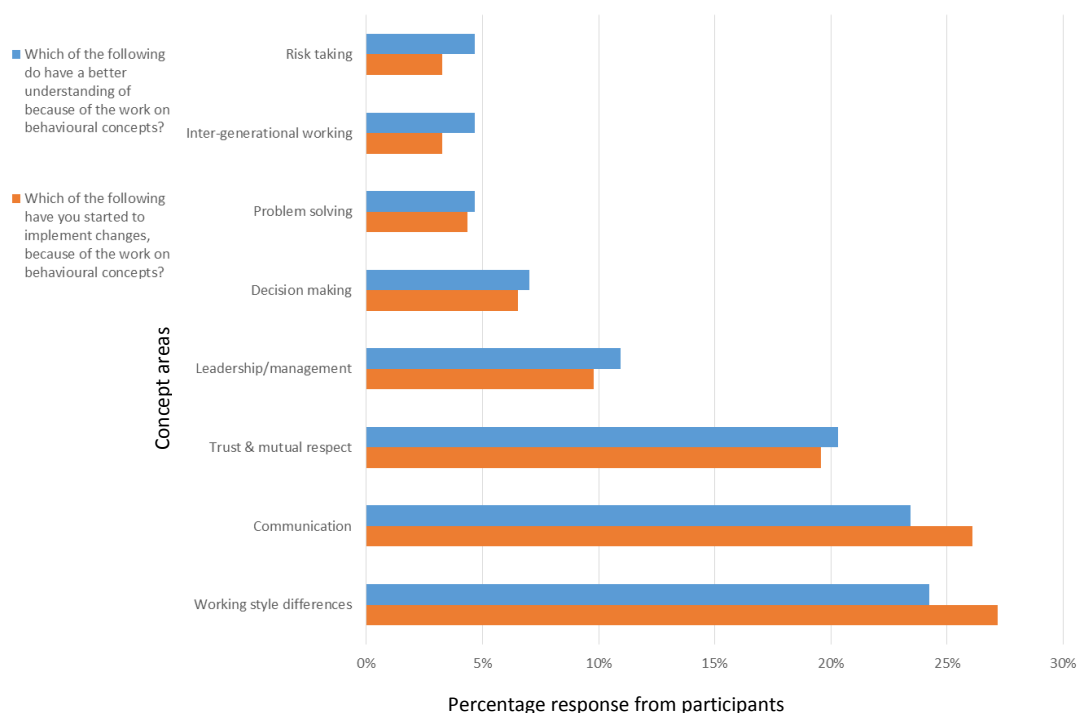
Figure 10. The understanding and use of concept areas.

The results from Figure 10 indicate that people had started to make the most changes in the areas they felt they had most developed. The results from this question may appear somewhat surprising when viewed in light of the number of individuals exposed to the concepts which feed into the development areas. 28 people were instructed in the areas allied to "'Working Style' differences" compared to the 43 instructed in the areas allied to "decision making". This could be explained by work conducted by Rogers, Kuiper and Kirker (1977) who found that information regarding the self was more easily encoded by the memory due to the fact they were self-referencing and recalled and recognised more frequently. As 'Working Style' is the only development area that explicitly deals with the individual's (and others) 'Working Style' it may be encoded more strongly.

People's faith in the method and the outcome can undermine the amount of effort they would be willing to expend. When exploring people's initial reactions to the concepts they were found to be positive saying "they all had a very integral part to play" and those SMEs working with primes said that it was "interesting what we were being told by people that we work alongside with and systems that we use". Some people were more sceptical stating that "it all sounds very well on a sheet of paper or in a booklet, I guess in the heat of business and discussion that go on I think it is quite difficult to bring yourself from your natural state." These impressions however soon changed "as me and my team spent a bit more time with the guys leading this, it did start to settle in a bit and gave us sort of tools which we can use when we are having those difficult conversations". As the workshops progressed people's reactions to the concepts were either unchanged or more positive than their initial impressions. The positive attitude toward a concept can have a lasting effect on the probability of using it. Attitudes are defined as the enduring positive or negative feeling about some person, object, or issue. Closely related to attitudes are beliefs, which refer to the information (the knowledge) a person has about a person, object, or issue (Newhouse, 1991). Attitude has a small impact of behaviour and has been shown to be beneficial to the completion of low cost behavioural change (Diekmann and Preisendoerfer, 1992).

5   Conclusion

As has been discussed previously in this report the strength of Behavioural Economics is to understand the 'Biases' and behaviours exhibited by acting members in a supply chain which do not appear to be rational. The theories discussed provide the user with tools which will allow them to understand inefficient behaviour observed in themselves and their colleagues. However, where Behavioural Economics falls down is that it does not provide tools to overcome these 'Biases' in ourselves only to exploit them in competitors. This is where Transactional Analysis complements Behavioural Economics so completely, by providing a solution born in psychotherapy providing individuals with the tools to understand themselves and bring them into line with a more efficient approach. These two powerful areas of psychology were efficiently implemented by the subjects through the more behaviour focused Human Centred Management accounting for individuals as human beings not parts in a company machine.

The delivery of these three concepts areas through Action Research and Kolb's Cycles provided a flexible approach which was adaptable to situations whilst also targeting the needs of the organisation. Initiating with the Behavioural Health check provided the facilitators with an excellent position from which to plan their approach and allow the methods used to integrate the three concept areas to be very effective. The simulation has been praised by a number of individuals for the perspective it gave and linking geographically separated teams had a marked effect on the levels of communication observed.

The combination of Behavioural Economics, Transactional Analysis and Human Centred Management produced a combined remarkable impact on the supply chains affected. Behavioural Economics has been demonstrated as an effective analytical tool, allowing individuals to understand the underlying motives behind decisions made by others and themselves. The Concepts used by Transactional Analysis have transformed the communication styles of many individuals allowing them to use the new knowledge they possess to communicate in a considered and considerate way. The improvements made in these two areas have been shown to continue to impact the supply chains months after the interventions took place. Behavioural Management Theory's inclusive ethos combined with slowed more considered thinking and the conditioning effect of strokes have prolonged the impact on all generations. The Behavioural Framework in the form of the illustrative document produced will allow this work to continue to bring a 21st century approach to business management.

Bibliography

The Economist. (2012, March). *Nudge Nudge, Think Think.* Retrieved from wwww.theeconomist.com 07/07/2015

Aitken, A., & Crawford, L. (2007). Coping with stress: Dispositional coping strategies of project managers. *International Journal of Project Management*, *25*(7), 666-673.

Berkup, S. B. (2014). Working With Generations X And Y In Generation Z Period: Management Of Different Generations In Business Life. *Mediterranean Journal of Social Sciences, 5*(19), 218.

Boswell, W. R., Boudreau, J. W., & Tichy, J. (2005). The relationship between employee job change and job satisfaction: the honeymoon-hangover effect. *Journal of applied psychology,* 90(5), 882.

Camerer, C. F., & Malmendier, U. (2007). *Behavioral organizational economics. Behavioral Economics and Its Applications*, Princeton and Oxford: Princeton University Press

Cameron, E. (2005). *Facilitation made easy: practical tips to improve meetings and workshops.* Philadelphia: Kogan Page Publishers.

Diekmann, A. & Preisendoerfer, P. (1992) Persoenliches Umweltverhalten: Die Diskrepanz zwischen Anspruch und Wirklichkeit. *Koelner Zeitschrift fuer Soziologie und Sozialpsychologie*, 44, pp. 226–251.

Fink, P. J. (1973). Art as a reflection of mental status. *Art Psychotherapy*, 1(1), 17-30.

Getty, R. E. (1976). Reward, reinforcement and recognition: A comparative analysis. *Transactional Analysis Journal.*

Gillespie, R. (1993). *Manufacturing knowledge: a history of the Hawthorne experiments*: Cambridge: Cambridge University Press.

Henkel, S. L. (2007). *Successful meetings: How to plan, prepare, and execute top-notch business meetings.* Washington: Atlantic Publishing Company.

Johnston. (2004). *What Drives Supply Chain Behavior?* Harvard Business School: Working Knowledge

Kemmis, S., McTaggart, R., & Nixon, R. (2013). *The Action Research planner: Doing critical participatory Action Research*, Berlin: Springer Science & Business Media.

Lunn, P. (2008). *Behavioural Economics: is it such a big deal?* Retrieved from http://www.prospectmagazine.co.uk 30/07/2015

Luthans, F., Stajkovic, A., Luthans, B. C., & Luthans, K. (1998). Applying behavioral management in Eastern Europe. *European Management Journal, 16*(4), 466-475.

Montana, P. J., & Petit, F. (2008). Motivating Generation X and Y on the job and preparing Z. *Global Journal of Business Research, 2*(2), 139-148.

Mullainathan, S., & Thaler, R. H. (2000). Behavioral economics. NBER Working Paper Series: National Bureau of Economic Research.

Murray, D., & Chua, S. (2014). Differences in Leadership Styles and Motives in Men and Women: How Generational Theory Informs Gender Role Congruity. In European Conference on Management, Leadership & Governance (p. 192). Academic Conferences International Limited.

Newhouse, N. (1990). Implications of attitude and behavior research for environmental conservation*. The Journal of Environmental Education*, 22(1), 26-32.

New York Times. (2015). The New York times Best Sellers. Retrieved from http://www.nytimes.com/ 28/09/2015

Oliver, R. L. (2014). *Satisfaction: A behavioral perspective on the consumer*. London: Routledge.

Patel, T. (2007). *Stereotypes of intercultural management.* Delft: Eburon

Parry, E., & Urwin, P. (2011). Generational differences in work values: A review of theory and evidence*. International Journal of Management Reviews*, 13(1), 79-96.

Rogers, T. B., Kuiper, N. A., & Kirker, W. S. (1977). Self-reference and the encoding of personal information. *Journal of Personality and Social Psychology, 35*(9), 677.

Skinner, B. F. (1953). *Science and human behavior.* New York: Simon and Schuster

Triandis, H. C., & Suh, E. M. (2002). Cultural influences on personality. *Annual review of psychology,* 53(1), 133-160.

Turkle, S. (2012). *Alone together: Why we expect more from technology and less from each other.* New York: Basic books.

Appendices

- Appendix A – Glossary of behavioural techniques

- Appendix B – Strengths and Weaknesses of the behavioural theories.

- Appendix C – Case studies

- Appendix D – Changes in opinion of the food business

- Appendix E – Behavioural Framework

Tables and Figures

Figure Number:	Page Number:	Figure Title:
1A	79	Illustration of complimentary and crossed transactions
2A	86	Sample 'Egogram' template
3A	98	Percentage change in response to the question "Would you consider working for a food & drink company?" from before the event to after the event.
4A	99	Percentage change in response to the question "Food & drink companies can offer a long term career?" from before the event to after the event.
5A	99	Percentage change in response to the question "How important do you think science is to food & drink companies?" from before the event to after the event.
6A	101	The percentage response to the question "When you think of a career in the food and drink sector, what springs to mind?"
7A	102	Percentage response to the question "What skills do you think would be useful if you wanted to work in the food and drink sector?"
8A	103	Correlation between the desired attributes for a career and those expected from a career in the food industry.

Table Number:	Page Number:	Table Title:
1A	79	Description of 'Ego States'
2A	81	'Life Positions' and their short hand explained in summary
3A	82	3D 'Okayness' 'Life Positions' and their short hand explained in summary
4A	83	Maslow's Hierarchies described in summary
5A	86	Description of Strokes used in Transactional Analysis
6A	88	'Working Styles' explained in summary with reference to strengths and weaknesses

Appendix A – Glossary of behavioural techniques

Behavioural Economics – BE

Transactional analysis – TA

Behavioural Management Theory – BMT

The Affect Heuristic - BE

In layman's terms this concept is referred to as "gut feeling". When making decisions it is common for people to take a sometimes irrational liking or dislike to one or other possible options. This may be triggered by a word, situation, tone or other minor stimulus which triggers an emotional response which then colours the options, causing individual irrationalities within each person.

Anchoring - BE

In the workplace this theory is predominantly active during negotiations. Here people have an irrational tendency to use an initial piece of information or bid as a reference point against which all further judgements of value and quantity are made. For instance, those opening negotiations with a high figure are more likely to result in a higher than normal figure on closing negotiations.

Availability Heuristic - BE

This is a cognitive shortcut, labelling a piece of information as more important if an example of it can be brought to mind easily. For example, a person may consider an investment risky if a friend had lost money investing in an unrelated venture.

Confirmation Bias - BE

People are more likely to, interpret, or recall information in a way that confirms their beliefs or hypotheses. This effect is made more powerful when strong emotions or strongly held beliefs play a part in recall. This influence can also result in biased interpretation of ambiguous information.

Conformity - BE

Commonly known as "following the herd" this concept imparts a normative influence on people dependent upon the information that is provided about the opinions or actions of others. For instance if you are informed that 75% of people in your workplace organise their emails by sender, you are then more likely to take up this practice.

Contracting/Agreements - TA

Once an issue is understood the process by which a client changes their attitude is formalised in a contract with the independent observer (facilitator). The goal of the contract is to attain and maintain I+ U+ T+. A contract is made with an understanding of what change is to be made, how a change will take place and over what time scale, what could present a barrier to progress, how change will be rewarded, how will change be recognised and what is to be done after to maintain a positive 'Ego State'.

Ego States and the Egogram - TA

Eric Burn was inspired by Sigmund Freud's assertion that the psyche was multi-faceted, but was not satisfied with the intangible nature of the Id, Ego and the Superego. Over the course of years of psychiatric work with a multitude of patients, Burn noted the importance of viewing his patient's interactions and developed his own multi-faceted theory of how these transactions are played out.

Child - felt concept:

The Child agent (the one who engages) and respondent (the one who responds) acts from emotions or feelings in any transaction. Many of these actions are to satisfy the self, based upon internal need.

Parent - taught concept:

The Parent acts from the rules of discourse they have been taught by others in early life. These actions and reactions stem from rules that must be followed without questioning their legitimacy.

Adult – learned concept: The Adult is the interface between the Parent and Child which considers the input from what the Child feels and what the Parent say and learns to interpret the world in a rational way.

Positive (complimentary) transactions occur when the agent and respondent correctly target their transaction.
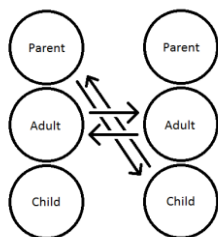
Negative (crossed) transactions occur when the agent and respondent incorrectly target their transaction.
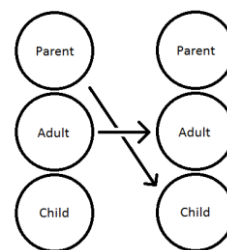
Figure 1A. Illustration of complimentary and crossed transactions

The 'Egogram' is an extension of the 'Ego States' Theory and is used to allow individuals to reflect upon their motivations. For this, the 'Ego States' Child and Parent are further deconstructed into free and adaptive for Child and critical and nurturing for Parent, these are further subdivided to include positive and negative states.

Table 1A. Description of 'Ego States'

'Ego State'		Description		Positive (+) and negative (-) States
Child	Free Child	Actions are independent of parental pressures	+	Spontaneous
			-	Immature
	Adapted Child	Actions are developed in in reaction to parental figures	+	obedience and submission
			-	sulking and defiance
Parent	Critical Parent	Actions are domineering, structuring and controlling	+	Structuring
			-	Critical
	Nurturing Parent	Actions are sympathetic and nurturing	+	Nurturing, sympathetic
			-	Spoiling

In order to create an 'Egogram', the subject is presented with a blank bar graph, (Example below). This is then completed with the proportion of time the subject believes they spend in that 'Ego State'.
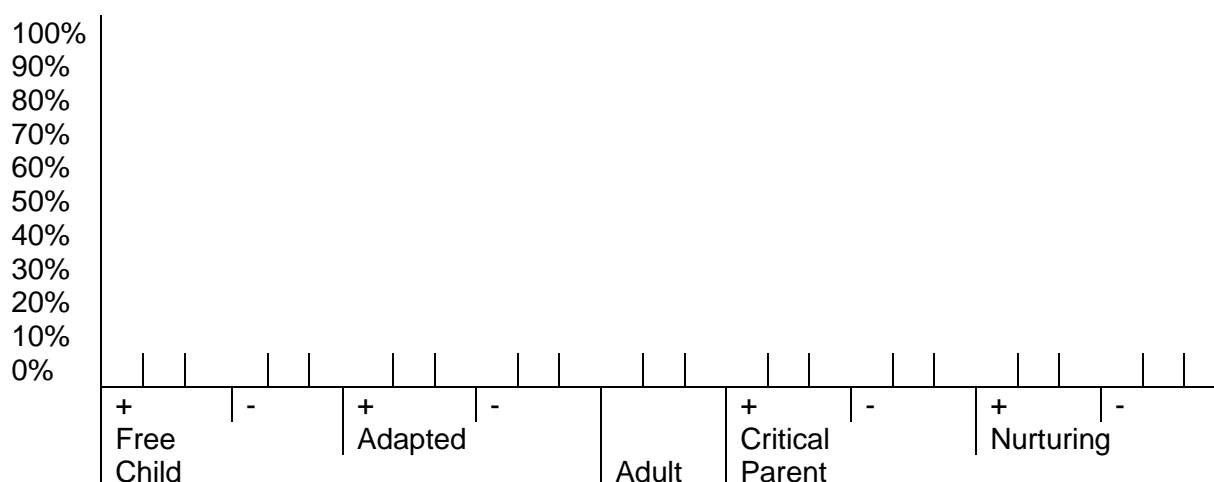
Figure 2A. Sample 'Egogram' template

Framing / Priming - BE

This concept describes subtle differences in the way that questions are asked or situations are arranged in order to alter the perception of the choices presented. This can be used to shift focus on a particular aspect of negotiations or on the psychological pain of loss if an opportunity is missed.

Generational Scripts - TA

Generational Scripts are a form of Cultural Script shared by a generation. A Cultural Script is defined by Burne (1963) thus: "The material, intellectual and social influences which regulate the group work, including the technical culture, the group etiquette and the group character". These cover the subconscious rules and 'Biases' which are inherent within a generation. For instance a Generational Script may be that Millennials are disproportionally ambitious when compared to other generations. These can be important to know when managing different generations as some Generational Scripts may come into conflict.

Group Images - BE

A group image can unite a team with commonalities and give people a sense of shared purpose, belonging and pride. However, this can result in demonization of those not in the group, or in other groups and result in tension between groups and individuals that may need to work together.

Hindsight Bias - BE

Also known as the "knew-it-all-along" effect is the predisposition for people to see an event as having been predictable after the fact. This can lead to antagonism or over confidence when one party claims that they had predicted an outcome all along.

'Life Positions'/'Okayness' - TA

In the highly regarded text "TA Today" Stewart and Jones (1987) describe 'Okayness' as the "essential value" one feels when describing themselves or others. These are the basic beliefs about the self and others which are used to justify decisions. If considering only the self and another individual there are four 'Life Positions' made possible:

Table 2A. 'Life Positions' and their short hand explained in summary

Life Position	Shorthand	Description
I'm Okay, You're Okay	I+ U+	The ideal and mentally healthy position, allows for constructive discussion.
I'm Okay, You're not Okay	I+ U-	The position of someone who is being victimised or is victimising. Blame is external and others points of view are dismissed.
I'm not Okay, You're Okay	I- U+	Feeling powerless and withdrawn. Can lead to depression a feeling that you don't match up to others.
I'm not Okay, You're not Okay	I- U-	A hopeless situation where one feels powerless and has no faith in the power of others.

By adulthood one 'Life Position' dominates a person's outlook and is reinforced by the mental attitude which created said 'Life Position'. We do not however stay on one position all of the time, situations and stresses can force a shift in 'Life Position'. Some theorists believe that this same framework can be used to characterise both the long term learned 'Life Position' (Character position) and the more transient changes in 'Life Position' (Surface 'Life Position'). Application of these 'Life Positions' has been used in a number of situations to explain human interaction. One of the most notable is the blame model translating those who are not Okay to those who are to blame e.g. 'I'm not Okay – You're Okay' = I'm to blame you're not to blame.

Based on the 'Life Positions' discussed the 3D 'Okayness' model adds a 3rd component "They", referring to the company, the country or the world depending how large a "they" is being considered". This expands the 'Life Positions' to encompass 8 states.

Table 3A. 3D 'Okayness' 'Life Positions' and their short hand explained in summary

State short hand	
I+ U+ T+	Democratic Community Position. Healthy
I+ U+ T-	Gang position "who needs them". Silo
I+ U- T-	Solitary self-righteous critic, Bully
I- U+ T+	Self-punishing saint or masochist, isolated
I- U+ T-	Servile positon, Idealising
I- U- T+	Servile envy, Grass is greener
I+ U-T+	You're an outsider, Scapegoat
I- U- T-	Hopeless position

Loss Aversion and Endowment Effect - BE

This is encapsulated in the expression "losses loom larger than gains" (Kahneman & Tversky, 1979). People are likely to work twice as hard or to take twice as many risks to avoid loss, than they are to acquire gains.

Maslow Hierarchy of Needs and Generations - BMT

Abraham Maslow was a psychologist investigating human satisfaction and in his seminal 1943 paper "A Theory of Human Motivation" outlines the hierarchy of needs which has been used to this day to identify the prerequisites for human satisfaction. These levels are "Physiological", "Safety", "Love/Belongingness", "Esteem", "Self-actualization" and finally "Self-Transcendence" added later in 1969 (Koltko-Rivera, 2006). Each level of the hierarchy is thought to require satisfaction before a subsequent level may be considered, however there have been exceptions to these rules for instance an abused child foregoing safety in order to attain love.

This summary provides a brief overview of the generic individual needs:

Table 4A. Maslow's Hierarchies described in summary

Level	Title	Description
1.	Physiological	Physical requirements for the human body. Air, water, food, shelter, clothing etc.
2.	Safety	Physical safety – lack of danger Economic safety – work opportunities and stable finances. Health safety – no impending health risks or diseases.
3.	Love/belongingness	Need for interpersonal belonging in the form of friendship, intimacy and family.
4.	Esteem	Need to attain self-esteem (higher) and feel respected (lower). Higher version of esteem takes precedence.
5.	Self-actualization	"What a man can be, he must be "(Maslow, 1954). This refers to a person attaining their full potential, be it academically, aesthetically, physically or any other measure of attainment.
6.	Self-transcendence	Going beyond the needs of the self to satisfy needs of others through spirituality or altruism.

Maslow's Hierarchy of needs has been used to identify the motivating factors of different generations, these motivations reflect the needs of generation (Zemke, Raines & Claire, 2013)

Traditionalist	Core values: Adhere to rules, Conformers/Conformity, Contributing to the Collective good is important, Dedication/Sacrifice, Delayed Reward, Discipline, Don't question authority, Duty before pleasure, Family Focus, "Giving Back" is important, Hard Work, Law and Order, Loyalty, Patriotism, Patience, Respect for authority, Responsibility, Savers, Stabilizing, Trust in Government. Workplace views: Authority - Authority is based on seniority and tenure Time at work - Punch the clock Get the job done Training - Training happens on the job. Newly developed skills benefit the company, not the individual Work life balance - Work hard to maintain job security
Baby Boomer	Ability to handle a crisis, Ambitious, Anti-extablishmentism, Challenge Authority, Competent, Competitive, Consensus Leadership, Consumerism, Ethical, Good communication skills, Idealism, Live to work, Loyal to careers and employers, Most educated as compared to other 3 generations, Multi-taskers, Rebellious against convention, beginning with their conservative parents, Traditionally found their worth in their work ethic but now seek a healthy life/work balance, Optimistic, Political correctness, Strong work ethic, Willing to take on responsibility Workplace views: Authority - Originally sceptical of authority but are becoming similar to Traditionalists- Time equals authority Time at work - Workaholics Invented 50 hour work week Visibility is the key Training - Skills are an ingredient to success but they are not as important as work ethic and "face time". Work life balance - Were hesitant of taking too much time off work for fear of losing their place on the corporate team. As a result, there is an imbalance between work and family
Generation X	Adaptable, Angry but don't know why, Anti-establishment, Big Gap with boomers, Can change, Crave independence, Confident, Competent, Ethical, Flexible, Focus on Results, Free agents, High degree of brand loyalty, Ignore leadership, Independent, Loyal to Manager, Pragmatic, Results driven, Self-starters, Self-sufficient, Sceptical of institutions, Strong sense of entitlement, Unimpressed with Authority, Willing to take on responsibility, Willing to put in the extra time to get a job done, Work to live Workplace views: Authority - Skeptical of authority figures Will test authority repeatedly. Time at work – Project oriented Get paid to get job done Training – Amassed skills will lead to next job, the more they know the better. Work ethic is important, but not as much as skills Work life balance – Boomer/ Workaholic parents cause a focus on clearer balance between work and family. Don't worry about losing their place in the corporation if they take time off.
Millennial/ Generation Y	Ambitious but not entirely focused, Look to the workplace for direction, At ease in teams, Attached to their gadgets & parents, Best educated – Confident, Diversity Focused, Have not lived without computers, Eager to spend money, Fiercely Independent, Focus is children/family, Focus on change using technology, Friendly Scheduled structured lives, Global way of thinking, High speed stimulus junkies, Innovative-think our of box, Individualistic yet group oriented, Invited as children to play a lead role in family's purchasing and travel decisions, Loyal to peers, Sociable, "Me First " Attitude in work life, Net-centric team players, Open to new ideas, Optimistic, Political Savvy, Respect given for competency not title, Respectful of character development, Self –absorbed, Strong sense of entitlement, Think mature generation is "cool", Want to please others, Hope to make life contributions to world, Seek responsibility early on in their roles Workplace views: Authority - Will test authority but often seen out authority figures when looking for guidance. Time at work – Effective workers but gone @5PM on dot. View work as something that fills the time between weekends. Training – Training is important and new skills will ease stressful situations. Motivated by learning / want to see immediate results. Work life balance - Not only balance with work and life, but balance with work, life and community involvement and self-development. Flex time, job sharing, and sabbaticals will be requested more by this generation.

Different areas of Maslow's Hierarchy of needs are more applicable to different generations. When considering Millennials it can be seen that many of their core values correlate most closely with the final four hierarchical needs, whereas traditionalists are more motivated by the safety of job security and high wages, but also by belonging to a larger whole.

Optimism Bias - BE

Known also as unrealistic or comparative optimism, 'Optimism Bias' is the propensity for people to believe they will be more able or more willing to complete a task in the future. This stems from people's inability to predict future states of being and can lead to over optimism when scheduling deadlines.

Representative Heuristic - BE

May commonly be called "tarring with the same brush". This is the inclination of people to use what they know about someone to place them into a pre-existing social, economic or behavioural group. This can also occur when judging inanimate things such as objects or venues.

Reputation, Trust and Fairness - BMT

Douglas McGregor (1960) was inspired by the Hawthorn experiments and identified two types of management styles. The manager X ignores Behavioural Management Theory entirely and believes that the average person needs close management, cannot be trusted, needs threats to perform otherwise they will avoid work and be unambitious. Whereas manager Y treats staff as individuals and believes the average person accepts and seeks responsibility, is imaginative, industrious and will apply themselves to their task without threat of punishment.

Social Norms *vs.* Market Norms - BE

These are signals of what is appropriate behaviour within a community (social) or best practice in business (market). Social and Market Norms may operate within the same sphere and on occasion come into conflict. For example, it is the Market Norm to charge a client for each service performed, however Social Norms may dictate that free services should be given in order to satisfy or elicit reciprocity.

Stroke Patterns - TA

A Stroke is a unit of attention which provides stimulation to an individual (Woollams & Brown, 1978). This name is derived from the human need for physical contact and stimulation. There are a number of types of Stroke:

Table 5A. Description of Strokes used in Transactional Analysis

Name	Description	Example
Positive	Strokes with positive intent and effect	"I like you"
Negative	Strokes with negative intent and effect	"I don't like you"
Verbal	Verbal communication	Speech
Non-verbal	Non-verbal communication	Eye contact, gestures, gifts
Internal	Strokes given to yourself	Fantasies, self-praise and other forms of self-stimulation.
External	Strokes given by others	Praise and insults
Conditional	Strokes given in relation to something you own or relating to you.	"I like your coat".
Unconditional	Strokes given about you.	"I love you" (POSITIVE): NEGATIVE: ("I hate you".)
Counterfeit Strokes	Strokes which give a positive then take it away.	"You are very clever, for a boy"
Plastic Strokes	Insincere positives	"that looks great" (said without looking)

Strokes can be valued from 1 to 10, dependant on their strength. For example "I adore you" may be a 10 but "Hi" may be a 2. This value may be dependent on situation and even become negative. In this case the "Filtered Strokes" and "Discounted Strokes" are Strokes with ambiguous value or those which are amplified or diminished by the subject. For example "I see your hair style is new" this could be taken to mean "I like your new hair style" or "what an ugly hair style".

Stroking reinforces the behaviour which is Stroked and the quantity and value of Strokes is important, if the number of positive Strokes received is inadequate you may start to seek negative Strokes to fulfil the need.

Sunk Costs / Opportunity Costs - BE

This theory describes the greater value given to an endeavour for which time, effort and/or money has already been invested. This can result in "throwing good money after bad" if the decision to persist is wrongly taken due to a skew in judgement.

'Two Systems Cognition' - BE

'Two Systems Cognition' is the principal of fast and slow thinking:

System 1 /Fast thinking =   automatic, frequent, emotional, stereotypic, subconscious

System 2 /Slow thinking =   effortful, infrequent, logical, calculating, conscious

Most of the time System 1 functions automatically and System 2 is reserved for greater consideration. System 1, however often reaches incorrect conclusions and at this point System 2 comes into action. When the two systems agree, impressions get turned into beliefs. This is a very good system that works very well most of the time. However most people overuse System 1 resulting in systematic errors as System 2 takes a greater amount of effort to monitor and control thoughts and actions suggested by System 1 (Kahneman, 2011).

'Working Styles' (Drivers): - TA

Coined by Hay (1989; 1997) the term 'Working Styles' encapsulates the positive aspects of the Drivers based on the original work by Taibi Kahler in 1975. These present as five basic character types: 'be perfect', 'be strong', 'try hard', 'please others' and 'hurry up'. The purpose of these styles is to allow people to identify and work with their strengths, rather than be driven by them subconsciously. Each 'Working Style' is derived from a short test and provides the client with the following information about their Drivers.

Table 6A. 'Working Styles' explained in summary with reference to strengths and weaknesses

Working Style	Strengths	Weaknesses
Hurry up	Work quickly and thrive on high work load and short deadlines. Think quickly and find efficiencies where possible.	Too much time to complete a task can lead 'hurry up' to procrastinate. The urge to save time may lead to sloppy working or accidents. Can speak too quickly and interrupt others.
Be perfect	Very methodical working, with good preparation and organisation.	Slow to produce finished work, over complicate documents and often miss deadlines. Draft work is not shared so external input is often absent and often take on too many tasks as others standards are not high enough.
Be strong	Work well under pressure and can hold a team together and provide balanced feedback and constructive criticism. Very even tempered and can make difficult decisions when needed in a crisis.	Does not like to show weakness so will not ask for help when in trouble and will often walk away from the issue. Highly self-critical but not outwardly emotional, and often seen as inhuman.
Try hard	Puts in a lot of effort, popular with clients, co-workers and managers due to an eagerness to help. Explores every avenue of research and often produces innovative results.	Can be too committed to trying rather than succeeding, spreading themselves too thin and becoming overloaded. Tangents can make conversation hard and work may peruse so many ideas that it becomes confusing with too many irrelevances.
Please others	Good team member showing genuine interest in the lives of others. Very intuitive and can identify outsiders and draw them in.	Avoidance of upsetting people can lead to going along with poor decisions and viewed as not assertive. Criticism can be very heart felt and will not ask questions for fear that they should already know the answer.

Appendix B – Strengths and Weaknesses of the behavioural theories.

i.   Strengths and Weaknesses of the Behavioural Economics Theory

As the convergence of economics and psychology, the field of Behavioural Economics benefits from an open minded yet rigorous exploration of a great number of psychological ideas and provides quantitative evidence on which to base hypotheses. The application of Behavioural Economics to the difficulties faced by organisations is the core strength on which this premise is constructed. The use of Behavioural Economics to include organisations is a natural progression for the science as some of the key tenants, socialization, networks and identity shape individual behaviour in organizations (Akerlof and Kranton 2005; Gibbons 2004). Behavioural Economics strength in business is the effectiveness of theories on all levels of organisation. If plotting the trajectory for the future of the organisation, being aware of systematic 'Biases' will allow the business to account for or fix any issues which may arise (Camerer & Malmendier, 2007) and avoid 'Affect Heuristics' when making big decisions. Behavioural Economics is also a widely used aid in deciding how to react to competition in the areas of marketing and imitation and understanding the rationality of rivals (Armstrong & Huck, 2010). On a team level Behavioural Economics can be used to recognise and foster positive group images, understand group Social Norms and Representative Heuristics of other teams. On an individual level managers can use Behavioural Economics to improve team satisfaction (Schwartz et al, 2002), and understand the methods of maximising team productivity by understanding where and why irrationalities may impact efficiency (Gneezy & List, 2006; Schmid, 2008). Each individual within a team can make use of any number of behavioural economic theories in order to better understand their situation and the motivation of others in vocational scenarios.

In recent years Behavioural Economics has been hailed as a panacea to explain all irrational thought, there are some who claim that Behavioural Economics has its own faults. One is the complexity of the concepts used to overcome the discrepancy between economic theory and reality. Gigerenzer, one of the most outspoken opponents of Behavioural Economics compares the traditional economics approach of decision making to the Behavioural Economics approach. On the one hand, economics would predict that we act as if considering all possible outcomes, whereas Behavioural Economics states that we consider all possible outcomes and then employ a layer of further thought and emotion before making a final decision (Harford, 2011). It is because of these comments that Behavioural Economics has been labelled as "impractical"; however this view is becoming outdated as more applications are found for this burgeoning field (The More Kirk than Spock, 2015). Conversely some opponents criticise the lack of complexity in not accounting for all parameters in a decision, such as culture. Oullier, a behavioural and brain scientist who advises the French Government states that "The French have a tendency not to comply as easily with perceived Social Norms the way Anglo-Saxons would" (Nudge Nudge, Think Think, 2012). Sarapultsev and Sarapultsev (2014) also identify that under great amounts of stress participants "see something new for themselves" and are subject to changes in endocrine profile and motivation resulting in changes in behaviour. Professor of Economics Rob Gilles, at Queen's University Belfast, accuses Behavioural Economics of being too individualistic in methodological approach and unable to expand theories to explain system behaviour and advocates an expansion of methods used to understand behaviour (Gilles, 2009); and some critiques suggest that as a field of academia it is not yet cohesive enough to be able to explain systems. This lack of tenure as a field of study also leads some to question if Behavioural Economics can be anything more than a set of circumstantial rules (Lunn, 2008). Finally, Gigerenzer suggests that people can be educated about their 'Biases' to an extent that they may conform to traditional economic models and negate the need for Behavioural Economics all together (Adams, 2014).

ii.   Strengths and weaknesses of the Transactional Analysis Theory

Transactional Analysis is an area of psychology which has been much critiqued during its period of application but has emerged as a strong and widely used set of practices and ideals. One of Transactional Analysis' core strengths for use in this project is the ease with which it can be used to complement other areas of psychology. So much so that a multitude of examples are available where Transactional Analysis complements Gestalt (Tudor, 1991; Evans, 1994), Humanistic Therapy (Clarkson, 1993), Developmental, Object-Relations, and Self-Psychology (Shmukler, 1991; Manor, 1992; Blackstone, 1993; 1997; Joines, 1995; Evans, 1998; Little, 2001; Hargaden & Sills, 2001). This flexibility allows to be applied in a great number of situations which are not traditionally the domain of traditional psychology such as Management and Supervision (Laohavichien, Fredendall, & Cantrell, 2011), Team Work (Freedman, 1993) and School and Class Management (Newell & Jeffery, 2013; Williams, 2012). These applications can be made possible because Transactional Analysis is easily understood and can be applied to both individual and group settings (Cornell, 2014).

Transactional Analysis possesses many of the limitations of any relational approach to human management. There is reliance upon an impartial (facilitator) to remain open, curious and non-defensive to the relational encounter. That is to say, the observer is not to become involved with the observed behaviour and superimpose their own neuroses. Also common to many psychological disciplines it is not possible in many instances to empirically validate the theory and procedures. In fact it is claimed by some, that many of the concepts were stated in such a way that it would not be possible to design research studies in order to test them. One critique of Transactional Analysis is the structure and order of the approach presents a barrier between the subject and observer, not allowing for depth of emotional exploration and possibly providing an obstacle to genuine interaction (Sue & Sue, 2012). Transactional Analysis structure has on occasion been criticised for limiting the responses available to any one problem. On this topic a researcher working in Bali stated that "to reduce it (behaviour) to such categories obliges one to neglect what is unique about its culture" (Geertz, 1981). Finally it has been stated by one of Transactional Analysis' most famous anthropologists that Transactional Analysis focuses on actors pursuing "self-interest" and maximisation of profit, without exploring how one decides what the most profitable decision is (Patel, 2007). Decisions of profit maximisation are however a core feature of Behavioural Economics.

iii.   Strengths and weaknesses of the Behavioural Management Theory

Behavioural Management Theory revolutionised the method by which managers treat their employees. The main strength of the approach used is the productivity received if the employee is satisfied and feels they have self-determination. The tools used in implementing Behavioural Management Theory though limited are effective and simple. One of the weaknesses of behavioural management is that a lack of a solid framework from which to work can make implementation difficult. Later research has also showed that in some cases worker productivity can be improved more by wage increases than by behavioural management, though these instances are drawn from professions with particularly low salaries. Behavioural Management Theory has also been seen to be less effective in cultures with a culture of mistrust between management and employee (Luthans Stajkovic Luthans & Luthans, 1998)

Appendix C – Case studies

i. Case studies of effective use of Behavioural Economics in the context of supply management

Although Behavioural Economics is a relatively young science, it has found application in a great number of diverse areas of industry. The following examples illustrate the use of Behavioural Economics and each is followed by further examples of how complementary behavioural theory could match the concepts used:

- One of the best known and most reported cases of the use of Behavioural Economics in industry is the impact that Framing has had on the uptake of company pension plans. The Behavioural Insights team were tasked by the UK Government with improving low savings rates. This was achieved by reframing the option to enrol in a pension plan from an opt-in decision to an opt-out decision. In the first six months this resulted in participation rates rising from 61% to 83% (Service *et al*, 2014).

It is possible that such a situation may not have come about with adequate knowledge of Generational Scripts and their propensity to save.

- Supply chain relationships have been investigated using Behavioural Economics in a number of instances from wineries in Western Australia (Batt, 2001) to small farmers and their intermediaries in Indonesia (Gusti *et al*. 2004). In Germany, Gyau, Spiller & Wocken (2011) investigated the relationship between milk buyers and dairies and find that price plays very little role, whereas Social Norms dominate the perception of satisfaction.

Management of relationships trust and fairness are core factors in the use of Behavioural Management Theory to control affairs.

- Modelling supply chain behaviour reaction to turbulence is important for business preparation and resilience. The reaction of the UK cattle industry to Bio-security measures was modelled by Toma *et al.* (2013). This study found that Behavioural Economics models were able to adequately predict behaviour where the key drivers of behavioural change were increased access to biosecurity information.

Should turbulence occur Transactional Analysis may be used to manage relationships and ensure positive "Okayness".

- Individual behaviour has been investigated in the agri-food industry where Siles *et al.* (2000) showed the impact of Social Norms and group images on the sale of land. Here it was realized that the price of land was heavily influenced by church affiliation, relatedness and a number of other strong affinitive factors.

Was one managing these interactions Behavioural Management Theory tenets Generational Scripts and contracting agreements would come into play.

ii. Case studies of effective use of Transactional Analysis in the context of supply management

Transactional Analysis has long been used as a tool for improving business communication for all of the reasons listed above. The following examples illustrate the use of Transactional Analysis and each is followed by further examples of how complementary behavioural theory could match the concepts used:

- Transactional Analysis has been used to model the behaviour of bidding organisations in a structured tender exercise. Using 'Ego States' it is possible to map a typical interaction between supplier and purchaser (Dani, Backhouse & Burns, 2004)

The analysis of this interaction could be further optimised with the application of Behavioural Economics insights into purchasing behaviour.

- When investigating a pre-existing supplier purchaser relationship, Transactional Analysis was used to follow the 'Ego States' of individuals in the case of an oversupply of materials. On the face of the transaction it appears that Adult-Adult communication is taking place whereas there is in fact a subtext of Parent/buyer-Child/supplier (Dani, Backhouse & Burns, 2004).

These covert power plays can be damaging for supply chain trust and in this case were led by the management dictating that a consignment should be sent back. Had Behavioural Management Theory been used it may have been possible to find the root of the error and learning from the situation.

- When multiple teams need to work together in a supply chain delays can be blamed on members of a supply chain as happened in the Ariane rocket (Moreau, 2005). In this case the groups confronted their 'I'm Okay – You're Not Okay' mentalities and united with a common goal.

Uniting groups and avoiding contention between groups is a mainstay of Behavioural Economics Heuristics, and are often perpetuated by biases.

- As part of a complex employee negotiation it transpired that workers were in a state of I+ U- T- after a takeover and insensitive treatment by other departments. This has not yet been fully resolved however Transactional Analysis is an effective tool for improving the 'Life Positions' of workers.

Many of the problems arose from a command and control view of management during the take over which could have been avoided, had Behavioural Management Theory been used.

iii. Case studies of effective use of Behavioural Management Theory in the context of supply management

Behavioural Management Theory has become a mainstay of employee efficiency maximisation for all of the reasons listed above. The following examples illustrate the use of Behavioural Management Theory and each is followed by further examples of how complementary behavioural theory could match the concepts used:

Virgin Media operate under a behavioural management structure introducing a culture where "everyone feels they can be heard" and rewarded for positive performance *via* peer-to-peer appraisals, feedback from customers and personalised congratulation letters for high achievers. In 2009 Virgin introduced the "fleet of fun"; a set of film themed vans for their highest performing engineers (Ward Howell International, 2014).

Here Virgin are using Behavioural Management Theory as a delivery method for Pavlovian Theory. Behavioural management has been used to identify the character of the employee and their Drivers and Pavlovian Theory has been used to promote positive behaviour with rewards.

Tesco promotes the behavioural management style through encouraging "partnering with the employee" and making a commitment to bringing out the best in each individual. In turn the Director of Tesco's has made a guarantee not to take directorship of any other company, showing commitment and focus to staff (Nwagbara, 2010).

Tesco have used Behavioural Management Theory as a delivery method for enforcing institutional trust in order to satisfy Maslow's Hierarchy levels of safety and belonging and generating U+T+ in people's minds.

Although not explicit Zappos CEO Tony Hsieh is one of the largest embracers of Behavioural Management Theories principles. Creating a business plan including principles of "Embrace and drive change", "Create fun and a little weirdness", "Be adventurous, creative and open-minded", "Pursue growth and learning", "Build open and honest relationships with communication", "Build a positive team and family spirit" and "Be humble". At Zappo's employees are encouraged to make independent decisions and are trusted to spend the time to get to know clients (Frei, 2012)

Zappos have used behavioural management theory to create a culture of innovation, belonging, self-actualisation and open communication, not only satisfying many of Maslow's Hierarchies but also introducing aspects of behavioural economics such as the sunk cost fallacy by allowing staff a one off payment for quitting partway through training, leaving those who do not leave with an investment in their allegiance.

Appendix D – Changes in opinion of the food business

In order to capture any changes in perception produced by the Career event, the research team issued questionnaires to the participants at intervals during the beginning, middle and end of the event. This structured approach allowed for a greater specificity in data collection than would have been possible in more traditional careers fair settings.

The questionnaires issued at start and finish provided the most illustrative indications of changes in perceptions. At the start of the event the subjects were asked "Would you consider working for a food & drink company?" Given the options Yes, No and I don't know the predominant answer to this question from was "No" (39.70%). When asked the same question at the end of the event the participants answered "Yes" more than any other response (41.48%), the swing in opinion can be seen in Figure 3A.
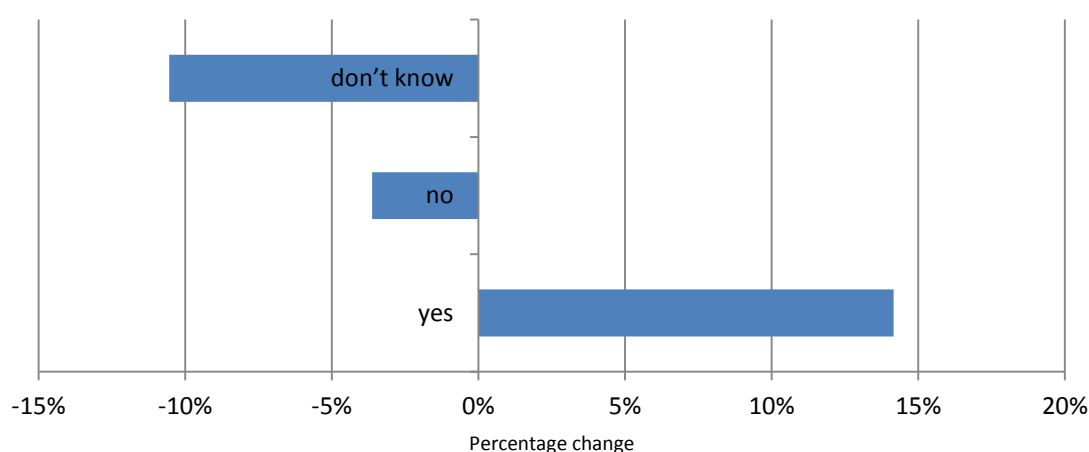
Figure. 3A. Percentage change in response to the question "Would you consider working for a food & drink company?" from before the event to after the event.

A similar trend can be observed when viewing the data produced from the question "Food & drink companies can offer a long term career?" Before the event the group predominantly agreed with the statement (60.87%). After the event they also answered "Yes" but with a greater majority (75%) (Figure 4A). It is most encouraging that a large amount of this increase due to a swing in the girl's change perception considering the National Skills Academy for Food and Drink's women and work sector pathways initiative which states "although the industry has traditionally been dominated by men, more and more companies are turning to women to fill vacancies at all levels."
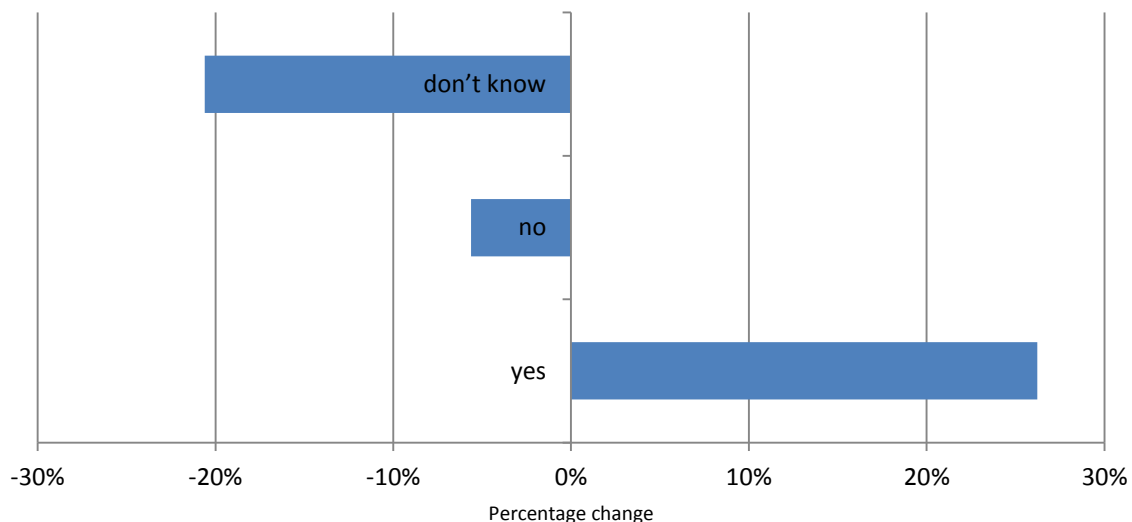
Figure. 4A. Percentage change in response to the question "Food & drink companies can offer a long term career?" from before the event to after the event.

The participants were asked to rate "How important do you think science is to food & drink companies?" from 1 to 5 where 1 is least important and 5 is most important. The reaction to the day's activities appears to have had an interesting effect. Upon starting the tasks the participants had impartial responses showing high percentage responses in importance grades 3 and 4 (3=33.55%, 4=33.22%). After the event opinion was then split between 3 and 5 (3=32.07% and 5=37.36%) the amount recording lower importance for science also increased. These data are shown in figure 5A.
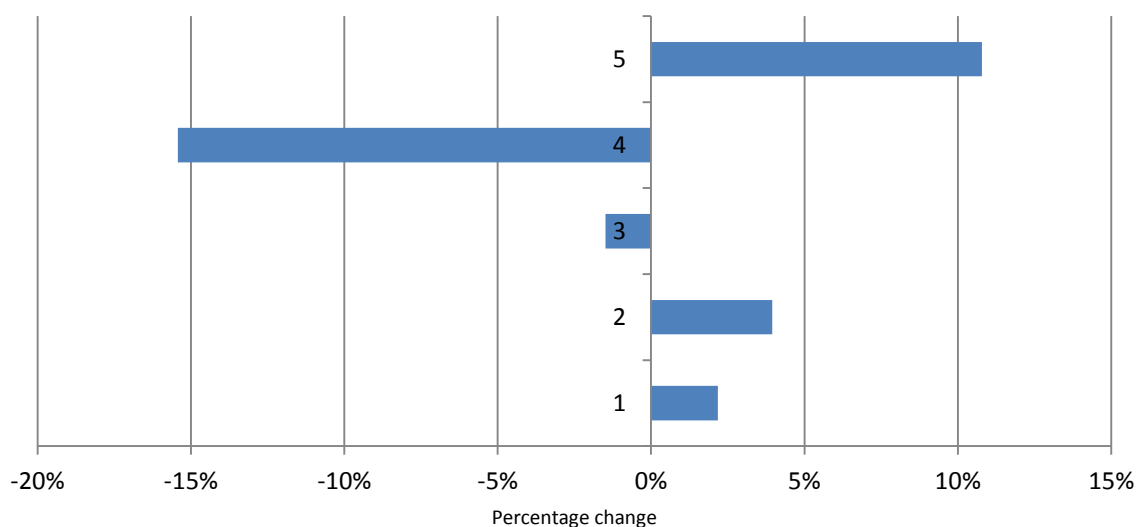
Figure. 5A. Percentage change in response to the question "How important do you think science is to food & drink companies?" from before the event to after the event.

These results are interesting as it appears that opinions have changed in two directions. Some participants appear to consider science more important after the event and some think science is less important. This is less surprising when we consider the activities of the event contained sensory, sustainability and marketing, each of which contain science to a greater or lesser degree whilst also encapsulating a number of other important skills such as finance, business and psychology. It is reasonable to assume that participants were inspired by different aspects of the day resulting in a polarisation of opinion.

One prevailing message which was produced by the day was that the Food and Drink sector is not all about catering, fast food and factories. In figure 6A it is possible to see the extent to which the event impacted on the participants' perceptions. Before the event almost 40% of participants thought of food production, catering or fast food when asked "When you think of a career in the food and drink sector, what springs to mind?" After the event this number had reduced to just over 10%. The number of participants who associate factories with the food industry has reduced by half. Whereas only 1.92% thought of business before the event and one third of participants thought this after the event. This shows that a more nuanced view of the food and drink industry had been gained by the participants in this event.
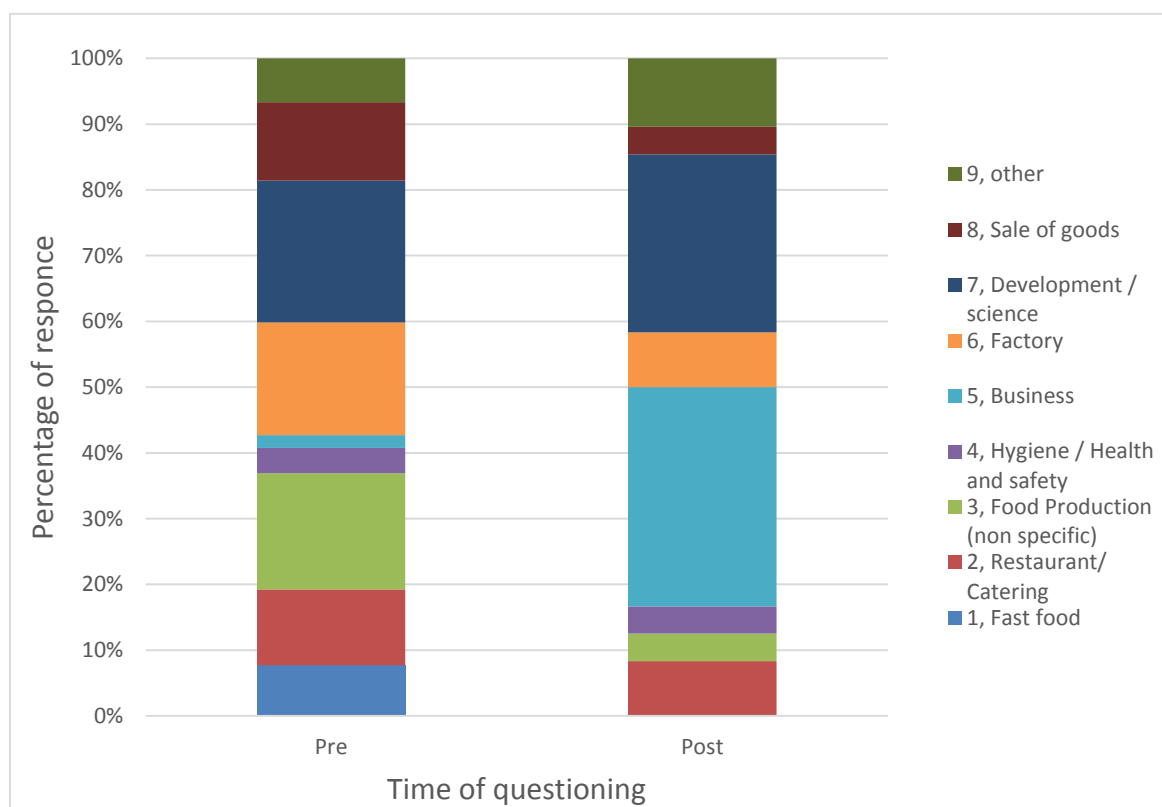
Figure. 6A. The percentage response to the question "When you think of a career in the food and drink sector, what springs to mind?"

Figure 7A further illustrates the increase in scope of opportunities perceived by the participants after the event. It can be seen that the two key perceptions about the food sector were that cooking and scientific skills were required. The frequency of these perceptions have been diminished dramatically and it can be seen that after the event participants recognised team work to be the most important skill required for working in the food industry.
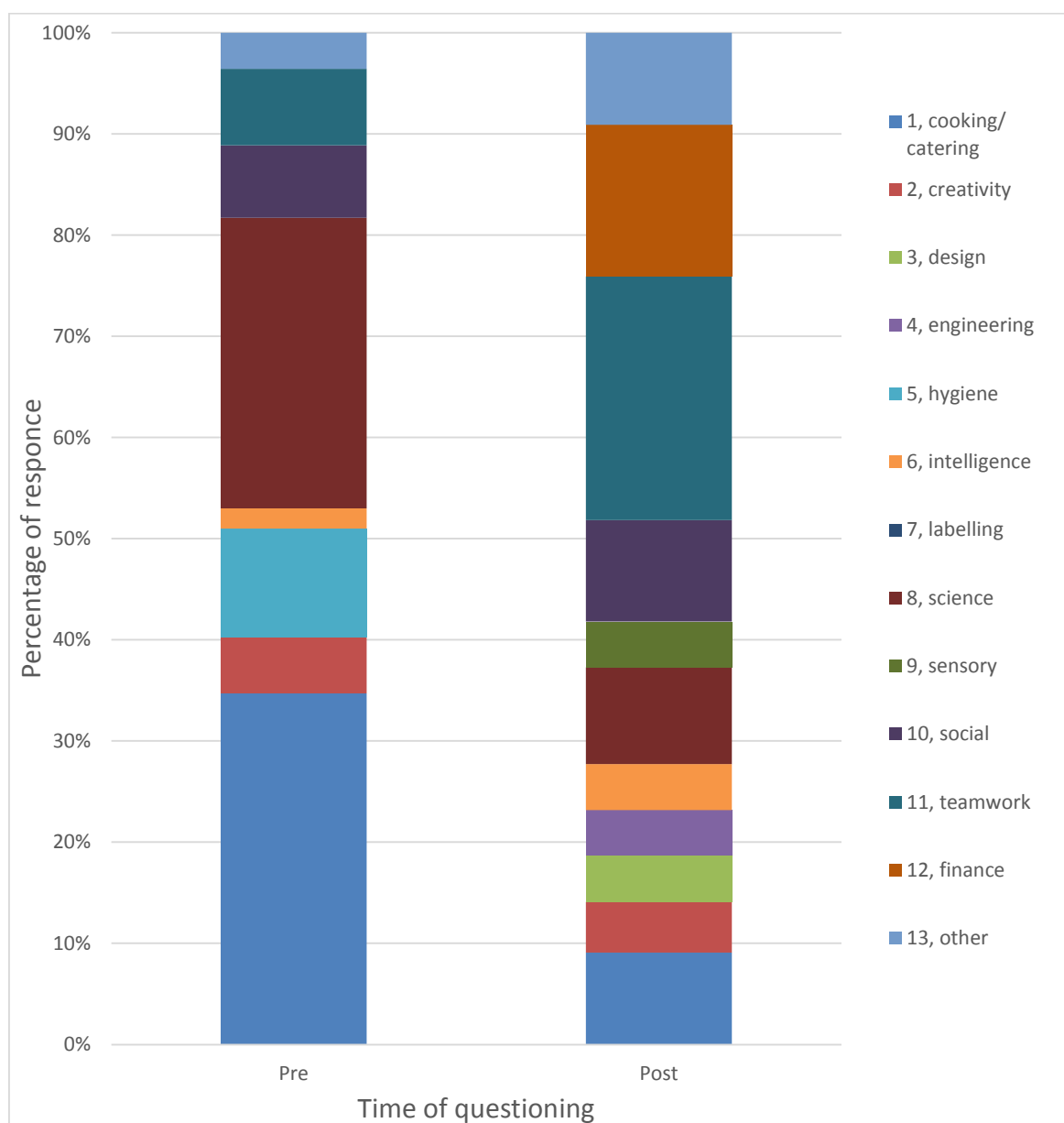
Figure. 7A. Percentage response to the question "What skills do you think would be useful if you wanted to work in the food and drink sector?"

The participants were asked about the most important considerations when choosing a career and of those considerations, which they would expect to find in the food and drink sector. The answers to these questions did not change greatly when considered before and after the event, however, it can be seen from the responses that some areas of preference correlate with the expectations from the food industry.
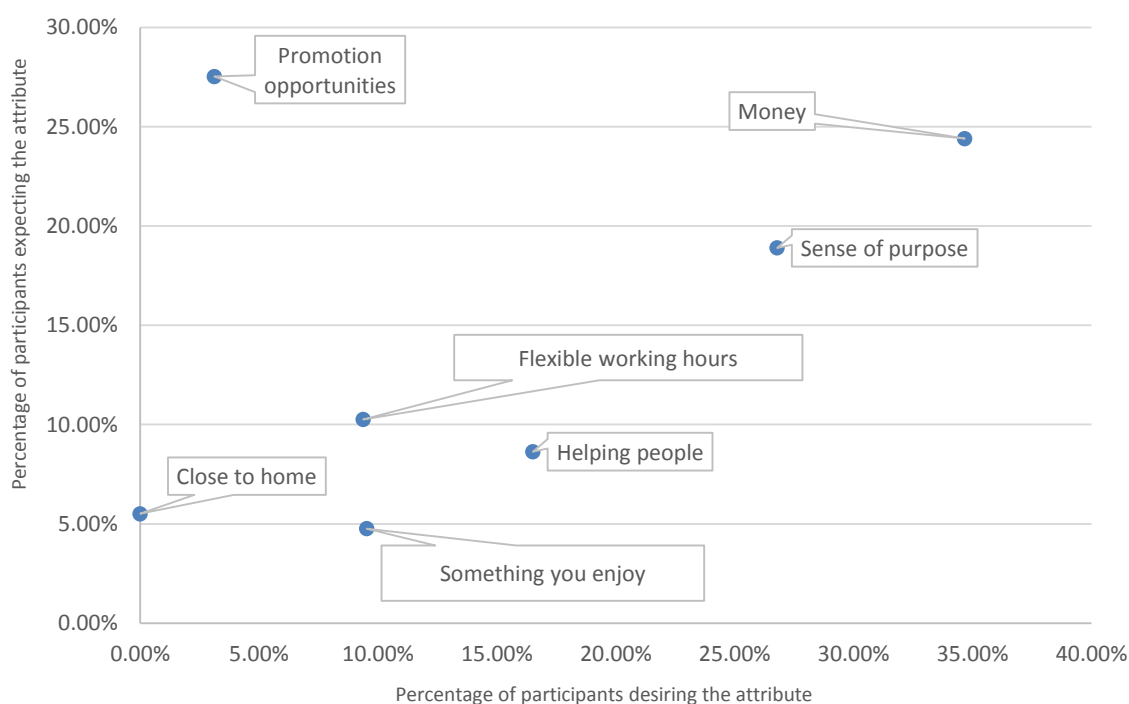
Figure. 8A. Correlation between the desired attributes for a career and those expected from a career in the food industry.

Figure 8A indicates that both money and a sense of purpose rate highly as both a desired and expected attribute for a career. Flexible working hours, helping people, close to home and a job you enjoy all rate quite low in expectation and desire. Promotion opportunities are highly expected from the food industry but are not one of the key desirable characteristics of a career.

Appendix E – Behavioural Framework

PROJECT-HCM

Behavioural Framework

Leaders and Managers Guide to People Centred Management
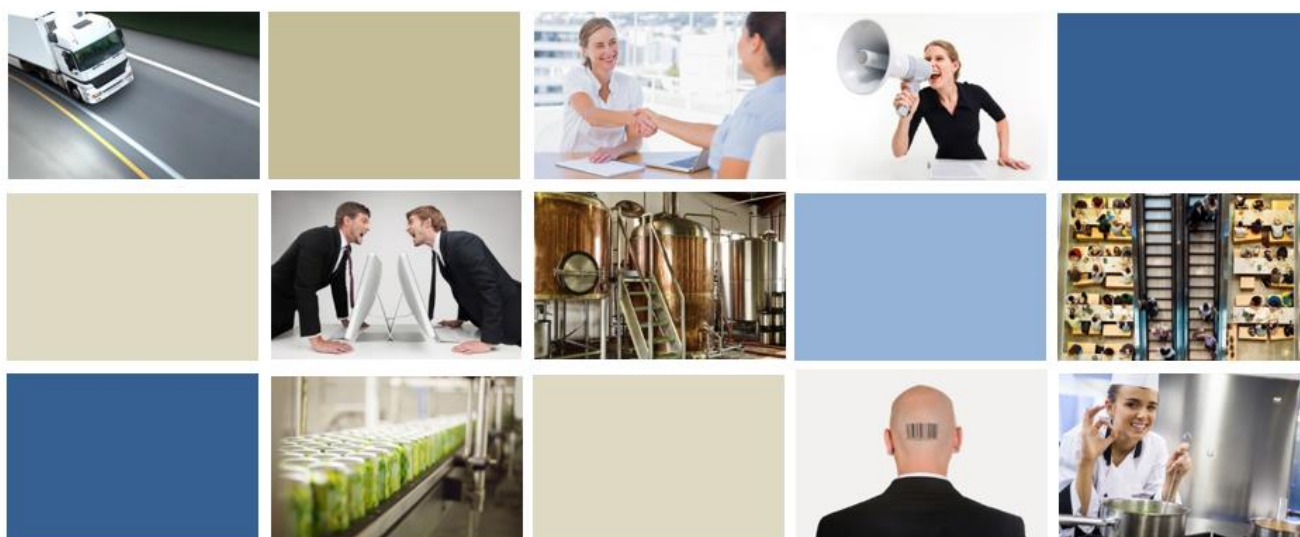
Authors: Mary Dees and Paul Ladley

University of Chester | pixelfountain — creating dialogue, building relationships | Co-investment from UKCES — UK COMMISSION FOR EMPLOYMENT AND SKILLS — UK Futures Programme

---

PARTICIPATING FOOD & DRINK SUPPLY CHAIN COMPANIES

AB World Foods | Ashbury Labelling | Big 5 Catering | Birling's Confectionary | Can Cook | Carslake Tea Company | Find Inspiration in Food | Kolak |**Marks & Spencer** | Natural Veg Men |The Fresh Lemonade Company | The Sugar Tree | vcg Kestrel |numerous FREELANCERS/CONTRACTORS

The Need for Behavioural Leadership and Management

The Behavioural Framework (BF) challenges leaders & managers to put people at the heart of their plans. Ploughing ever more money into process improvement provides no guarantee of success. It is your people that provide both the weakest link and the greatest opportunity for change. But, people do not act like the robots that spreadsheets and plans suggest; instead they exhibit normal human differences and biases. They are often irrational and unpredictable decision makers. It is the weakest link that determines overall supply chain effectiveness. So, we need to blur the boundaries of supply chain organisations to create shared destinies.

Most people are decent, hard-working and want to spend their time at work productively[1] and not be side tracked into vicious cycles of negative behaviour. Yet workplaces are full of bad behaviour. So, what goes wrong?

Differences in individuals, teams and organisations (in terms of pressures, goals, culture, working styles & backgrounds) can strain relationships, sometimes catastrophically. Although, it is often seemingly small behavioural problems (biases, rules of thumb, misunderstandings, passivity & blame) that cause sub-optimal supply chains.

This BF helps leaders & managers to model and explain behaviour and provides a route finder to move consciously towards positive behaviours.

So what are behaviours? Behaviour is defined as "the way in which one acts or conducts oneself, especially towards others." Behaviours demonstrate the attitudes and approach we take to work, they are: how we do things; how we treat others; what we say and how we say it; plus how we expect to be treated. And this is the purpose of the Behavioural Framework (BF).

Behavioural Framework Quick Guide

The BF is a guide for leaders & managers who want to place people at the heart of business, in it you will discover:

➤ **Core Understanding:** Basic philosophy & underpinning concepts.
➤ **BE/TA Integration - A New Approach to Behavioural Understanding:** How to use Transactional Analysis (TA) & Behavioural Economics (BE) to help map situations (vicious cycles) and establish productive exit routes.
➤ **Achieving Behavioural Competence in Your Organisation:** Building fundamental behavioural values then implementing best practice and sustaining through learning & nurturing.
➤ **7 steps - Your leadership journey to behavioural competence:** How to embody the BF by becoming aware of self & others, taking responsibility and then empowering others.
➤ **Leadership 2.0 (Homo-Competus):** Driving & restraining forces and behaviours/approaches that Leader 2.0 needs to embody.

BENEFITS TO BUSINESS

- Reduced behavioural issues - mapping situations and identifying solutions.
- Effective leadership & management - awareness, responsibility & empowerment.
- Improved team/supply chain effectiveness based on trust and respect.
- Empowered teams & individuals.
- Improved decision making - wisdom of crowds and understanding of biases.
- Reduced workplace stress.
- Barriers to growth lessened.

Also, see Appendix A for a summary of the outcomes from live business projects.

The BF is illustrated with observations and case studies[2] from live business projects[3].

---

[1] It is part of the human condition to not want to be bored – we hunger for stimulus (Berne, E. (1970)).

[2] Note: the case studies and project observations in the BF are anonymised/amalgamated from various research activities. It is worth noting, while the project was based in the food & drink sector, we believe it has application across all sectors.

[3] The BF was developed within an action research project funded by UKCES UK Futures Programme. The project undertook more than 60 activities with over 100 individuals from 20 companies in food and drink sector supply chains – see Appendix A for more information.

Getting Started: Core Understanding

Like any journey, before we start, we need to check that we have packed a few essentials. In our journey to behavioural competence, we need to ensure we have a basic philosophy to guide us and an understanding of underpinning concepts.

Basic Philosophy of Behavioural Competence

- Everyone has validity and importance (is OK).
- Everyone is susceptible to unconscious bias.
- Everyone has a script that influences their actions.
- Everyone can improve their ability to think.
- Everyone can take responsibility to change.

Scripts: Organisations have their 'script'- the story set by the origins, the founder & the staff (management culture, generational etc.) Also individuals have their own 'life script' – the plan about who they are and how they should live their life. Behaviours are often determined (out of awareness) by these scripts.

Underpinning Concepts

Two System Cognition: The Basis for Our Irrationality

The way we think affects our behaviour and we are far more irrational than we realise. We believe we weigh up the pros and cons, but we are often controlled by the primitive parts of our brain. The brain can be thought of as having two systems :

- System 1 Automatic: The primitive 'reptilian' part (pattern matching, fast, unconscious...)
- System 2 Reflective: The more evolved 'human' part (reasoning, slow, conscious...)

Our reptilian System 1 brain provides us with an unconscious and instantaneous ability to react to danger (fight, flight or freeze). It is how we, "intuitively get something right" or "rashly jump to conclusions". The human System 2 brain is rational and conscious but much slower and doesn't always kick in and so primitive reactions can trigger our negative behaviour.

All you need is Trust...

Well perhaps not all but it is a good start. It is through trust that we build relationships and it is key to understanding behaviours. The behavioural consultant and writer Patrick Lencioni states that a lack

5 Dysfunctions	What happens
Inattention to Results	Without accountability, individuals can be self-serving > team & business suffer.
Avoidance of Accountability	Without commitment to a clear plan employees don't call each other out > low standards.
Lack of Commitment	Without conflict people do not authentically buy-in to decisions > ambiguity takes hold > employees become disenfranchised.
Fear of Conflict	Without trust teams do not engage in debates that matter > Passive aggression and back channels > poor decisions.
Absence of Trust	Reluctance to be vulnerable, admit mistakes or seek help.

of trust is the cause of the 5 Dysfunctions of a Team that ultimately lead to poor business results. We believe that trust and respect are fundamental values that organisations need to build into their practices and supply chains.

...And a Little Respect

The core concept at the heart of transactional analysis is I'm OK You're OK. A belief system that everyone is fundamentally OK, has validity and is important. If we act from the position of I'm OK You're OK – mutual respect – we all win.

If we develop an attitude of respect for ourselves, our colleagues, other teams and organisations, then positive behaviours will develop. If we focus on developing beliefs that everyone has validity and importance then the focus of our interactions will be problem solving, with everyone winning.

I'm not Ok, You're OK Inferior	**I'm Ok, You're OK** Healthy
I'm not Ok, You're not OK Futile	**I'm Ok, You're not OK** Superior

Now we have packed our essentials, we need gather the equipment (Transactional Analysis and Behavioural Economics) to ensure we can navigate the behavioural terrain

BE/TA Integration: A New Approach to Behavioural Understanding

The BF is built on 2 key disciplines:

- Transactional Analysis (TA): psychology of human interaction.
- Behavioural Economics (BE): psychology of decision making.

Both of these ideas have roots in psychology and have been used to some extent in organisational development. Throughout our work with businesses, TA and BE have been used to explain phenomena and provide individuals (leaders & managers) with insights/tools to help them improve their effectiveness. As our work progressed, it emerged that the two disciplines worked well together providing a rich picture of a situation.

Quite often, BE phenomena were seen to act as triggers for interactions which can then be explained in terms of TA, but this is not to say that causation is occurring or indeed is only one way.
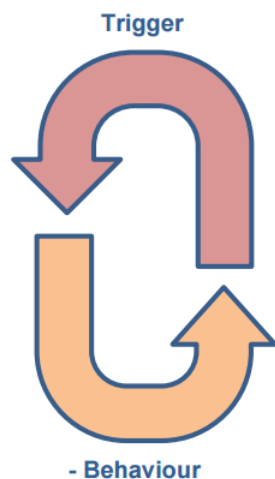
Some triggers for negative behaviour come from differences in individuals and unconscious bias and others can be systematic (processes and organisational structures which place individuals in situations that trigger negative behaviours).

Understanding both disciplines enables leaders & managers to map and deal with situations.

Behavioural Mapping and Route Finding

- **Behavioural Mapping:** understanding the psychological terrain that we find ourselves in – the psychological situation.
- **Behavioural Route Finding:** identifying a route out of the situation – the psychological solution.

Behavioural mapping and route finding allows leaders & managers to escape current vicious cycles. By developing these skills they will also be prepared for future situations. And the knowledge gained can be embedded into training, values and procedures.

BE/TA INTEGRATION OBSERVATIONS

Project Observation: The Argument

Two managers in conflict: An analysis of the situation from BE/TA perspective helped understanding. It showed that Manager A had a lot of time and money invested in his position (sunk costs). Manager B thought he was challenging Manager A reasonably ('Adult' to 'Adult' interaction) and so was confused when he got a defensive/stroppy reaction ('Child' response) causing him to become domineering and critical ('Parent' response). Manager B ultimately had to sort the problem out later when his System 2 had a chance to kick in.

Project Observation: The Procrastinator

A key influencer was struggling to make decisions quickly. He learned that his System 1 thinking was being triggered by fear of making mistakes and dropped him into his default perfectionist ('Be Perfect') working style. His System 2 was steered by this response and caused him to weigh up the pros & cons endlessly.

Project Observation: Silos

Does a negative interaction between 2 teams result in a bunkering mentality where they just seek evidence to prove they are in the right (*conformation bias*) or surround themselves with like-minded individuals and see limited information (*availability bias*)? Or does the *availability bias* and the *confirmation bias* cause silos and group thinking which results in poor interactions. Either way, TA and BE provide a method to map triggers & behaviours and ultimately find positive behavioural solutions.

Trigger

Escaping Vicious Cycles
1. Map the situation
2. Find the best route out

3. Keep your map up to date
4. Erect signposts

Understand how things go wrong >> develop behavioural solutions via training, values, procedures and frameworks...

- Behaviour

Trigger

+ Behaviour

BE/TA Integration in Practice - 3D OKNESS
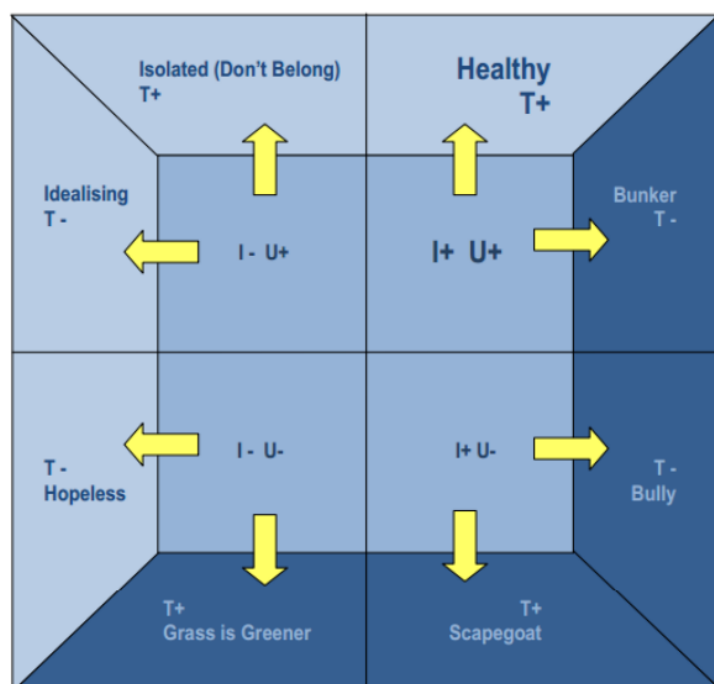
Mountain, Anita: Davidson Chris (2011).

Confirmation Bias: We create a version of reality that confirms rather than objectively assesses. This is why we always read the same newspaper and have selective memory recall.

Representative Heuristic: Individuals categorise situations/people based on previous experiences or beliefs. We pigeonhole people without being aware of our prejudices.

Endowment Effect/Loss Aversion: We are inclined to endow things we own with a premium. Because we make emotional investments, we become loss averse. People prefer avoiding losses to acquiring gains.

Framing: Reference points can sway our decisions – e.g. a sales person presents low-med-high options. Are they being helpful or manipulating us to buy the middle option?

Conformity: We think we are strong "sticking to our guns". Experimental psychology proves different – see Solomon Asch (1951) [4]

The Transactional Analysis concept I'm OK You're OK (I+ & U+) can be expanded with a 3rd dimension of They're OK (T+) allowing the interaction of teams/organisations/communities/customers to be analysed. In 3D Okness, we have 8 positions rather than the traditional 4. These positions enable us understand how and why we interact in certain ways and also to help to move into more constructive ways of working. If we then overlay behavioural economics (bias & heuristics) onto the model it provides useful language to explain both triggers and behaviour in more complex interactions. Let's look at some examples using 3D Okness integrated with biases & heuristics.

Bully (I+U-T-) Example:

Vicious Cycle: Dominating and punitive manager, Dan, sees himself as **I+** (superior, perfectionist, micromanager). He doesn't trust staff **(U-)** to do the job properly only seems to notice other's mistakes *(confirmation bias)*. He sees other team and suppliers **(T-)** and their ideas as pie-in-the-sky or plodding depending on their roles/company type *(representative heuristic)* and positions his ideas between the two extremes *(framing)*. No one dares challenge him *(conformity)*[4].

Exit Strategy: Dan needs to move to the healthy position **I+U+T+.** Given it is unlikely that any one will confront Dan, he needs to develop self-awareness that his perfectionism means he is controlling and causes him to adopt dominating behaviour. By stopping pigeonholing people and getting a wider perspective, he can move to a positive attitude to staff **(U+)** and suppliers/teams **(T+)**. A change in Dan will alter the way his staff and suppliers behave around him. Hopefully, Dan can take responsibility, else another manager might need to have a word.

Hopeless (I-U-T-) Example:

Vicious Cycle: Dairy farmer, Beth, thinks she has failed **(I-)** as she can't keep her business open because of falling milk prices. She is frustrated that supermarkets **(U-)** will not give her a fair price and end customers **(T-)** don't want to pay a decent price for milk. She has got to carry on; not only that, the farm is priceless as it has been in the family for 150 years *(endowment effect)*. She can't be the one to let it go *(loss aversion)*

---

[4] http://en.wikipedia.org/wiki/Asch_conformity_experiments

Exit Strategy: Beth is in a seemingly impossible position, as the move from **I-U-T-** to **I+U+T+** is massive. Beth will need to totally reframe her perceptions. Firstly, she is OK **(I+)** – a good hard working dairy farmer like her father and grandfather, but she is caught up in a supermarket price war. With self-belief she is more likely to take responsibility for changing her situation. Maybe she can find a better supermarket **(U+)** that ensures fair price and whose customers **(T+)** want to support British farmers. Maybe she can start producing higher value products like yogurt or ice-cream and work with a local/ethical distributor **(U+)** to get them to discerning customers **(T+)**.

WHAT YOU CAN DO

Top Tips:
- Reframe your perceptions of yourself and others.
- Be aware of reptile thinking: intuition and jumping to conclusions are 2 sides of the same coin.
- Give yourself time for you System 2 to kick in.
- Map vicious cycles and create positive behavioural exit strategies – read on to find out more.

Activities/ Resources:
- Can you map any situations in your workplace/supply chain onto the 3D OKness diagram? Think about the biases & heuristics that may be acting as triggers.
- A good site for experimental games on trust and fairness: www.econport.org/content/handbook/trustreciprocity/experiments.html
- Businesballs.com covers the basics of TA.
- The BE/TA Health Check on page 12 will get you thinking.

Achieving Behavioural Competence in Your Organisation

This Behavioural Framework provides leaders with a structure to embed behavioural good practice into your existing processes. Organisations need to escape behavioural vicious cycles by acknowledging the fundamental values of trust & respect then implement best practice in collaboration & decision making and finally sustain the implementation through learning & nurturing. We tested these ideas in live business situations and have placed them here into an overarching framework that will influence learning & development, HR, work practices and governance structures.

BUILDING	IMPLEMENTING	SUSTAINING
Trust Respect	Develop Positive Culture Share Responsibility Empower Embrace Diversity Make Optimal Decisions	Remain Vigilant Positive Recognition
Acknowledging Fundamental Values	**Embedding and Using**	**Learning and Nurturing**

Building (Acknowledging Fundamental Values)

We perceive the world through a lens of reputation, **trust** & fairness. We make decisions based on these principles even when it is seemingly irrational, e.g. we punish "cheaters" even at our own expense. As we have already explored, **Trust** is at the basis of all good working relationships leading to openness, willingness to admit mistakes and rapport building.

Individuals need to **respect** one another but should not fear conflict - disagreements about issues not personalities are fine. I'm OK, You're OK is about acknowledging and valuing each other not making sure everyone stays happy. It is crucial to recognise unconscious triggers that may hinder trust and respect. For example, pigeonholing the IT department as geeks (*representative heuristic*) or trusting our gut feelings (*affect heuristic*) may hinder relationship building.

Affect Heuristic: The affect heuristic can simply be thought of as our propensity to trust our gut feelings. This primitive response may keep us safe but can also mean we irrationally take against someone or not.

Implementing (Embedding and Using)

A blame culture can corrode relationships, motivation and productivity. Instead problems and mistakes should be seen as a learning opportunity. Identifying behavioural triggers equals keeping your behavioural map up to date. Organisations can develop a **positive culture** with a clarity of purpose that generates healthy debate, holds people to account and provides positive recognition (*strokes*).

Often teams and external supply chains have different priorities. **Shared responsibility** is about collaborating so everyone wins. Understanding the shared goal is the key to long-term success and *contracting* around it may prove useful.

Leaders & managers need to delegate effectively. Building on a foundation of trust you can **empower** individuals, though, be careful not to inadvertently influence (*anchoring*). Empowered employees will effectively articulate their ideas, needs and concerns rather than simply *conform*ing and participating in group think.

If you **embrace diversity** (generational, cultural, role, level etc.) you will benefit from the wisdom of crowds. And understand that other people, teams & organisations do not always think, act and communicate like you. It is useful to recognise that "your way of doing things" might be an ingrained *script*. Be careful if you are relying on the same information (*availability bias*). Break down silos and widen your perspective.

Understanding differences supports good relationships and **optimal decision making** - decisions that balance risk and are checked against biases & heuristics. Understanding when a "good enough" is required and when you are potentially "flogging a dead horse" idea because it is YOUR idea (*endowment effect*) will pay dividends.

Strokes: Berne 1971: "A stroke is a unit of recognition". The recognition can be positive or negative and some recognition is better than none.

Contracting: A contract is "an openly made agreement to commit to a specific action or outcome, which includes all of the people who will contribute to making it happen." (Mountain 2011). Workplace contracts be formal or informal, explicit or implicit.

Anchoring/Priming: Decisions can be biased by an often extraneous element. Priming is similar but more general. So, house sellers bake fresh bread to make their house feel more homely to prospective buyers.

Availability Bias: We do not always realise that we are influenced by what we experience and the "facts" that we are given. For example, people's fear of crime comes from the constant reporting of crime in the news media.

Discounting: Involves a person ignoring or minimising some aspect of self, others, or the reality of a situation. These are our blind spots. Four discounting levels include: existence of a problem, significance of a problem, that there are solutions to a problem and the capacity/skills to solve the problem.

Sustaining (Learning and Nurturing)

Remaining vigilant requires you to identify pitfalls (such as making assumptions) and monitor perverse outcomes - Does shared responsibility lead to group think? Keep your map up-to-date. Avoid short-term thinking and minimising situations (*discounting*). Ensure clarity (repeat, repeat, repeat) and use company purpose/values as signposts to keep us "on track".

Positive Recognition: Develop a culture of recognition, which ranges from simple recognition of someone's humanity (relating to the whole person) to recognition for delivering results and embracing positive behaviours.

WHAT YOU CAN DO

Top Tips:
- One of the key problems we encountered working with businesses was discounting and negative strokes or indeed no recognition at all. Accept trust and respect as fundamental, tackle discounting and recognise you can't give enough positive strokes.

Activities/ Resources:
- Consider how behavioural competence impacts on learning & development, HR, work practices and governance structures.
- A good site for experimental games on trust and fairness: www.econport.org/content/handbook/trustreciprocity/experiments.html
- The BE/TA Health Check on page 12 will get you thinking.

7 Steps: Your Leadership Journey to Behavioural Competence

Individuals (managers and leaders) play a pivotal role in creating vicious behavioural cycles but they are often desperately looking for a solution[5] (an exit route). This section provides a guide for individual leaders in the key steps to behavioural competence.

So what does behavioural competence require?

- **Awareness of self and others:** helping to model and explain negative behaviour and its triggers.
- **Personal responsibility and empowerment of others:** understanding and executing the positive behaviours to get out of vicious cycles.

7 Steps Case Study (based on various observations[6])

A food manufacturing company has an internal supply chain that includes two teams who do not get on. Sales & Marketing sees themselves as a positive part of the business and have a good relationship with the Board. When sales of a particular product line dip, they blame/scapegoat 'the techies' in food production for being too slow, negative and a block on new ideas. Food production on the other hand are very pleased with the quality of their work and find marketing too "airy fairy" and vague with too many new unrealistic ideas and deadlines. They blame Sales & Marketing for the drop in sales. Both pigeonhole the people in the other team (*representative heuristic*) and select only the information that back up their assertions (*confirmation bias*).

- ❖ Bad behaviour from food production includes blaming, resisting, procrastinating, criticising and sometimes passivity.
- ❖ Bad behaviour from marketing includes blaming, aggression, inconsistency, manipulation, recklessness.
- ❖ The managers of both teams form a strong bunker mentality within their teams: invincible against the 'enemy'.

"I will put the 7 Steps up at work and home to remind me on how to run my life and business." **Micro business owner**

In the next section we will take the managers through 7 steps to Behavioural Competence.

---

[5] These managers (like most humans) seek to do a good job, to be recognised and to be part of a social group.
[6] As stated, the case studies and project observations contained in the BF are anonymised/amalgamated from various research activities.

Step 1 Self-Awareness.

They understand themselves in terms of their preferred *working styles*:

- Food production manager (scientist) has a 'Be Perfect' working style
- Marketing manager (creative) has both 'Try Hard' & 'Hurry Up' working styles.

This means they work at a different pace and have different ideas about what is important. Their new found self-awareness increases their **self-belief (Step 2)** and gives them greater recognition of the options for change and personal ability to take action. This, in itself, leads to being able to **take responsibility for change (Step 3)** including being assertive, focusing on problem solving not blaming and good decision making through gathering, analysis & planning.

Step 4 Awareness of Others (inside & outside the team/organisation): It is essential that they also learn to understand others, both those in their teams, the board they report to and the managers of other teams. They learn that their teams are very like them so the Food production scientists have a strong tendency towards 'Be Perfect' working styles, and the Marketing team have both 'Try Hard' and 'Hurry Up' working styles. They learn about what these differences mean and how to communicate better and interact more positively.

They begin to recognise that their interactions had a pattern where one or the other started talking down to the other (*ego-states*). Unless one backed down and acted subservient, which was rare, unproductive arguments occurred. The problem often was exasperated by the fact that one or both of the managers had often put a lot of time and effort into an area in advance of their meetings (*Sunk Costs*).

Step 5 Building Trust: The two managers are now able to work together to foster an environment of mutual respect, openness and transparency. They recognise each other as important (*Okness*).

Step 6 Empowering Others: The two managers need to cascade their understanding and attitudes to their teams through empowerment. This includes demonstrating trust that others can change, having shared responsibility and agreeing common goals. The managers need to hold each other and their teams to account and avoid *conformity*. They ensure they provide positive recognition (*strokes*) – celebrating success.

Step 7 – Leading Others: Now the two managers are ready to become leaders. They set clear values and behavioural principles about how the two teams can work together. They also provide a clarity of vision, focusing on the end goal. Both teams and the whole company focus on getting the best product on the shelves – this is now their one goal. And then the two teams can work together in the spirit of mutual respect with positive behaviours with food production providing high quality food products and marketing providing exciting ideas for selling the products. Food production proving realism & quality and Marketing providing urgency & innovation.

Working Styles (Drivers):

Please others: Get on with people & great team players. (Sensitive and guarded).

Be Strong: Calm under pressure and great in a crisis. (Do not ask for help or express feelings).

Try Hard: Very enthusiastic & great at starting tasks and innovative. (Can fail to finish what they start).

Be Perfect: Perfectionists. Provide accurate and reliable work. (Miss deadlines, at risk of burnout).

Hurry Up: Work quickly & get a lot done, love being busy. (Can make mistakes and experience frustration).

Behavioural Ego-States: We have 3 parts to our personality: Parent | Adult |Child

Parent is split into:
> Controlling: Dominating/bossy (-) | Structuring (+)
> Nurturing: Rescuing (-) | Caring/Sympathetic (+)

Adult: Information seeking, Rational (+)

Child is split into:
> Adapted: Resistant/compliant (-) | Co-operative (+)
> Natural: Reckless (-) | Creative/Spontaneous (+)

Sunk Costs: When we have invested in a project it is hard to back out. So spending that extra £1,000 when you have spent £9,000 on Plan A is like to seem preferable to investing £1,000 in Plan B. Sunk Costs are related to the endowment effect.

Okness: A belief system that each of us is of value and has the right to strive to meet our needs. Recognising that everyone is important. We can behave towards each other in order to maximise win-win options.

I'm OK, you're OK	*Healthy, win-win*
I'm OK, you're not OK	*Competition, aggression.*
I'm not OK, you're not OK	*Avoidance, futile.*
I'm not OK, you're OK	*Passivity, submission.*

7 Steps in Practice

Now have a look at the seven steps broken down into the practical actions you can take with real world observations to illustrate and explain what we have experienced working with businesses.

Personal Effectiveness (Step 1 to 3)

Step (Concept)	Real-World Observations
1 - Self-Awareness. Understand yourself in terms of: • Self-esteem and trust of others. • Preferred working styles. • Unconscious tendencies [System 1 & Triggers]. • Preferred behaviour modes – [Ego-States].	Key manager understood her 'Be Perfect' *driver* was causing her to provide voluminous, unfocussed information to her boss, causing frustration. An epiphany at a workshop followed coaching by a director led to a structured reporting schedule that allowed her to 'Be Perfect' and have brevity.
Step 2 - Self-Belief: • Confidence [I'm OK You're OK & Conformity]. • Recognition of options for change [Discounting]. • Personal ability to take action [Discounting].	Introverted team was struggling to be assertive with other teams. Through understanding of bias/heuristics, *ego-states*, *I'm Ok You're OK* and *working styles* they increased self-confidence, assertiveness and influencing skills.
Step 3 - Taking Responsibility: • Being Assertive [Ego-states]. • Bias-free Problem Solving [Anchoring & Priming]. • Decision making [Loss Aversion/Endowment Effect, Sunk Costs & Conformity].	A pivotal manager now talks enthusiastically about his increasing ability to take responsibility for solving problems. Awareness of his communication patterns and ways of relating using the language of TA and BE. He sees it as a way to stay interested and stimulated at work, using work as personal development opportunity.

Managing Other (Step 4 to 6)

Step (Concept)	Real-World Observations
Step 4 - Awareness of others: • Identify trust positions [Scripts & I'm OK You're OK]. • Understand difference [Scripts & Working Styles]. • Unconscious tendencies [System 1, Representative Heuristic, Conformity & Affect Heuristic]. • Preferred behaviour modes – [Ego-States].	• Managers understanding why their communication with their staff and other teams sometimes goes wrong. • Understanding the clashes of personality that can come with different working styles. • Recognising preferred behaviour modes in others and how to communicate effectively those differences.
Step 5 - Building Trust (between individuals and teams): • Foster environment of mutual respect. • Be vulnerable, open & transparent. • Encourage risk taking / allow mistakes [Sunk Costs, Loss Aversion/Endowment Effect & Confirmation Bias].	Two organisations in a supply chain with bunker mentality and blame culture. One-to-ones with key managers and experiential workshop brought them together to explore trust and mutual respect (*Okness*). They agreed key behavioural principles. They are now committed to working positively together and have started to implement changes.
Step 6 - Empowering Others: • Shared responsibility & goals [Contracting]. • Hold each other to account. • Positive recognition [Stroking]	Various teams reported that they did not feel empowered-the route out of that was through a shared focus on common goals (getting best product on the shelves). Some organisations reported lack of positive recognition and being open about problems. The solution: a renewed focus on treating each other as OK and regular face to face meetings.

Leading Others

Step (Concept)	Real-World Observations
Step 7 – Leading Others: • Establish values & behavioural principles - shape the story. • Clarity of vision – repeat, repeat, repeat... • Clear delegation of responsibility [Ego-States, Anchoring, Conformity & Contracting].	Internal supply chain had some communication problems between teams. A group of leaders came together to explore working together and agree a set of clear values and behavioural principles. This provided the basis for the leadership team to have a clear common vision.

What You Can Do: BE/TA Health Check

The following questions will help identify if you have gaps in your leadership and management skills that could prevent you from becoming a behaviourally competent. Before you start, don't be too hard on yourself, remember everyone is susceptible to biases and irrationality. The first step is to become more aware of yourself.

Questions (If the question feels significant, consider the BE/TA concept)		BE/TA Concept
Trusting your gut feelings Do you follow your gut instinct when making decisions? Are you unaware of what causes an emotional response in you?	=	**Affect Heuristic**
Extraneous influences on decision making Do you speak first in meetings? Do you realise that decisions can be skewed by irrelevant information?	=	**Anchoring / Priming**
What we see and hear influences us Do you have all the information you need to make decisions? Do you think about the reliability and limitations of the data you have?	=	**Availability Bias**
We seek what we want to believe Do you seek all information when making decisions? Do you avoid viewpoints that challenge your own?	=	**Confirmation Bias**
Don't rock the boat Do you follow the opinions of the majority? Do you encourage others to agree with you?	=	**Conformity**
I knew that all along Do you forget your previous ignorance when you learn something new? Do you recognise when you have changed your opinion?	=	**Hindsight Bias**
They are all like that Do you pigeonhole people based on their 'type'? Are you aware of your prejudices?	=	**Representative Heuristic**
Throwing good money after bad Do previous investments cloud your decisions? Are your decisions based on rational judgements or emotional investments?	=	**Sunk Costs**
We put a premium on ownership Do you recognise risk aversion in decision making? Do "ownership" premiums affect your decision making?	=	**Loss Aversion & Endowment Affect**
Ignoring and minimising problems Do you check out the reality of a situation – including significance, the options availability and ability to change?	=	**Discounting**
Behave yourself Is communication stuck in negative predictable patterns with certain people or teams? Is hierarchy or structure causing people to move into negative behaviours? Are you aware of yours and other's (negative) behaviour modes?	=	**Behavioural Ego-States**
I'm Ok You're OK Do you believe all people are fundamentally of worth and value? Do you behave towards others in order to maximise win-win options.	=	**Life Positions - OKNESS**
Recognising each other either positively or negatively Is there a culture of positive recognition? Do you understand your recognition profile –getting/or giving enough recognition?	=	**Stroking**
How and why we do what we do Do you understand your working styles? Are you able to adapt your management style to different working styles?	=	**Working Styles / Drivers**
Do we agree what to do? Do you have a clear agreements between individuals, teams and suppliers?	=	**Contracting**

Leader 2.0: Homo-Competus

It is amazing how some seemingly entrenched situations can be turned around with what seems like simple, common sense solutions. But maybe the idea that it is obvious and simple is another bias – the *hindsight bias*.

Hindsight Bias: The "I knew that all along" bias. This self-deception goes beyond simply trying to make ourselves feel good, it means we can actually make poor decisions.

So why don't we all do it? The challenge is to get started and overcome organisational inertia and *scripts* that dictate "this is how we do it around here". And as much as the approach seems like common sense, the reality is very different. The lack of emphasis in workplaces on behaviours is entrenched. So while at school Maths and English are seen as basic skills, yet knowing ourselves and how to interact with others is not on the curriculum. But, if we are truly focused on the bottom line, we need to get more from our people; become more aware, take responsibility and empower others. **Behavioural competence is a crucial skill for all organisations.**

Actual bottom-line →	← Perceived bottom-line
Leading / Diversity →	← Inertia / Scripts
Awareness →	← Ignorance
Taking responsibility →	← Carefree
Skills & knowledge →	← Lack of skills

While working with businesses we have seen the behavioural challenges that leaders and managers need to overcome to improve their performance and that of their teams and ultimately their organisations. We have worked with these leaders in workshops, group-work and one-to-one. We have listened to these leaders, provided them with tools and challenged them to behave differently. What emerged is breakthrough moments that have removed behavioural log-jams in supply chains. Problems that have existed for years have been changed by management teams and individuals taking responsibility. During this work, we have collated a set of behaviours/approaches that Leader 2.0 (Homo-Competus) needs to embody.

HUMILITY	CREATIVE
PERSPECTIVE	INSPIRING
TEAM PLAYER/BUILDER	GENERATES COMMITMENT
DELEGATING = EMPOWERING	NOT PASSIVE (HOLDS OTHERS TO ACCOUNT)
CONSISTENT YET FLEXIBLE	HONEST (OPEN & TRANSPARENT)

What You Can Do: Recommended Reading (Our favourites in Bold)

Behavioural Economics

Angner, E., 2012. *A course in Behavioural Economics.* Palgrave Macmillan.

Ariely, D., 2009. *Predictably Irrational*. Harper.

Ariely, D., 2011. *Upside of Irrationality: The Unexpected Benefits of Defying Logic*. Harper Perennial.

Ariely, D., 2013. *The (Honest) Truth about Dishonesty: How We Lie to Everyone – Especially Ourselves*. Harper Perennial.

Chen, K. and Krakovsky, M., 2010. Secrets of the Money Lab. Portfolio Penguin.

Huettel, S., 2012. *Behavioral Economics: When Psychology and Economics Collide*. Teaching Company.

Kahneman, D., 2012. *Thinking, Fast and Slow*. Penguin.

McRaney, D., 2012. *You Are Not So Smart*. One World.

Thaler, R. and Sunstein, C., 2008. *Nudge*. Penguin.

A good site for experimental games: http://www.econport.org/content/handbook/trustreciprocity/experiments.html

Behavioural management/Learning Organisation

Dweck, C., 2007. *Mindset*. Random House.

Lencioni, P., 2012. *The Advantage*. Jossey-Bass.

Lencioni, P., 2000. *The Four Obsessions of an Extraordinary Executive*. Jossey-Bass.

Lencioni, P., 1998. *The Five Dysfunctions of a Team*. Jossey-Bass.

Pink, D.H., 2010. *Drive: The Surprising Truth about What Motivates Us*. Canongate.

Ressler, C. and Thompson, J., 2013. *Why Managing Sucks and How to Fix It: A Results-Only Guide to Taking Control of Work, Not People*. John Wiley & Sons.

Senge, P., 1990. *The Fifth Discipline*. Crown Publishing Group.

Senge, P., 1994. *The Fifth Discipline Fieldbook*. Nicholas Brealey.

70:20:10 http://en.wikipedia.org/wiki/70/20/10_Model

Generations

Espinoza, C., Ukleja, M. and Rusch, C., 2010. *Managing the Millennials*. Wiley.

ILM and Ashridge Business School. *Great Expectations – Managing Generation Y*. Institute of Leadership & Management

Johnson, L. and Johnson, M., 2010. *Generations, Inc*. Amacon.

Lancaster, L. and Stillman, D., 2002. *When Generations Collide*. Collins Business.

Lancaster, L. and Stillman, D., 2010 *The M-factor*. Harper Business.

Zemke, R., Raines, C. and Filipczak, B., 2013. *Generations at Work*. Amazon.

Transactional Analysis / Psychology

Achor, S., 2013. *Before Happiness: The 5 Hidden Keys to Achieving Success*. Crown Publishing Group.

Berne, E., 1970. *Sex in Human Loving*. Pocket Books.

Mountain, A. and Davidson, C., 2011. *Working Together; Organizational Transactional Analysis and Business.* Performance. Gower.

Stewart, I. and Joines, V., 2000 *TA Today*. Lifespace Publishing.

Erskine, R., 2010 *Life Scripts*. Karnac.

Hay, J., 2009. *Donkey Bridges for Developmental TA*. Sherwood Publishing.

Hay, J., 2009. *Working it out at Work*. Sherwood Publishing.

Hay, J., 2009. *Transactional Analysis for Trainers*. Sherwood Publishing.

Napper, R. and Newton, T., 2000 *Tactics, transactional analysis concepts for all trainers, teachers & tutors*. Taresources.

Lee, A., March 2014. *The Development of a Process Group*. Transactional Analysis Journal.

General

"Businessballs is a free ethical learning and development resource for people and organizations, run by Alan Chapman, in Leicester, England. Businessballs.com: Experiential Learning, Kolb's learning styles model and experiential learning theory, Personality theories, types and tests, and Transactional Analysis: early & modern usage.

Appendix A: The Research Project & Next Steps

This Behavioural Framework (BF) was developed within an action research project funded by UKCES UK Futures Programme. The project undertook more than 60 activities with over 100 individuals from 20 companies in food & drink supply chains

What we looked at:

- How can we ensure that everyone can voice their opinions and put forward their solutions?
- How do leaders and organisations cultivate the 'wisdom of the crowds' and create an engaged workforce?
- What are the ways in which biases and heuristics (rules of thumb) generate sub-optimal decisions?
- How can trust and respect drive actions within companies & supply chains?
- How do behavioural issues affect management of teams? Trust > Conflict > Commitment > Accountability > Results.

What we did (Activities)

Throughout the project we undertook Action Research activities to identify what areas of TA and BE had a traction. It is through these activities that we understood trigger mechanisms and the steps that leaders & managers / organisations need to take to become behaviourally competent. These activities ranged from workshops, through group-work to one-to-ones. This mix proved useful in delving into the subject but it also helped us understand learning and development needs:

Activity Type	Benefit
Experiential Learning [7]	• Can set the scene and can create an opportunity to put understanding into practice. • Enable facilitators and participants to see behaviours in action. • Builds trust allowing breakthrough moments for key individuals and teams.
Scenario-based learning	• Videos provide an excellent way to explore concepts such as ego-states.
Games	• Provide a powerful yet simple way to explain the concept of reputation, trust & fairness. • Resourses at: http://www.econport.org/content/handbook/trustreciprocity/experiments.html
Combined Learning and Coaching	• Coaching combined with learning accelerates the embedding of behavioural concepts. • The approach can be used in Group Work and One-to-one.

Programmes we delivered

We have delivered employer programmes to test the understanding and applicability of the BF, including:

Programme	Issue	Solution	Outcomes
Product Lifecycle	The process and systems are sophisticated but some blame culture and negative behaviour exists. This causes sub optimal decision making.	• 1:1s with key people to fully understand the issues from all perspectives. • Group work on key BE/TA concepts. • Experiential workshop with whole supply chain (6 companies).	• Evidence of new levels of trust within the supply chain. • Strong relationships with mutual respect. • Common purpose & behavioural principles agreed. • Joint celebration of Product Launch & positive recognition. • Leaders agree slogan 'Explain not blame'.
Leadership in an Internal Supply Chain	Need to collectively co-ordinate activities and work as a cohesive strategic unit, making decisions, ensuring efficiency, effectiveness & profitability.	• Experiential workshop for leaders from Supply Chain, Finance, Manufacturing, HR, Technical, Engineering, Production & Procurement. • Key BE/TA concepts used.	• Strengthening trust, awareness & communications in the leadership team. • Recognition that to become empowered requires taking responsibility. • Agreement to move forward together and hold regular meetings to solve issues.
Introverted Teams	Key teams & individuals (with introversion / passivity bias) needed support on working styles & behaviours to support assertiveness/effectiveness.	• 1:1 learning & coaching for key supply chain influencer. • Group work on key BE/TA concepts with key teams.	• Managers showing self-awareness, self-belief & taking responsibility for finding solutions. • Improvement in communication skills. • Evidence of assertiveness. • Improved team effectiveness.
Micro-business events	Need to overcome barriers to growth (mindset, biases & interactions with staff and suppliers).	Workshops covering issues & concepts relevant to business growth & behavioural competence.	• Increased confidence in ability to build and manage a team. • Enthusiasm for the 7 steps as a model for running their business.

---

[7] We used pixelfountain's collaborative learning simulation but note other companies provide simulations.

Next Steps for the Behavioural Framework

Learning: pixelfountain plan to further explore and develop the approaches utilised in the project. Social learning via Google Communities, WordPress, LinkedIn and Moodle will be explored to support collaboration & learning.

Areas of Interest / Applications of the Behavioural Framework

Area	Rationale
Leadership & Management	Businesses need leaders who are behaviourally competent; able to model and encourage positive behaviours and set the values and principles for healthy, efficient workplaces.
Supply chain / partnership working	Supply chains are a web of interactions, behaviours, cultures and goals. The BF can provide a platform for building trust and win-win relationships that focus on results.
Food Safety	Behavioural issues (often caused by bias or discounting) have disastrous consequences.
Health & Safety	Reckless, immature or passive behaviour can cost lives.
Innovation	Innovation encouraging behaviours and mindset are often missing from the workplace: encouraging idea exploration, tolerating, accepting and learning from risk and failure.
Growth	Dealing with barriers that limit growth: mindset, behavioural based management skills.

Further Information

Project
- Project Website: www.project-hcm.com
- Future Skills Need: http://project-hcm.com/bf-skills-needs/
- Planit-Sustainability learning simulation: www.pixelfountain.co.uk/planit_sustainability.html

Partners
- pixelfountain: www.pixelfountain.co.uk
- UKCES Futures programme: www.gov.uk/government/collections/ukces-futures-programme-overview
- University of Chester: www.chester.ac.uk

Contact

pladley@pixelfountain.co.uk and mdees@pixelfountain.co.uk
0161 4278684

ABOUT THE AUTHORS

Registered psychotherapist, consultant, coach, trainer & facilitator (300+ workshops with leaders & managers from business, public sector and education). Mary's 23 years experience includes group work & master classes for leaders & managers, partnerships and collaboration for leaders in supply chains and local/regional areas (including Siberia), bringing together diverse/dispersed teams and conflict management.

Expertise: Transactional Analysis (including in organisations), leadership & management, sustainability & CSR.

Mary Dees

Consultant, innovative designer, mentor, facilitator (300+ workshops with leaders & managers from business, public sector and education). Paul has full learning project life-cycle experience, including: initiation, project management (projects up to £1M), design, development, delivery and evaluation. As an innovative designer, Paul has created simulations / resource management games looking at decision making, big picture thinking, partnerships / supply chains including breaking down silos, bridging political divides and reducing waste / increasing efficiency.

Expertise: Systems thinking, behavioural economics, sustainability & games based learning.

Paul Ladley

Bibliography

The Economist. (2015 May). *More Kirk than Spock*. Retrieved from wwww.theeconomist.com 07/07/2015

Adams, T. (2014). *Nudge economics: has push come to shove for a fashionable theory*?. Retrieved from wwww.theguardian.com 30/07/2015

Akerlof, G. A., & Kranton, R. E. (2005). Identity and the Economics of Organizations. *Journal of Economic perspectives*, 19(1), 9-32.

Armstrong, M., & Huck, S. (2010). Behavioural Economics as applied to firms: a primer. Economic discussion Paper, *Office of Fair Trading.*

Batt, Peter. (2001). Exploring the nature of long-term buyer-seller relationships in the Western Australian wine industry. *Australian & New Zealand Wine Industry Journal*. 16 (6), 87-96.

Blackstone, P. (1993). The dynamic child: Integration of second-order structure, object relations, and self psychology. *Transactional Analysis Journal, 23*(4), 216-234.

Blackstone, P. (1997). Integration of Transactional Analysis with Self Psychology. *Transactional Analysis Journal, 27*(1), 7-8.

Clarkson, P. (1993). Transactional analysis as a humanistic therapy. *Transactional Analysis Journal, 23*(1), 36-41.

Cornell, W. F. (2014). Transactional Analysis 50 Years Later in Theory and Practice. *Transactional Analysis Journal, 44*(3), 226-236.

Dani, S., Backhouse, C., & Burns, N. D. (2004). Application of Transactional Analysis in supply chain networks: a potential holonic mediating tool. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 218*(5), 571-580.

Evans, K. R. (1994). Healing shame: A Gestalt perspective. *Transactional Analysis Journal, 24*(2), 103-108.

Evans, M. (1998). Supervision: A developmental-relational approach. *Transactional Analysis Journal, 28*(4), 288-298.

Freedman, L. D. (1993). TA tools for self-managing work teams. *Transactional Analysis Journal, 23*(2), 104-109.

Frei, F., & Morriss, A. (2012). *Uncommon service: how to win by putting customers at the core of your business.* Harvard Business Press.

Gibbons, S. (2004). The Costs of Urban Property Crime*. *The Economic Journal, 114*(499), F441-F463.

Gilles, R. (2009). *Limitations of behavioral economics.* Retrieved from http://www.relationaleconomy.net/ 30/07/2015

Gneezy, U., & List, J. A. (2006). Putting behavioral economics to work: Testing for gift exchange in labor markets using field experiments. *Econometrica, 74*(5), 1365-1384.

Gusti, I., Tanaya, L., McGregor, M., & Batt, P. (2004). *Factors affecting supply chain participants on choosing their preferred trading partners.* Paper presented at the Agriculture Congress.

Gyau, A., Spiller, A., & Wocken, C. (2011). Price or relational behaviours? Supplier relationship management in the German dairy industry. *British Food Journal, 113*(7), 838-852.

Harford, T. (2011). Why We Do What We Do. *The Financial Times.* Retrieved from http://www.ft.com/ 23/07/2015

Hargaden, H., & Sills, C. (2001). Deconfusion of the child ego state: A relational perspective. *Transactional Analysis Journal, 31*(1), 55-70.

Hay, J. (1996). *Transactional analysis for trainers.* Mansfield: Sherwood Pub.

Hay, J. (1997). Transformational Mentoring: Using Transactional Analysis to Make a Difference. *Transactional Analysis Journal, 27*(3), 158-167.

Hay, J. & Williams, N. (1989) The Reluctant Time Manager, *Opportunities*

Ward Howell International. (2014). *Motivating and engaging employees for better business.* Ward Howell International: Case Studies.

Ward Howell International. (2014*). Virgin Media | Motivating and engaging employees for better business*, Ward Howell International: Case Studies.

Joines, V. S. (1995). A developmental approach to anger. *Transactional Analysis Journal, 25*(2), 112-118.

Kahler. (1975). Drivers - The Key to the Process Script. *Transactional Analysis Journal, 5*(3), 280-284.

Kahneman, D. (2011) *Thinking, fast and slow.* London: Macmillan

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica: Journal of the Econometric Society*, 47 (2), 263-291.

Koltko-Rivera, M. E. (2006). Rediscovering the later version of Maslow's hierarchy of needs: Self-transcendence and opportunities for theory, research, and unification. *Review of General Psychology, 10*(4), 302.

Laohavichien, T., Fredendall, L. D., & Stephen Cantrell, R. (2011). Leadership and quality management practices in Thailand. *International Journal of Operations & Production Management, 31*(10), 1048-1070.

Little, R. (2001). Schizoid processes: Working with the defenses of the withdrawn child ego state. *Transactional Analysis Journal, 31*(1), 33-43.

Lunn, P. (2008). *Behavioural Economics: is it such a big deal? Prospect Magazine.* Retrieved from http://www.prospectmagazine.co.uk 30/07/2015

Luthans, F., Stajkovic, A., Luthans, B. C., & Luthans, K. (1998). Applying behavioral management in Eastern Europe. *European Management Journal, 16*(4), 466-475.

Manor, O. (1992). Transactional Analysis, object relations, and the systems approach: Finding the counterparts. *Transactional Analysis Journal, 22*(1), 4-15.

Maslow, A. H. (1943). A theory of human motivation. *Psychological review, 50*(4), 370.

McGregor, D. (1960*). The human side of enterprise.* New York: McGraw-Hill Professional

Moreau, J. (2005). Using Transactional Analysis to Increase Organizational Performance. *Transactional Analysis Journal, 35*(4), 355-364.

Newell, S., & Jeffery, D. (2013). *Behaviour management in the classroom: a transactional analysis approach.* London: Routledge.

Nwagbara, U. (2010). Managing Organizational Change: Leadership, Tesco, and Leahy's Resignation. *E-Journal of Organizational Learning and Leadership, 9*(1), 56-79.

Patel, T. (2007). *Stereotypes of intercultural management.* Delft: Eburon

Sarapultsev, A., & Sarapultsev, P. (2014). Novelty, Stress, and Biological Roots in Human Market Behavior. *Behavioral Sciences, 4*(1), 53-69.

Schmid, G. (2008). *Full employment in Europe: Managing labour market transitions and risks.* Cheltenham: Edward Elgar Publishing.

Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., & Lehman, D. R. (2002). Maximizing versus satisficing: happiness is a matter of choice. *Journal of Personality and Social Psychology, 83*(5), 1178.

Service, H., Halpern, Algate, Gallagher, Nguyen, Ruda, Sanders, Pelenur, Gyani, Harper, Reinhard & Kirkman. (2014). *Four simple ways to apply behavioural insights EAST.* Retrieved from http://www.behaviouralinsights.co.uk/: Behavioural Insights 20/07/2015.

Shmukler, D. (1991). Transference and transactions: Perspectives from developmental theory, object relations, and transformational processes. *Transactional Analysis Journal, 21*(3), 127-135.

Siles, M., Robison, L., Johnson, B., Linne, G., & Beveridge, D. (2000). Farmland exchanges: selection of trading partners, terms of trade, and social capital. *Journal of the American Society of Farm Managers and Rural Appraisers, 63*(1), 127-140.

Stewart, I., & Joines, V. (1987). *TA today: A new introduction to Transactional Analysis*: Lifespace Pub.

Sue, D. W., & Sue, D. (2012). *Counseling the culturally diverse: Theory and practice.* New York: John Wiley & Sons.

Toma, L., Stott, A. W., Heffernan, C., Ringrose, S., & Gunn, G. J. (2013). Determinants of biosecurity behaviour of British cattle and sheep farmers—A Behavioural Economics analysis. *Preventive Veterinary Medicine, 108*(4), 321-333.

Tudor, K. (1991). Children's groups: Integrating TA and Gestalt perspectives. *Transactional Analysis Journal, 21*(1), 12-20.

Williams, D. G. (2012). Transactional Analysis in the Creative Classroom. *Encounter: Education for Meaning and Social Justice, 25*(3), 55-56.

Woollams, S., & Brown, M. (1978). *Transactional Analysis: A modern and comprehensive text of TA theory and practice.* Ann Arbor: Huron Valley Institute Press

Zemke, R., Raines, C., & Filipczak, B. (2013). *Generations at work: Managing the clash of boomers, gen Xers, and gen Yers in the workplace.* New York: American Management Association