Final Report

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Customisation of the Innovation Development Program: Delivery to JBS Australia

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Executive Summary

The Innovation Development Program (IDP) was a program that resulted from the existing Collaborative Innovation Strategies Partnership Program (CISP). The aim of the IDP was to expose identified leaders of the red meat industry to a process of Invention through identification, investigation and selection, followed by practical application through implementation within a specific plant-specific project. This process can be seen in Figure 1 below

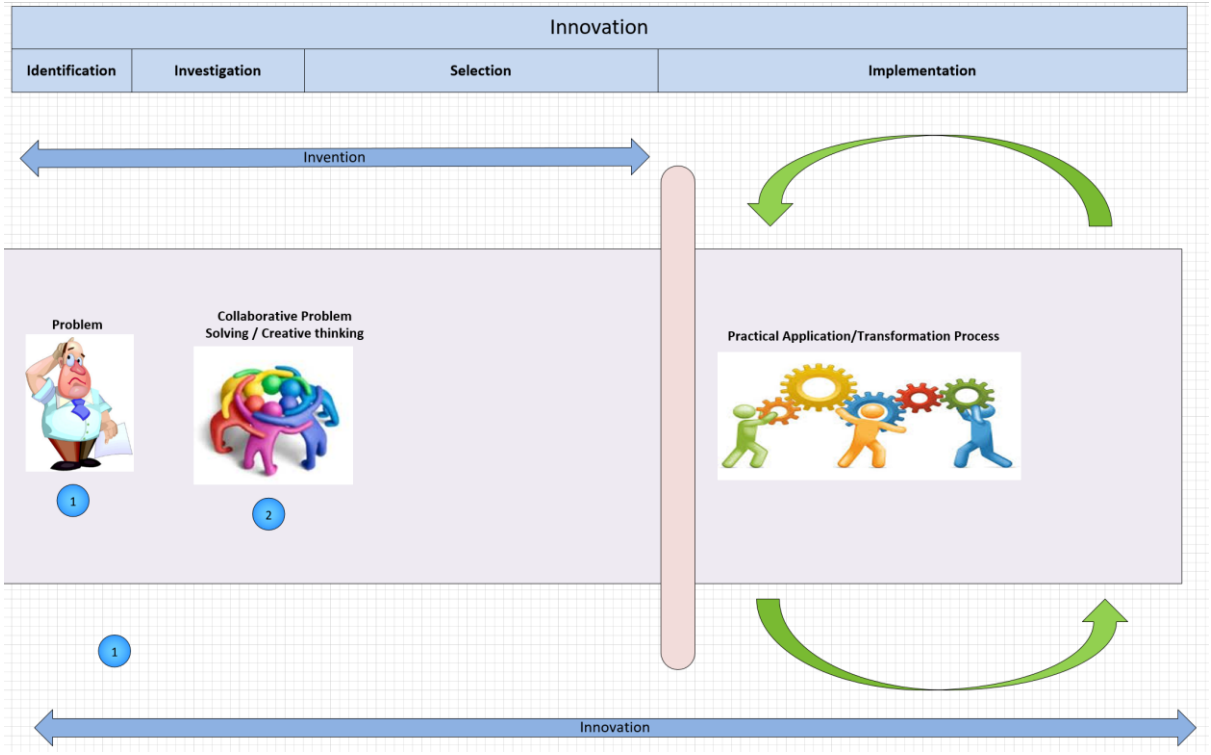

Figure 1: The Innovation Process applied to the development implementation and customisation of IDP for JBS Australia.

Initially, the IDP covered the following units of competency over three workshops throughout a 12 month period. The second round of workshops were held in April 2017 over the course of three days, and featured a more compact program involving innovation methodologies, a study on what is innovation, examples of innovative thinkers and businesses, and tools that organisations and individuals may use to support innovative thinking and activities.

Each participant chose a challenge that was specific to their workplace. This allowed them to apply their theoretical knowledge within their workplace. All participants were actively engaged in developing their challenges beyond the completion of the IDP.

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1 Background and Purpose

1.1 Collaborative Innovation Strategies Program

In September 2007, MLA rolled out the red meat industry's innovation capability building program, piloted as the Collaborative Innovation Strategies Partnership (CISP) program. The program involves the co-development of comprehensive innovation strategies with individual enterprises, which meet commercial imperatives in addition to focusing on the implementation of key industry and government innovation priorities. The CISP is a flexible enterprise innovation capability building program that is customised for large and small enterprises throughout the red meat value chain. Enterprise innovation capability within the context of this program is defined as the underlying capacities that enable a firm to be innovative on a sustained basis, rather than producing one-off product innovations from time to time.

Using a structured and collaborative process, MLA partners with companies such as JBS to develop a customised strategic innovation capability building program for a staged three year duration. The program can encompass the entire business (whole-of-enterprise program) or alternatively remain focused on a specific business area in which you identify a need to develop innovation capability (focused program). The partner company can appoint an internal innovation manager, and/or can develop multiple resources to implement and sustain innovation initiatives.

The Stage 3 CISP priorities were integrated into the company's overall business strategy and were continuously monitored against measurable performance indicators throughout the three-year program to identify the contribution of innovation to the bottom line and achievement of key business objectives. Ultimately, the outcomes delivered through the development and implementation of the innovation strategy contributed to development of JBS's long-term capability, and associated impacts on JBS's profitability, competitiveness and sustainability. The scope of the innovation strategy was significantly broader than the previous Stage 1 program with a whole of business (on- and off-farm) approach.

The primary focus areas were in the key business areas of:

- Operational efficiency (Process focus on energy use, technologies, productivity and materials handling)
- Optimal beef processing including further processing and product innovation
- Innovation resource planning and people capability development
- Sustainability (Environment)
- Feedlot/livestock
- Supply chain innovation (including areas such as eating quality; information management; supply chain alignment; through chain assurance)
- Marketing/product innovation - including integration between CISP and Collaborative Marketing (formerly ICA) programs as appropriate

To be effective, the CISP will be aligned and integrated with the company's overall corporate strategy and will be integral in enabling the company to successfully achieve its business objectives.

1.2 Background

The Innovation Development Program (IDP) was a program that resulted from the existing Collaborative Innovation Strategies Partnership Program (CISP). The aim of the IDP was to expose identified leaders of the red meat industry to a process of Invention through identification, investigation and selection, followed by practical application through implementation within a specific plant-specific project.

The Innovation Development Program (IDP) covered the following units of competency over three workshops throughout a 12 month period. The units covered included:

1. Creating a context for innovation
2. Leading a team to foster innovation
3. Building and sustaining an innovative work environment
4. Establishing innovation systems

All IDP course content was customised to reflect the realities and specific needs of the Australian Red Meat Industry. The program was initially designed to begin with basic innovation skills and progressed to address more complex knowledge and skills. The Units discussed below were used as a framework guide, and components from each topic were designed to be used to in each workshop to support practical application. Site visits were arranged to better understand the main pain points facing participants within the context of their workplace.

An adaptive approach was undertaken in the coordination and delivery to create learning opportunities across the following challenges:

- Enable adaptation to a diverse group of interests – technical and strategic diversity amongst group can be addressed by unpacking the case study highlighting broad innovation concepts
- Brainstorming review of case study observations starts at a high and broad level. As more specific observations on the case study are made around individuals or companies immediate needs this can be applied to broader innovation concepts and contextualised for the participants own experience, observations or challenges across the diversity of company sites and participants.
- Where possible engage case study company leaders in a series of pre-prepared topics around the participant's interests to stimulate discussion. Generic innovation experience from other companies is hard to distil across a broad range of participant needs. However, a more integrated approach with the case study leaders in advance helps to facilitate knowledge sharing where relevant to participants.

The case studies helped integrate and strengthen the learning linkages between practical on-site observations and innovation topics. This type of integration was achieved by the consultants in the previous MLA sponsored red meat industry graduate program. Where ongoing relationships with the site visit companies add value to the overall program, the consultants will endeavour to foster this ongoing collaboration.

Online support materials were provided to support participants in preparing their challenges including:

- A framework for capturing and refining specific work challenges that would be addressed during the workshops
- Pre-reading and reference materials supporting participants understanding of the innovation concepts, problem solving tools and thinking processes used in addressing each of their specific work challenges.

A summary of the content available to participants and covered throughout the program is included in the next section.

1.3 Purpose

This project involved the customisation and delivery of the JBS Innovation Development Program (IDP). The IDP was a new component of MLA's Collaborative Innovation Strategies Partnership program (CISP) and was designed to develop the professional skills required to initiate, support, sustain and lead innovation activities within partner companies. The program was intended to be offered at the industry level as well as customised versions for companies such as JBS.

2 Project objectives

The objectives of the project were:

- Customisation of generic materials to align with JBS language, strategy and current state of innovation.
- Delivery of innovation training to the two agreed JBS groups
    i. Creating a context for innovation
    ii. Lead a team to foster innovation
    iii. Building & sustaining an innovative work environment
    iv. Establishing innovation systems
- Provide a final report with detailing the effectiveness of the program and the lessons learnt.

3 Methodology

The scope of the proposed innovation leadership project will be designed, implemented and evaluated in the following stages:

1) Planning, design & development of IDP customised JBS modules
    - Meeting with JBS, MLA and service providers (Wellgrounded and Greenleaf Enterprises) to develop a pre-workshop management plan with agreed timeframes.
    - Develop the workshop agenda, one-pager program facts sheet and workshop invitation including the COO letters with input from JBS for the initial IDP workshop for up to 14 participates. Participant names, roles and titles specified to the provider by JBS. Contact each of the participants prior to the workshop to collect and collate data and information, case studies and success stories related to their experiences in innovation.
    - Develop with input from JBS a workshop survey as a source of background and baseline measures on their understanding of innovation by every participant.

- Collate and co-ordinate distribution of prerequisite pre-workshop reading materials, presentations, innovation concepts and/or videos to motivate and prepare participants.
- Prepare and produce all customised IDP manuals, presentations and reading materials within JBS style guide formats (JBS to provide style guide format) for the initial workshop.
- Preliminary and final milestone report on progress during the development of the IDP modules, pre-workshop engagement of all participants and workshop planning.

2) Implement and delivery – Group Two module
   - Delivery of Group Two modules

3.1 Initial Intake

The program was flexible enough to be altered to suit the needs of the JBS cohort. Initially, workshops were run over the course of three days over three workshops (nine days in total). A review of the first round of workshops concluded that focus be shifted toward the program having more of an impact within the workplace.

The second round of workshops were held in April 2017 over the course of three days. To re-establish engagement, site visits occurred before the workshop. This also enabled a better understanding of specific pain points and site-specific issues facing participants.

Once participants are at a stage where they are ready for onsite engagement, they will be visited onsite for the final time in the program. The purpose of the final visit is to see the effectiveness of their engagement within their team, including engaging their managers and any other stakeholders (external services providers etc.). It also gives program participants the opportunity to employ and revise techniques they learned during the program.

3.2 Second Intake

After a period of disengagement due to a variety of factors (Christmas period, staff churn and project management issues), the second intake of program participants occurred early April 2017. The workshop content and schedule is detailed in Table 1.

Table 1: Innovation Development Program customised workshop content & schedule**.**

Open Workshop – Pre-workshop page • House keeping • Welcome and introduction – “Folding arms”, setting scene of 3 days • Justin McCormick video • Video 1 • Video 2
Session 1 – Think Differently about the world • What is innovation and why is it important? • Small Case Study • Individual/Group Activities
Session 1 – Essential 8 – Technologies • Themes • Rank

- Block Chain, 3D printed meat, Virtual Reality – Boning, Consumer quality control, Virtual showrooms (consumers connecting in China, value added products, Artificial intelligence – Auto buyer)

What do you think about Innovation?

Session 2 – Business survival depends on innovation

- Intro to innovation PPT's (At start w/ BovControl)
- Read Disruption examples and identify how these companies are disrupting
- What is Innovation – Present PowerPoints (Proactive vs reactive, Invention vs Innovation, Systemic)

Sprint 1 – Share your challenge

- Where do good ideas come from - Video
- Challenge Questions – lightening round
  - Fill out Blue question sheets

Session 3 – Design Thinking

- What is design thinking - Video
- Prezi Slides
- Take notes in your booklet from the video –
  - What is agile and how is it different to traditional approaches?
  - What are the likely chances of failure or expensive redevelopment in your challenges? How could you apply concepts from Design Thinking to minimise or overcome those risks?
- How could you apply this process to your challenge?
  - Thinking of enviro challenge – Corporate mandate – what else could be done to make the rollout successful? What is the real value being added? How could alternative rollout/engagement create a higher value outcome?

Sprint 1 – Share your challenge in more detail – challenge on which part of Innovation landscape you are really operating in

- Challenge Questions – More detailed analysis
  - Consider in more detail the Blue question sheets
  - Innovation champion now starts to ask much harder questions of the group – how good could this be plus other printed examples.

Finish day 1 with preparation to transition thinking process for Day 2

- Break into groups for tomorrows creative thinking sprints

DAY 2

Sprint 2 – Explore (CONTENT)

- Innovators DNA – Read paper
- DNA PowerPoint slides (including Video)
- PowerPoint – group Associating activity
- PowerPoint – individual Post-its (3 skills)

Sprint 2 - Scamper Activity

Sprint 2 – Six thinking hats

Consolidate thoughts from the day for each person's challenges – preparation for integrating into business model canvas on Day 3

Day 3

Sprint 3 – FOCUS – Business Model Canvas

- Refer to work book activity + A3 template
- Work individually on your challenge
- Review with group – lightening round on what you have been considering
- Work as a group on refining your challenges as a group
- Fine tune - Heads up this leads into the Pitch and the refinement of what your Challenge will now become. Considering how this will be more innovative (More value) than originally considered.

Session 4 – Elevator Pitch

- Watch video

• Develop your pitch (writing, practicing)   ○ Consider the broad number of people that you should pitch to • Present pitch to group (2 mins + 3 mins review)
Sprint 2 – Revise Pitch • Revise pitch
Revised Pitch to group • Peer review - Present pitch to group (2 mins + 3 mins review) • Feedback to each person
Post Workshop - Workplace Preparation Sprint 4, 5 & 6 • Refer to website Sprint descriptions • Applying the workshop process in the workplace • Collect thoughts, consider learnings and prepare plan for workplace implementation of challenges – with a new "innovation value" approach. • Discuss with group
Debriefing session • Feedback – what could have been better, what was good, concerns/positives
Close Workshop

The above methodology was flexible enough for content to be focused on, or removed, depending on the group's preference and how suited the tools were for the progression of each participant. For example, on day 2, participants indicated they would prefer to spend more time on the Hurson's Productive Thinking as they found it a valuable exercise.

Course content was delivered through a combination of booklet, webpages, articles and videos. Course content can be found at these addresses online:

http://idp2.millicentdesign.com.au/

http://prezi.com/hahdzfm4hnwz/?utm_campaign=share&utm_medium=copy&rc=ex0share

4 Results & discussion

4.1 Customised workshops

4.1.1 Participants

Assistant Plant Manager
Plant Engineer
Sales Executive
Manager Slice & Dice Packaging
Southern Plant Manager In Development
Environmental Sustainability Officer
Engineering Manager

4.1.2 Outcomes

Initially nine participants were engaged to attend the course, with seven participants completing the course modules due to workplace commitments.

The cohort represented a wide variety of participants from across the JBS Southern and Primo groups; JBS Northern was not represented during this intake. Feedback received suggested this was due to poor, inconsistent messaging of the program throughout the JBS organisation.

The challenges that each group worked on during the three-day workshop include:

1. The roll-out of the 360 Degree Program via effective engagement for an enterprise-level change
2. Increasing availability throughout the plant through line availability, staffing and continuously running lines in Primo Packaging
3. By making upgrades to the tripe room this project aims to minimize turnover by improving OHS conditions and improve yields by bettering work practices and processes.
4. Improving the packing area by reducing the leakers rate
5. Maximising the opportunity for Southern offal by focussing on increasing the sales potential of green offal
6. Improving production capacity by reducing equipment downtime

Two participants were working on the same project, therefore there are six challenges in total.

At the time of this report, program participants are working on engaging their selected team onsite, using tools such as their business model canvas and elevator pitch in order to gain traction with senior management and team members.

4.1.3 Future work beyond this report

As this is a draft final report, there are several actions beyond the contracted close date of this program. These are:

1. Site visit to meet with participants and review the success of their program/challenge and provide any further direction and support.
2. Survey on the workshop and overall efficacy of the IDP.
3. Consideration of the delivery of a third intake for the IDP, and the structure and delivery method of this.
4. Alignment with the existing Organisational Development initiatives and programs within JBS to the IDP.

4.2 Case Study: Example of a project derived from the IDP.

An example of a project derived from the IDP was “Increasing availability throughout the plant through line availability, staffing and continuously running lines in Primo Packaging”. This was a final project summary received by JBS Primo Packaging. This project team was the most engaged with the IDP as a program. Other projects had difficulty reporting final results due to existing work commitments.

The purpose of the project was to increase line availability by engaging staff, increasing interdepartmental interaction and implementing process changes.

Challenges identified were:

- Data integrity issues
- Engagement from all parties

- Traceability issues
- Timeline accountability issues

Successes achieved were:

- Staff engagement
- Some permeate fixes finding the root cause of problems
- 5 Why training for key stakeholders
- Action plan accountability

Process implementation:

- All downtime reasons are now recorded by the maintenance department on efficiency paperwork with how the issue was resolved. This ensures the data integrity and highlights reoccurring/ongoing issues while begin more specific.
- A weekly meeting has been scheduled with Maintenance and area Supervisors (Agenda attached). To create an open forum for discussion.
- Area action plan sheet (See Table 2)
- Maintenance have implemented a 5 Why From for all breakdowns over 30mins (Refer to Table 3)

The maintenance team have been a massive driving force and support through this change, which most process and success attributed to their ideas, involvement and hard work. This is a really positive sign for interdepartmental teamwork and reinforces a positive change culture within the business. This is an ever evolving project which will continue to be a focus for the business and our team. Please let me know if you require further information, thanks.

Table 2: Area action plan sheet for the case study project (i.e. packaging project)

Availability Meeting Agenda

Part 1

- Safety Share
- Discuss safety issues/concerns

Part 2

- Top 3 machine performances for previous days
- Top 3 machines for downtime from previous days

((Graphs) – Thursday, Friday and Monday for Tuesday's meeting,

Tuesday and Wednesday for Thursday's meeting).

- What were the causes for both the positive and negative reasons of percentages recorded?
- What are some fixes we can put into play to relieve downtime or increase throughput.

Part 3

- Review action plan
- Go over time frames for completions. Follow up on parts, availability and allocation of time to work on fixes.
- Things packaging can work on from an operating point of view to assist maintenance in certain areas or aspects of their day to day jobs/tasks.
- Update action plan and send to all parties

Part 4

- Discuss any other business or ongoing issues

Table 3: Maintenance root cause & corrective action plan

Name	Area	Item	Process	Date of Occurrence	List the name of the core team members (name and title):

Problem Definition: (who,what, when where and how)	

	3 Legged 5 Why	Picture of Current State	Corrective Actions / Owner / Target Date	Picture of corrected state
How problem was created	Problem Description: Explain why the problem occurred: Why: Why: Why: Why:(The root cause of non conformance)		Intermediate Containment: please list Owner and Target Date: Final Permanent Corrective Action:please list Owner and Target Date:	
Why problem was not detected?	Problem Description: Explain why the problem was not detected: Why: Why: Why: Why:		Intermediate Containment: please list Owner and Target Date: Final Permanent Corrective Action:please list Owner and Target Date:	
What is the Systemic root cause?	Problem Description: Explain the Systemic root cause: Why: Why: Why: Why:		Final Permanent Corrective Action:please list Owner and Target Date:	

Describe the Lessons Learned for this problem: (the lessons learned should be easily understood and stated clearly for the other locations to be able to read, understand, and	

5 Conclusions and Recommendations

5.1 Conclusions

The Innovation Development Program (IDP) was a program that resulted from the existing Collaborative Innovation Strategies Partnership Program (CISP). The aim of the IDP was to expose identified leaders of the red meat industry to a process of Invention through identification, investigation and selection, followed by practical application through implementation within a specific plant-specific project.

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Each participant chose a challenge that was specific to their workplace. This allowed them to apply their theoretical knowledge within their workplace. All participants were actively engaged in developing their challenges beyond the completion of the IDP.

5.2 Recommendations

There are several implications for the program's sustainability within JBS Australia. First, innovation and innovative thinking requires engagement at all levels of an organisation. All program participants in both intakes were at an operational, middle management level. For the program's sustainability, it is recommended that consideration be given to alignment with either existing development programs, or how the program in its current format includes engagement with members in upper management.

Second, alignment with existing Organisational Development programs is critical for the sustainability of the program firstly in order to align with existing organisational strategy (for example, to support cascading themes and messages from the company's vision and mission/purpose), and secondly to ensure buy-in and engagement is robust from all areas of the organisation's hierarchy. This allows for more effective change management and communication, and paves a clearer path for innovation sponsors and champions.

6 Appendix – Supporting documents

6.1 Innovation Development Program Customised Material

Overview

Home / Overview

1. Pre-Workshop

2. Workshop Sprints

3. Workplace Sprints

4. Workplace Site Visit

About the Innovation Development Program

Innovation Development Program

The Innovation Development Program (IDP) has been designed to develop the professional skills required to initiate, support, sustain and lead innovation activities within organisations.

The program is practical and is based on solving a challenge through innovation in your workplace.

Pre-workshop

Your participation in the program begins with you completing the pre-workshop activities in your workplace. This includes reading material and videos on innovation to orientate you to the program.

Challenges

After completing these activities, you are required to identify a challenge that will become the innovation project you undertake throughout the program. The challenge must be approved by your manager. A challenge form has been provided on the challenges page http://idp2.millicentdesign.com.au/warmup/challenges/ for you to complete by 13/2/2017.

The challenges are then uploaded to the projects page. The challenges form the basis of three 'sprints' to be completed in the three day workshop.

Workshop Sprints

Innovation Sprints are short periods of activity designed to solve workplace challenges. The IDP includes six sprints: three in the workshops and three in the workplace.

Sprints are undertaken in groups and include:

1. sharing your challenge
2. exploring ways to solve your challenge
3. focussing on how your challenge aligns to strategy and business models

Workplace Sprints

After the workshop, the program continues with a further three sprints which you will complete in the workplace.

These sprints include:

1. engaging stakeholders and running a pilot innovation project based on your challenge
2. refining and analysing feedback from the pilot innovation project
3. making an impact by preparing the pilot innovation project for launch

During these last three sprints, you will be visited by the course facilitator who will provide feedback and support on your innovation project.

Conclusion

The program concludes with a completed innovation prototype project which is uploaded via the IDP website. The completed project will incorporate a 2-3 page summary report, a 3 minute video and supporting documentation.

Instructions

Complete the following pre-workshop activities then submit the challenge form.

Total time required 1 HOUR.

1.

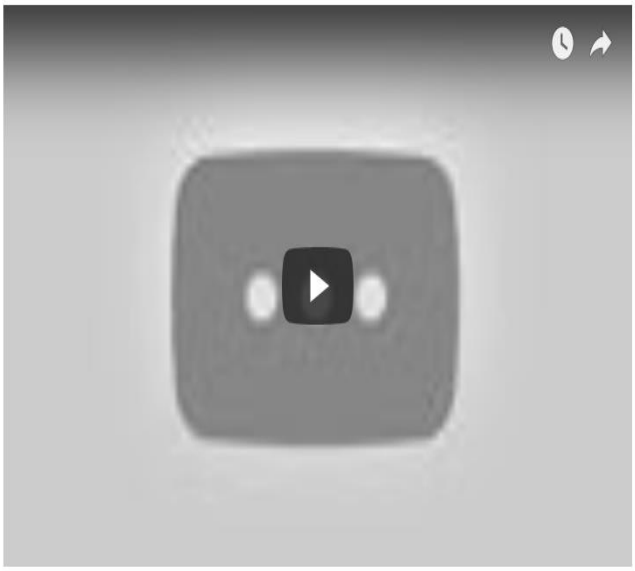
Watch this YouTube called 'What is Innovation?'

2.

Watch world-renowned disruptive innovation expert, Professor Clayton Christensen's video on disruptive innovation.

3.

Watch the Ubulance video - How could Uber disrupt the red meat industry?



4.

Read the following pages from the IDP journals:

- Pages 7-19 on 'What is innovation
- Pages 47-52 on Creativity
- Page 59 on Collaboration

DEFINE YOUR CHALLENGE

Session 1:Think differently about the world

Megatrends of the 21st Century

Objective: Understand why businesses must move from the 20th to the 21st century to survive.

1. Demographic & Social Change

- Gender diversity – Businesses must increasingly market their products and services to women
- Businesses must adapt to an aging workforce
- Businesses must adapt to the different working of Millenials
- Businesses must manage a globally mobile workforce

2. Shift in Economic Power

- Businesses must address the diverging needs of customers and fight off new and expanding competition
- Businesses must establish networks with emerging markets

3. Rapid Urbanisation

- Businesses must move from expensive machines and cheap people to valuable people and cheap machines capturing the potential of people
- Businesses must refocus offerings, marketing, distribution channels to urban customers with distinct needs and habits

4. Climate Change and Resource Scarcity

- Business must tackle climate and resource challenges – Businesses must reduce dependency on scarce resources.
- Businesses must waste less
- Businesses must measure and report on environmental impacts

5. Technological Breakthroughs

- Businesses must adopt technology to avoid business model disruption
- Business must view advancing technology as an opportunity for growth

Session 1: Essential 8 Technologies

Artificial intelligence (AI):

Software algorithms that are capable of performing tasks that normally require human intelligence, such as visual perception, speech recognition, decision-making, and language translation. AI is an "umbrella" concept that is made up of numerous subfields such as machine learning, which focuses on the development of programs that can teach themselves to learn, understand, reason, plan, and act (i.e., become more "intelligent") when exposed to new data in the right quantities.

Augmented reality (AR):

Addition of information or visuals to the physical world, via a graphics and/or audio overlay, to improve the user experience for a task or a product. This "augmentation" of the real world is achieved via supplemental devices that render and display said information. AR is distinct from Virtual Reality (VR); the latter being designed and used to re-create reality within a confined experience.

Blockchain:

Distributed electronic ledger that uses software algorithms to record and confirm transactions with reliability and anonymity. The record of events is shared between many parties and information once entered cannot be altered, as the downstream chain reinforces upstream transactions.

Drones:

Air or water-based devices and vehicles, for example Unmanned Aerial Vehicles (UAV), that fly or move without an on-board human pilot. Drones can operate autonomously (via on-board computers) on a predefined flight plan or be controlled remotely. (Note: This category is distinct from autonomous land-based vehicles.)

Internet of Things (IoT):

Network of objects — devices, vehicles, etc. — embedded with sensors, software, network connectivity, and compute capability, that can collect and exchange data over the Internet. IoT enables devices to be connected and remotely monitored or controlled. The term IoT has come to represent any device that is now "connected" and accessible via a network connection. The Industrial IoT (IIoT) is a subset of IoT and refers to its use in manufacturing and industrial sectors.

Robots:

Electro-mechanical machines or virtual agents that automate, augment or assist human activities, autonomously or according to set instructions — often a computer program. (Note: Drones are also robots, but we list them as a separate technology.)

Virtual reality (VR):

Computer-generated simulation of a three-dimensional image or a complete environment, within a defined and contained space (unlike AR), that viewers can interact with in realistic ways. VR is intended to be an immersive experience and typically requires equipment, most commonly a helmet/headset.

3D printing:

Additive manufacturing techniques used to create three-dimensional objects based on digital models by layering or "printing" successive layers of materials. 3D printing relies on innovative "inks" including plastic, metal, and more recently, glass and wood.

Session 2:Business Survival Depends on Innovation

Technology in Agriculture/Food Industry – Disruptors

BovControl

WeFarm

Impossible Foods

CONCEPT

Farmers input basic data about each cow, including birth date, vaccinations, medication, pregnancies, and weight, into the Bovcontrol app. Information can be saved offline in the field and then uploaded once a farmer has returned into phone service. Once data is entered, the system can translate the numbers into graphs and timelines, making it easier for farmers to know what's going with their animals. Bovcontrol can also generate useful insights for farmers, for example tracking the cows during pregnancy, even predicting when they'll give birth with a push alert to the farmer's phone.

HOW THEY'RE DISRUPTING

Bovcontrol is a data collection and analysis tool improving performance on meat, milk and genetics production. Science and field practice bonding like never before. Bovcontrol allows farmers to realise the true potential of their cows, and provides advice and pointers on how to achieve this. The technology also reduces the chance of mistakes when registering and recording herd data.

DISRUPTION POTENTIAL

The beef industry is worth $40 billion worldwide.

INVESTMENTS AND FUTURE

Bovcontrol has received $701k of equity funding to date, with heavy investment participation from Wayra since the company was founded back in 2012.

CONCEPT

WeFarm is a free peer-to-peer service that enables farmers to share information via SMS, without the internet and without having to leave their farm. Farmers can ask questions on farming and receive crowd-sourced answers from other farmers around the world in minutes.

HOW THEY'RE DISRUPTING

Small-scale farmers are highly vulnerable to the effects of climate change and they face many challenges including lack of access to traditional markets, agricultural inputs and finance. Every day, small-scale farmers develop a diverse range of innovative, low-cost solutions in response to the many challenges that they face. But with the majority of farmers living in remote areas without internet access, they cannot share this information with others. Until now, with WeFarm.

DISRUPTION POTENTIAL

There are 500 million smallholder farmers in the world, most of whom live on less than $1 a day.

INVESTMENTS AND FUTURE

$2.9 million invested to date. UK winner of The Venture 2016: Chivas Regal's $1 million competition for social enterprise, adding to its already impressive haul of awards, including the 2014 Google Impact Challenge, the MEFFY Award for Innovation in technology and the EC's Ideas from Europe.

CONCEPT

Impossible Foods is transforming the global food system by creating delicious alternatives to meats and dairy which happen to be good for people and the planet. Nice. Or in the words of their founder Patrick O. Brown "disruptive technology to make meat and dairy products in a new, more sustainable way."

HOW THEY'RE DISRUPTING

For thousands of years we've relied on animals to turn plants into meat. Animal farming is considered one of the biggest environmental threats on the planet today. Impossible Foods, employing a small army of scientists, have brought together specific proteins and nutrients to recreate the look, feel, smells and tastes of the foods we love. In turn requiring less land, water, emissions and energy to produce.

DISRUPTION POTENTIAL

Global changes in human health, climate change, water resources and animal welfare.

INVESTMENTS AND FUTURE

With investors ranging from Bill Gates to UBS they have raised $182 million over 4 rounds. Not surprising when you consider the perfect storm of rising health concerns relating to meat consumption, global demand increasing costs, and the environmental concerns about animal agriculture. It's forecasted that by 2054, meat alternatives will comprise 33% of the overall protein market, up from 2% today.

What is Innovation?

Innovation is the multi-stage process whereby organisations transform ideas into new/improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace (Baregheh, Rowley, & Sambrook, 2009, p. 1334.

Proactive Innovators (Left Side)

- 85% of companies are reactive rather than proactive with regards to innovation and continuous improvement.
- Improvements in sales growth, profit margin growth and employee growth are significantly lower in "Reactive Cost Cutting" companies than those of "Proactive Innovative" companies.

Reactive Innovators (Right Side)

- Only 15% of companies are proactive with regards to innovation and continuous improvement.

Invention vs Innovation

Improvement

Innovation differs from improvement in that innovation refers to the notion of doing something different rather than doing the same thing better

Invention

Invention is the creation of a new concept.

Innovation

Innovation is the practical application of new inventions into products and services which can be marketed by the business and add value to the customer.

Systemic Innovation

Successful innovation requires the careful consideration of all aspects of a business. A great product with a lousy distribution channel will fail just as spectacularly as a terrific new technology that lacks a valuable end-user application. Thus when innovating, a company must carefully consider all dimensions of its business systems.

Often when people think of innovation, the first thing that comes to mind is product innovation. However, there are **6 types** of innovation – and the more types you incorporate, the more successful your innovation is likely to be.

Sprint 1 – Share

Why should we share our challenges?

Share Your Challenge

Explain your challenge to the workshop participants using your Project Summary.

Challenge Questions

- Is your challenge technical or organisational?
- Will improving an existing process solve the solution to your challenge?
- Will creating new capability solve the solution to your challenge?
- Does the team feel this is a well-defined challenge?
- Has the challenge evaded solutions in the past?
- Does a solution to the challenge exist in your organisation?
- Do you need to re-engineer it or better implement it?
- Do you have a pre-conceived solution to the challenge?
- What do you think is missing to make a difference?

Product Challenge Nitrite Replacement in Ham

Challenge Description:
Develop a natural nitrite replacement, not a nitrite that is from a natural source. The replacement must giving the same colour and functional attributes of nitrite.

What I Don't Know:
Nitrite replacers are currently being used in the market however these are either derived from a natural nitrite source (therefore the product still contains nitrite) or is a colour substitute that has no microbial effect in the finished product to help control microflora.
The challenge is to create a raw material that has both the colour producing attributes of Nitrite with the bactriocidal effect of nitrite.

New Value:
Consumers are always after cleaner labelling and less preservatives. Nitrite has negative connotations in the market and has long been worked on to remove from Ham and cured products.

By admin | August 1st, 2016 | Categories: Uncategorised | 1 Comment Read More >

1 2 3 4 Next >

Nominate 2 Innovation Champions to support you with your challenge/project

Bridging the gap between the customers perception of quality and the production teams perception of quality.

Production team members particularly with offal items do place a large value on product presentation and quality.
There seems to be a culture where the operator looks at a heart or tendon and because they do not consume the end product or understand how the product is used they handle it in a sub prime manner/lack of effort. operators do not understand the value of the product.
One mans Shin Shank is another man Tenderloin.

What I Don't Know:
Many production processes/alternatives used by other packers
All costing required to evaluate changes

New Value:
Product consistency
Better brand reputation
Customer loyalty
Saleable item in bear market conditions
Estimated $2.75 million revenue increase for improving Green offal alone to market standard

Reduce Plant Equipment Downtime through targeted analysis and improvement.

– Document the methodology for recording, analysing and improving plant equipment downtime.
– Conduct Awareness sessions for plant personnel to introduce the above methodology.
– Improve the accuracy of Plant Equipment Downtime recording through coaching and engaging plant personnel.
– Implement Targeted Problem Solving and Root Cause Analysis of Downtime.
– Develop and Implement Improvement Actions to reduce or eliminate targeted downtime.
– Develop and Implement Control Actions to sustain Identified Improvements.
– Involve and coach personnel from all appropriate departments in the process..
– Institute the above process into the fabric of the organisation.

What I Don't Know:
Length of time required to achieve a process that is sustainable within the organisation.

New Value:
Systematic analysis and reduction of plant downtime.

Transit Damage Reduction

Reducing the amount of Claims we receive for Transit Damage.Things like leaking products and carton damage.Around 500K per year.

What I Don't Know:
Where all of the damage is being caused.

New Value:
Learning where the damage is occurring and the process involved on sending product overseas.The value of a tight process packing cartons.

Session 3: Design Thinking

What is Design Thinking?

Design thinking is a mindset.

Design thinking is about believing we can make a difference, and having an intentional process in order to get to new innovations, relevant solutions that create positive impact. Design Thinking gives you faith in your creative abilities and a process for transforming difficult challenges into opportunities for design.

It's Human-Centered.

Design Thinking begins from deep empathy and understanding of needs and motivations of people—in this case, your workforce, the customers, the suppliers and all the stakeholders who make up your everyday world.

It's Collaborative.

Several great minds are always stronger when solving a challenge than just one. Design Thinking benefits greatly from the views of multiple perspectives, and others' creativity bolstering your own.

It's Optimistic.

Design Thinking is the fundamental belief that we all can create change—no matter how big a problem, how little time or how small a budget. No matter what constraints exist around you, designing your innovation can be an enjoyable process.

It's Experimental.

Design Thinking gives you permission to fail and to learn from your mistakes, because you come up with new ideas, get feedback on them, and then iterate.

In short, Design Thinking is the confidence that new, better things are possible and that you can make them happen. And that kind of optimism is well-needed in your industry.

Sprint 2 – Explore

Sprint 2 is an opportunity to creatively explore your challenge in a group. The structured ideation techniques below will enable you to think differently – you don't have to be naturally creative.

To do this, you will use at least three of the following structured ideation techniques:

- SCAMPER
- Association Technique
- Six Thinking Hats
- Changing Places Technique
- Hurson's Productive Thinking

The Scamper technique forces your mind to think differently – we call this a thinking lens. You will generate innovative ideas by modifying and rearranging the existing things around you.

The name SCAMPER is an acronym for seven different thinking lenses; (S) substitute, (C) combine, (A) adapt, (M) modify, (P) put to another use, (E) eliminate and (R) reverse. These keywords represent the necessary questions you will answer within your group during the SCAMPER activity.

Watch this video on SCAMPER to give you an overview of the technique.

Instructions:

There is no sequence to follow when using each of the seven thinking lenses. you can move between different techniques without restriction. Secondly, any response to the SCAMPER technique is welcomed no matter how non-logical it is.

S

Substitute

The substitute technique focuses on the parts of the product, service or solution that can be replaced with another.

Question:

What part of the process or project can be substituted for a better outcome?

C

Combine

The combine technique analyses the possibility of merging two ideas, stages of the process or product. For example, merging phone technology with a digital camera.

Question:

Can we merge two steps of the process or combine x and y technologies?

A

Adapt

Adapt refers to a brainstorming discussion that aims to adjust or tweak a product or service for a better output. Solving problems through enhancement of the existing system.

Question:

What could be changed to achieve better results?

M

Modify, Minify or Magnify

The modify technique refers to changing the process in a way that unleashes more innovative capabilities or solves problems. It is different from adjustment in that it focuses on the overall process.

Question:

How will modifying the process improve results?

P

Put to another use

This technique requires you to put the current product or process to another purpose or to solve challenges.

Question:

What other areas in your organisation can use the product?

R

The reverse or rearrange technique explores the innovative possibilities when changing the order of the process in the production line.

Question

What would happen if we rearrange or reverse the process?

E

Eliminate or elaborate

This technique aims to identify the parts of the process that can be eliminated to improve the process product or service. It also helps to eliminate unnecessary parts of the project.

Question:

What would happen if we removed this part?

The Association Technique is a fun and simple thinking lens where unrelated ideas are connected to inspire innovation.

Participant Activity Booklet

Complete the Association Technique activity in your workbooks.

- Combine two or more images of the images below and ask yourself how the combinations may influence your innovation project.
- Share your new idea with the group.

The six thinking hats will help you and your group to separate thinking into six different roles. Each thinking role is identified with a coloured symbolic 'thinking hat'. By mentally wearing and switching 'hats', you can easily focus or redirect your thoughts.

White Hat

The White Hat calls for information known or needed. "The facts, just the facts."

Yellow Hat

The Yellow Hat symbolizes brightness and optimism. Under this hat you explore the positives and probe for value and benefit.

Black Hat

The Black Hat is judgment – the devil's advocate or why something may not work. Spot the difficulties and dangers; where things might go wrong. Probably the most powerful and useful of the Hats but a problem if overused.

Red Hat

The Red Hat signifies feelings, hunches and intuition. When using this hat you can express emotions and feelings and share fears, likes, dislikes, loves, and hates.

Green Hat

The Green Hat focuses on creativity; the possibilities, alternatives, and new ideas. It's an opportunity to express new concepts and new perceptions.

Blue Hat

The Blue Hat is used to manage the thinking process. It's the control mechanism that ensures the Six Thinking Hats® guidelines are observed.

Participant Activity Booklet

Complete the Six Thinking Hats activity in your workbooks.

- Read through the definition of each thinking hat.
- In groups of six nominate a different thinking hat for each person.
- Using each participants innovation project, proceed through six rapid cycles where each person offers a different thinking perspective on each project.
- Change hats for each cycle
- When your project is the focus be sure to take notes on what the other participants say.

The Changing Places technique involves imagining how another person or organisation might approach your challenge.

UBER

How would Uber approach your project?

How would Donald Trump approach your innovation project?

How would Richard Branson approach your innovation project?

How would McDonalds approach your innovation project?

Hurson's Productive Thinking Tool will further strengthen your innovation project as you follow six steps:

Step 1: Ask what is going on?

First, you need to get a good understanding of the challenge that you want to deal with. This is often the most involved part of the process.

To do this, explore the following four questions:

a. What is the challenge?

You should have already have a good understanding of the challenge space, but just to be sure ask yourself the following questions:

- What is bugging you? And what annoys your customers?
- What is out of balance?
- What could work better? What could you improve?
- What are your customers or users complaining about?
- What challenges do you have?
- What is making you take action?

List as many issues as possible, even if you already have a good idea of what your main challenge is. These don't have to be well-defined or even justified: all that you're doing is generating a good list of possibilities, so don't worry about being right or wrong.

b. What is the Impact?

Next, brainstorm how the challenge impacts you and your organisation, and how it affects other stakeholders such as customers, suppliers, and competitors.

Make a list of all of six key stakeholders, and identify the positive and negative impact that the challenge has on each of them.

To help with this, ask questions such as:

- Who does this challenge affect directly and indirectly?
- Why is this challenge important to them? What concerns do you have about it?
- Who will benefit if you don't deal with the challenge? And who will benefit when you solve it?

c. What is the Vision?

Finally in this step, identify your vision for the future once you've solved the challenge – called the "Target Future".

Begin by writing down three Target Futures, and then narrow these down to one that is achievable and that is important to you.

If you're finding this difficult, use starter phrases such as "I wish...," "If only we could...," or "It would be great if...." For example, you might say "I wish that the majority of our customers were happy with how we process returns," or "It would be great if we could cut waste by 20 percent."

Step 2: Ask what is Success?

In this step, you're going to develop your Target Future by defining what success is once you've implemented a solution to your challenge.

A good way to do this is to use the "DRIVE" acronym. This stands for:

- Do – What do you want the solution to do?
- Restrictions – What must the solution not do?
- Investment – What resources are available? What are you able to invest in a solution? How much time do you have?
- Values – What values must this solution respect?
- Essential outcomes – What defines success? How will you measure this?

Step 3: Ask what is the Question?

The aim in this step is to generate a list of questions that, if answered well, will solve your challenge.

To do this, look at all of the information that you gathered in the first two steps. Then brainstorm the questions that you will need to answer to achieve your Target Future. Use phrases such as "How can I...?" and "How will we...?" to begin.

If you generate a long list of questions, narrow these down to the questions that are most relevant for solving your challenge.

Step 4: Generate Answers

In this step, you generate three possible solutions to your challenge by coming up with answers to the questions that you developed in the previous step.

Step 5: Forge the Solution

You're now going to develop your ideas into a fully formed solution.

First, evaluate the most promising ideas by comparing them with the success criteria that you identified in step 2. Pick the solution that best meets those criteria.

Then develop your best idea further. What else could make this idea better? How could you refine the solution to fit your success criteria better?

Sprint 3 – Focus

In Sprint 3 you will focus the final solution you explored through structured ideation techniques in Sprint 2. Note: From here on you will refer to your solution as your "Innovation Project".

Business Model Canvas

To focus your Innovation Project you will develop your own BusinessModel using the Business Model Canvas. It is a visual chart with elements describing your innovatio project's value proposition, infrastructure, customers, and finances.

With the Business Model Canvas you will be able to easily describe the business model for your innovation project.

Participant Activity Booklet

Complete the business model canvas in your activity booklet.

Key Partners

Who are your Key Partners?
Who are your key suppliers?
Which Key Resources are we acquiring from partners?
Which Key Activities do partners perform?

Key Activities

What Key Activities do our Value Propositions require?
Our Distribution Channels?
Customer Relationships?
Revenue streams?

Key Resources

What Key Resources do your value propositions require?
Your distribution channels? Your customer relationships?
Your revenue streams?

Value Propositions

What value do you deliver to the customer?
Which one of our customer's problems are you helping to solve?
What bundles of products and services are you offering to each Customer Segment?
Which customer needs are you satisfying?

Customer Relationships

What type of relationship does each of your Customer Segments expect you to establish and maintain with them?
Which ones have you established?
How are they integrated with the rest of your business model?
How costly are they?

Channels

Through which Channels do your Customer Segments want to be reached?
How are you reaching them now?
How are your Channels integrated?
Which ones work best?
Which ones are most cost-efficient?
How are you integrating them with customer routines?

Customer Segments

For whom are you creating value?
Who are your most important customers?

Cost Structure

What are the most important costs inherent in your business model?
Which Key Resources are most expensive?
Which Key Activities are most expensive?

Revenue Streams

For what value are your customers really willing to pay?
For what do they currently pay?
How are they currently paying?
How would they prefer to pay?
How much does each Revenue Stream contribute to overall revenues?

Session 4: Elevator Pitch

The Elevator Pitch

An elevator pitch is a brief, persuasive speech that you use to spark interest in in your innovation project.

A good elevator pitch should last no longer than a short elevator ride of 20 to 30 seconds, hence the name.

They should be interesting, memorable, and succinct. They also need to explain what makes your innovation project unique.

Follow these steps to create a great pitch:

1. Identify the need for your innovation

Start your pitch by describing the challenge that your innovation project will solve and how you help people. If you can, add information or a statistic that shows the value in what you do.

2. Ask yourself: what do you want your audience to remember most about your innovation project?

Keep in mind that your pitch should excite you first; after all, if you don't get excited about what you're saying, neither will your audience. Your pitch should bring a smile to your face and quicken your heartbeat. People may not remember everything that you say, but they will likely remember your enthusiasm.

3. Communicate Your USP

Your elevator pitch also needs to communicate your unique selling proposition USP.

Identify what makes your idea, unique. You'll want to communicate your USP after you've talked about what you do.

4. Engage With a Question

After you communicate your USP, you need to engage your audience. To do this, prepare open-ended questions (questions that can't be answered with a "yes" or "no" answer) to involve them in the conversation.

5. Put it all Together

When you've completed each section of your pitch, put it all together.

Then, read it aloud and use a stopwatch to time how long it takes. It should be no longer than 20-30 seconds. Otherwise you risk losing the audience interest. Then, try to cut out anything doesn't absolutely need to be there.

6. Practice

Like anything else, practice makes perfect. Remember, how you say it is just as important as what you say. If you don't practice, it's likely that you'll talk too fast, sound unnatural, or forget important elements of your pitch.

Make sure that you're aware of body language as you talk, which conveys just as much information to the listener as your words do.

Workplace Sprints

Sprint 4

Engage

Sprint 5

Refine

Sprint 6

Impact

ENGAGE WITH STAKEHOLDERS. IDENTIFY PILOT PARTICIPANTS. RUN PILOT. CONDUCT FOCUS GROUP.

REFINE YOUR CHALLENGE. ANALYSE FEEDBACK. PREPARE TO LAUNCH.

MAKE AN IMPACT. SCALE, MEASURE, TIMEFRAMES.

Engage with Stakeholders, identify pilot participants, conduct focus groups and interviews

Sprint 4 involves piloting your innovation project with users and subject matter experts.

1. Identify pilot participants

Identify your list of users who will interface with your project when it is implemented.

Identify subject matter experts. These do not have to be users, but can be senior managements, office staff, external suppliers etc.

2. Develop 6 key questions

These will be used to ask your users about your innovation project. Keep the following questions in mind.

Does the innovation meet the user's needs?

Does it solve THEIR problem, not YOUR problem?

3. Conduct Focus Groups

Conduct 2 different focus groups with 4-6 users in each group to gain insights about your innovation project. Use the questions you have developed to prompt discussion.

It may be useful to record the focus groups and interviews on a mobile phone, or have someone take notes while you facilitate the sessions.

Session 6

Home / Workshops / Session 6

Debrief

1. What has been most difficult in the IDP?

2. What has been the most important element of the IDP?

3. How could the IDP be improved?

4. What are the six sprints in the IDP?

5. How have sprints 1-3 improved your innovation project?

6. What are 3 things you've learnt from the IDP so far?

6.2 Outputs of the customised workshops

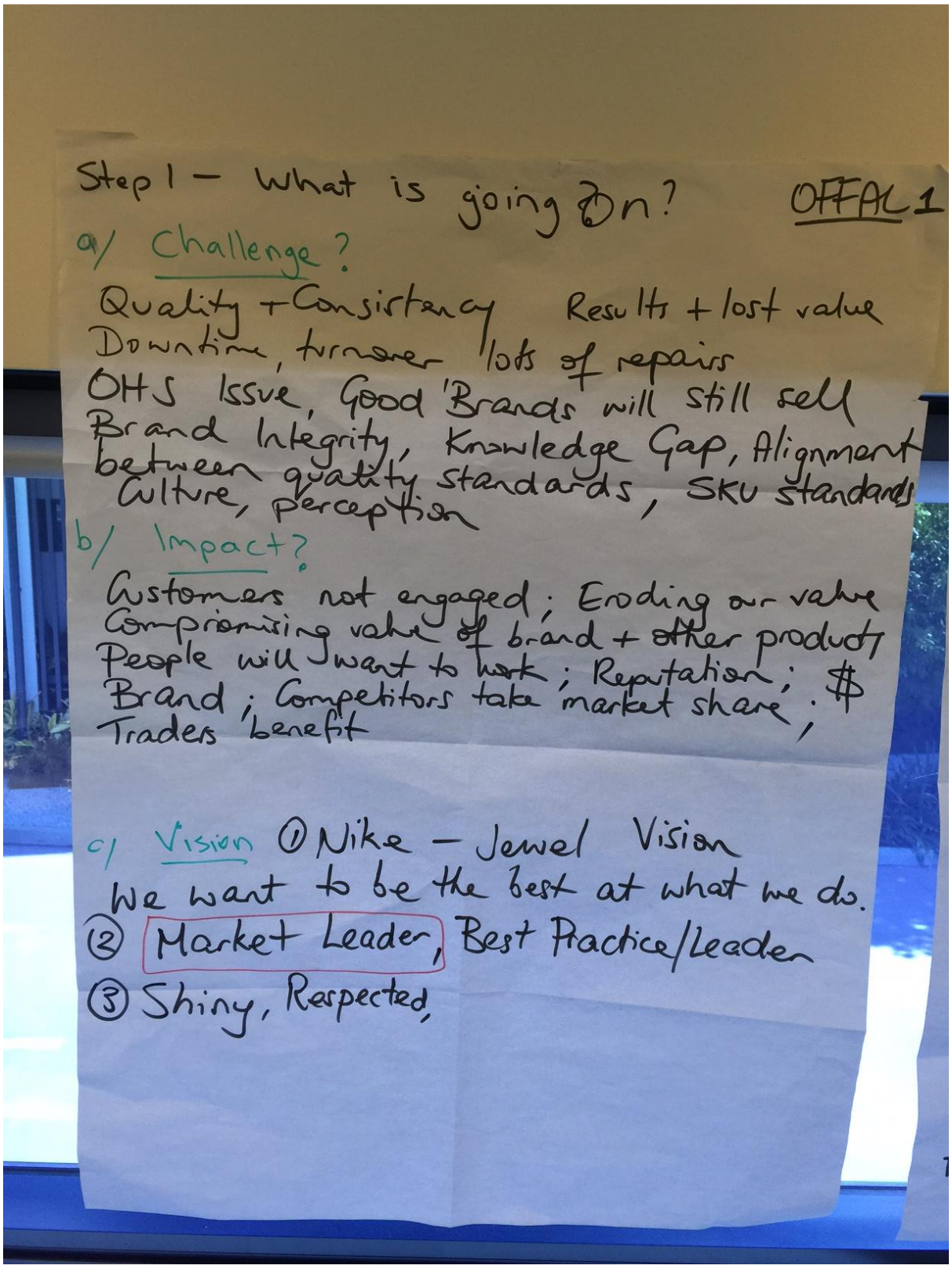
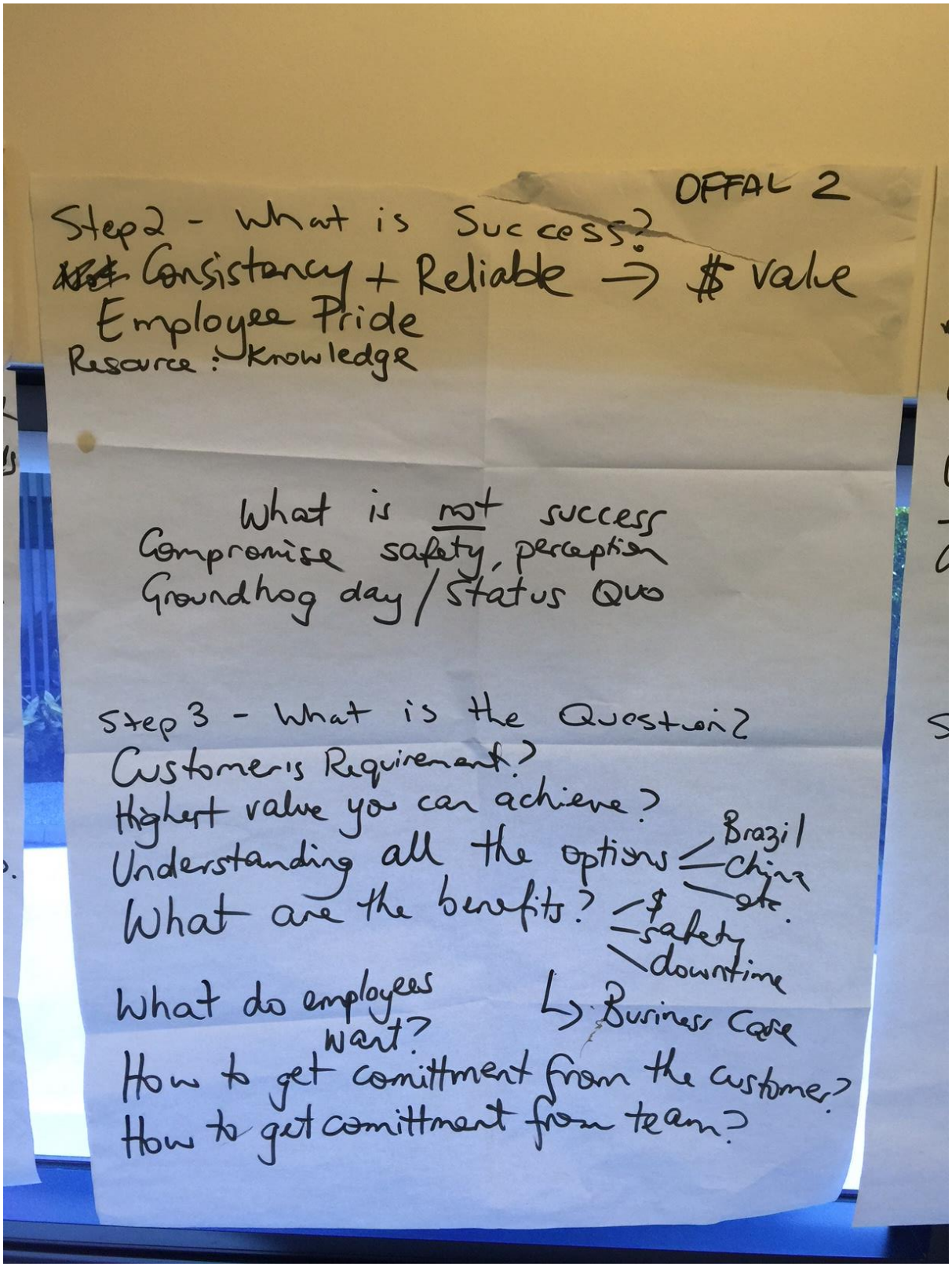
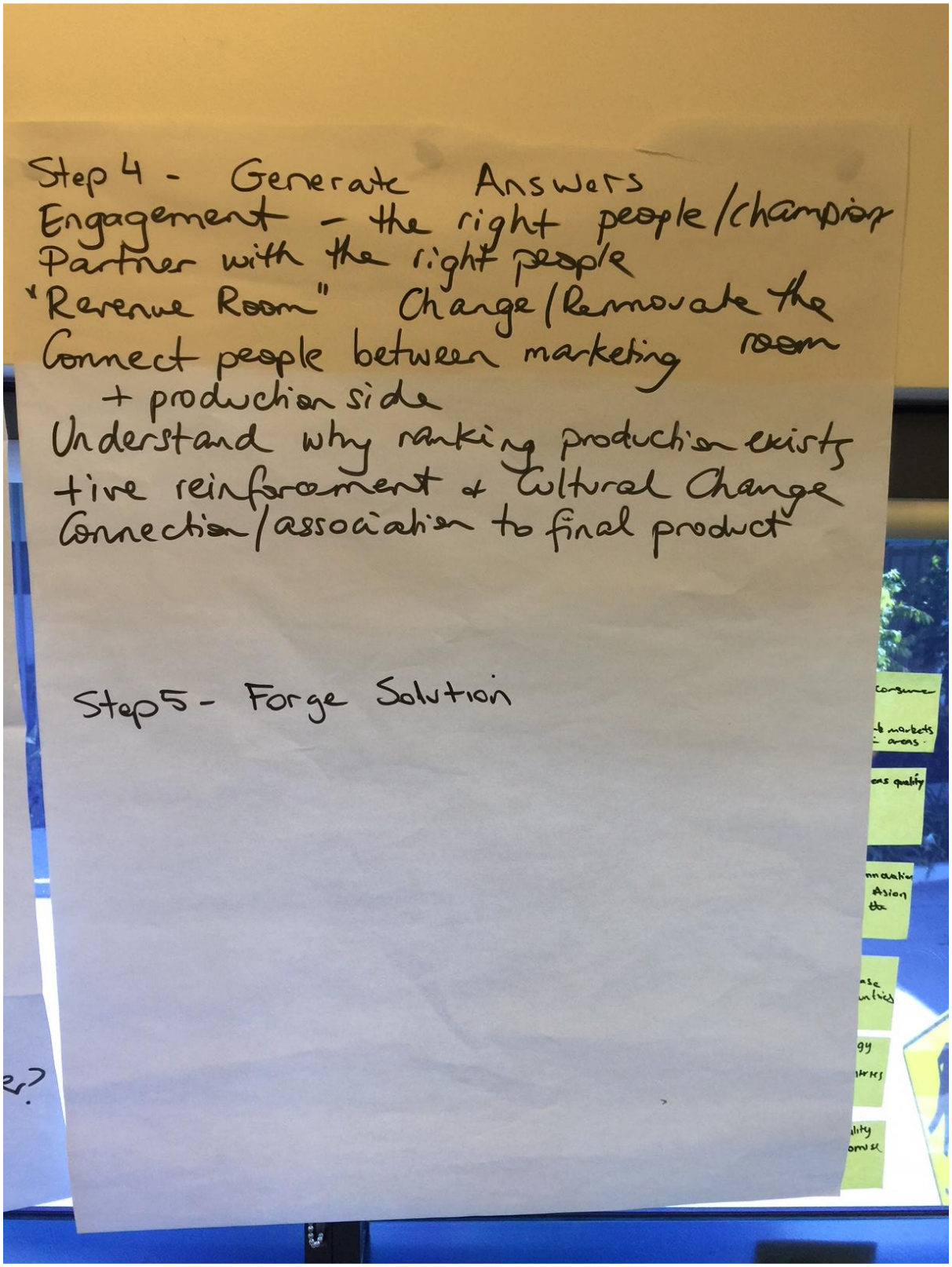


Figure 2: Hurson's Productivity Tool applied to the customised workshops.


OFFAL 2
Step2 - What is Success?
Consistancy + Reliable → $ value
Employee Pride
Resource : Knowledge
What is not success
Compromise safety, perception
Groundhog day / Status Quo
Step 3 - What is the Question?
Customers Requirement?
Highest value you can achieve?
Understanding all the options
Brazil
China
etc.
What are the benefits?
$
safety
downtime
What do employees want?
Business Case
How to get comittment from the customer?
How to get comittment from team?


Step 4 - Generate Answers
Engagement - the right people/champion
Partner with the right people
"Revenue Room" Change/Renovate the room
Connect people between marketing + production side
Understand why ranking production exists
tive reinforcement & Cultural Change
Connection/association to final product
Step 5 - Forge Solution

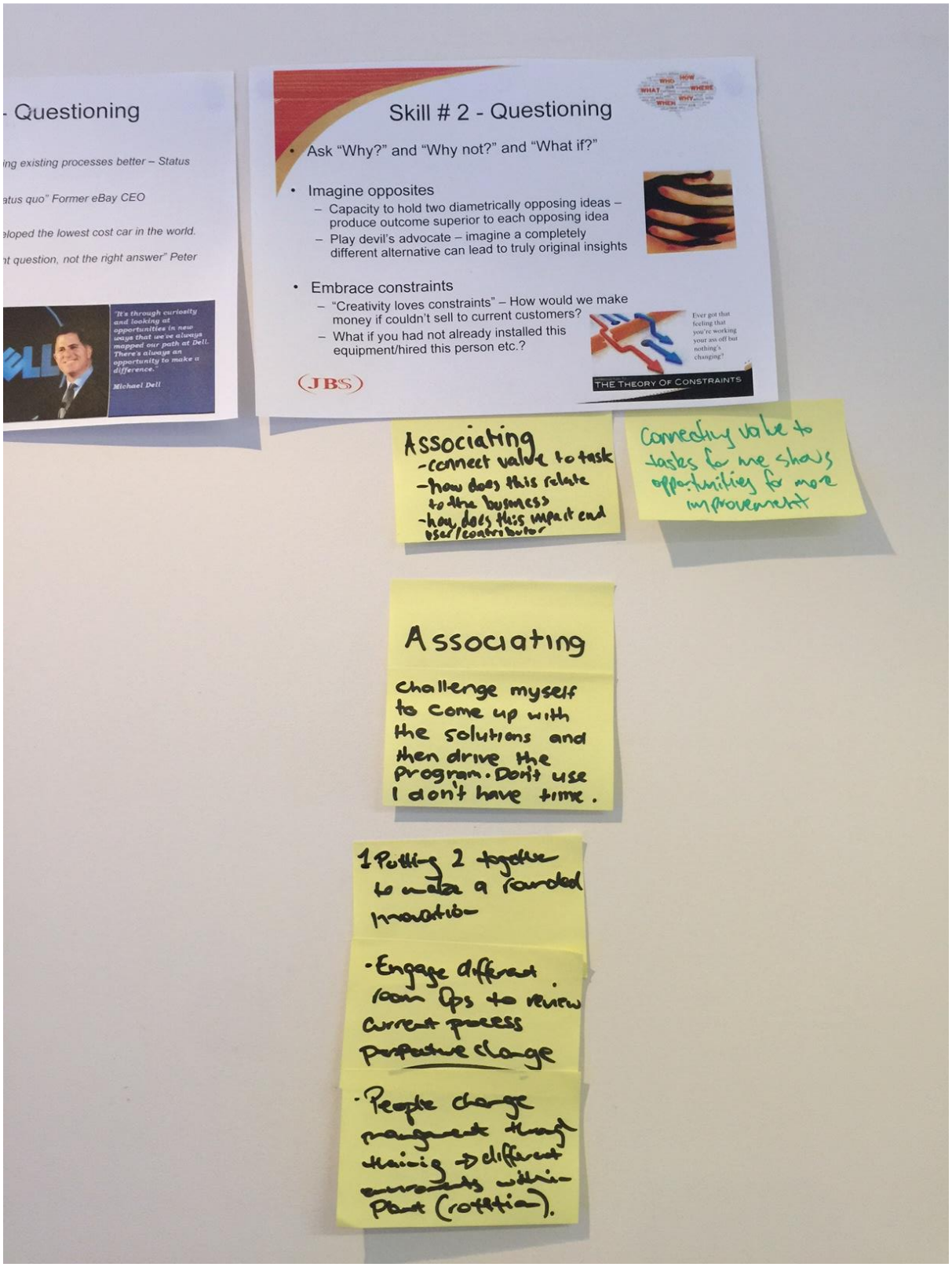
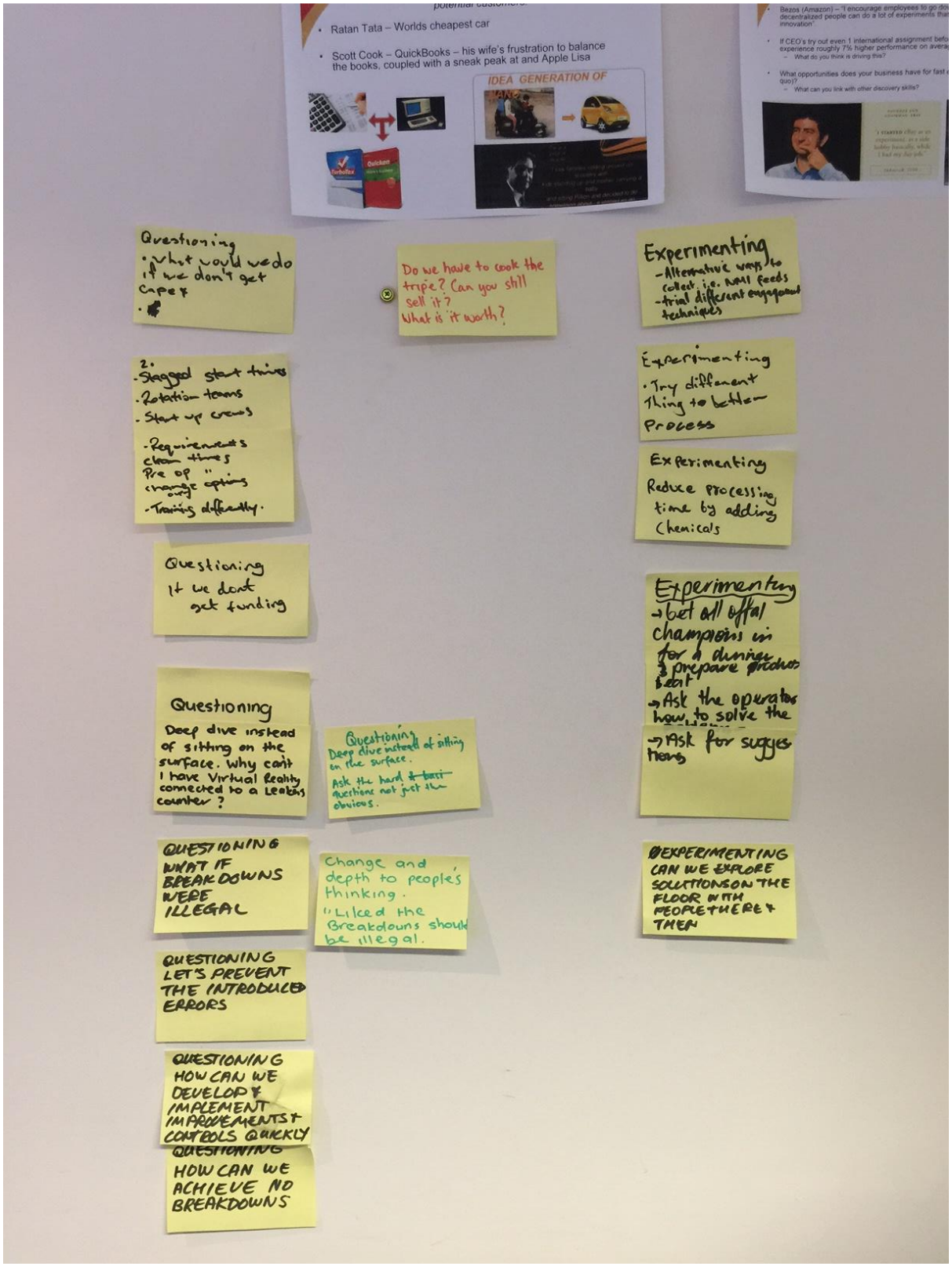
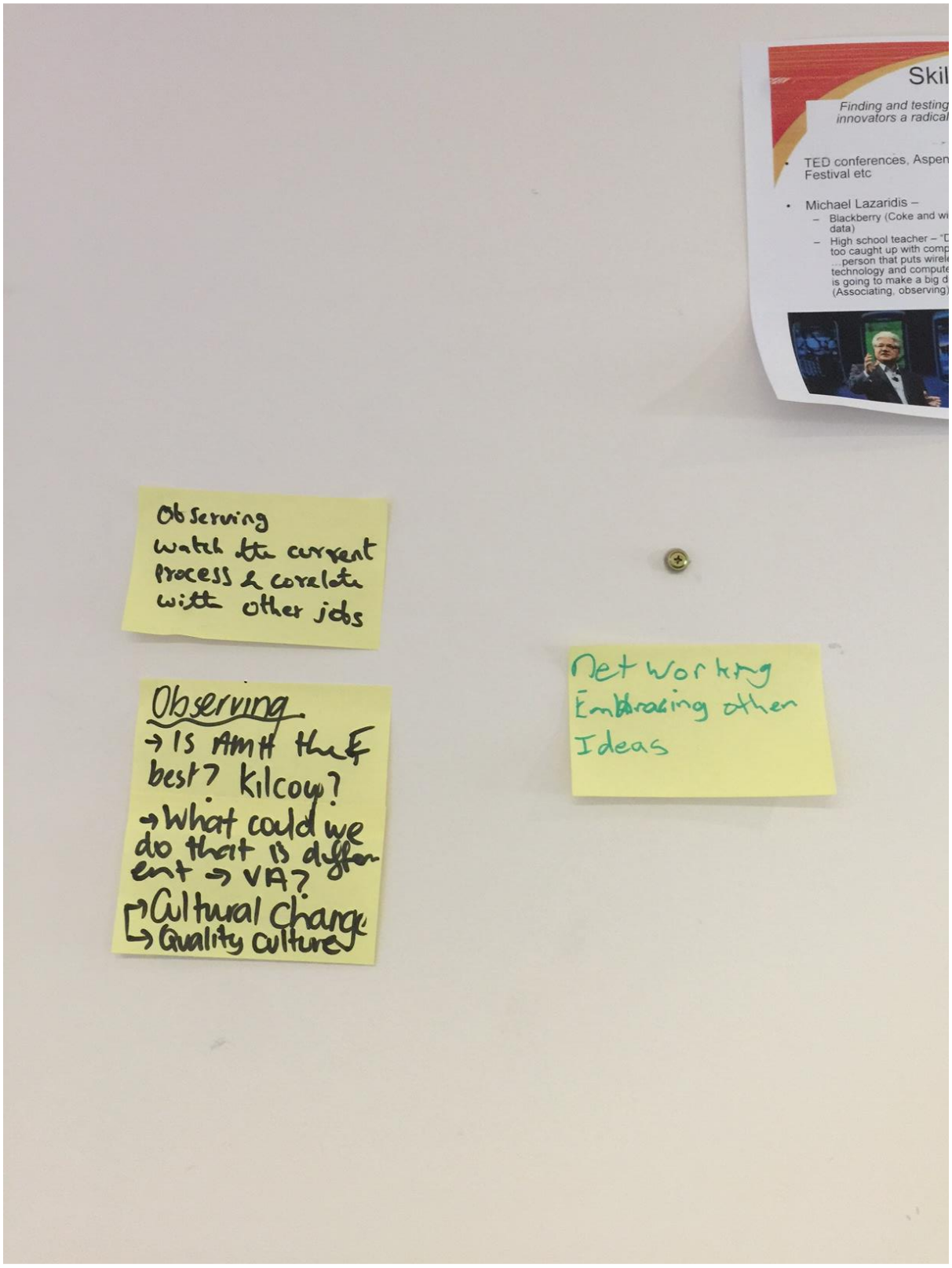
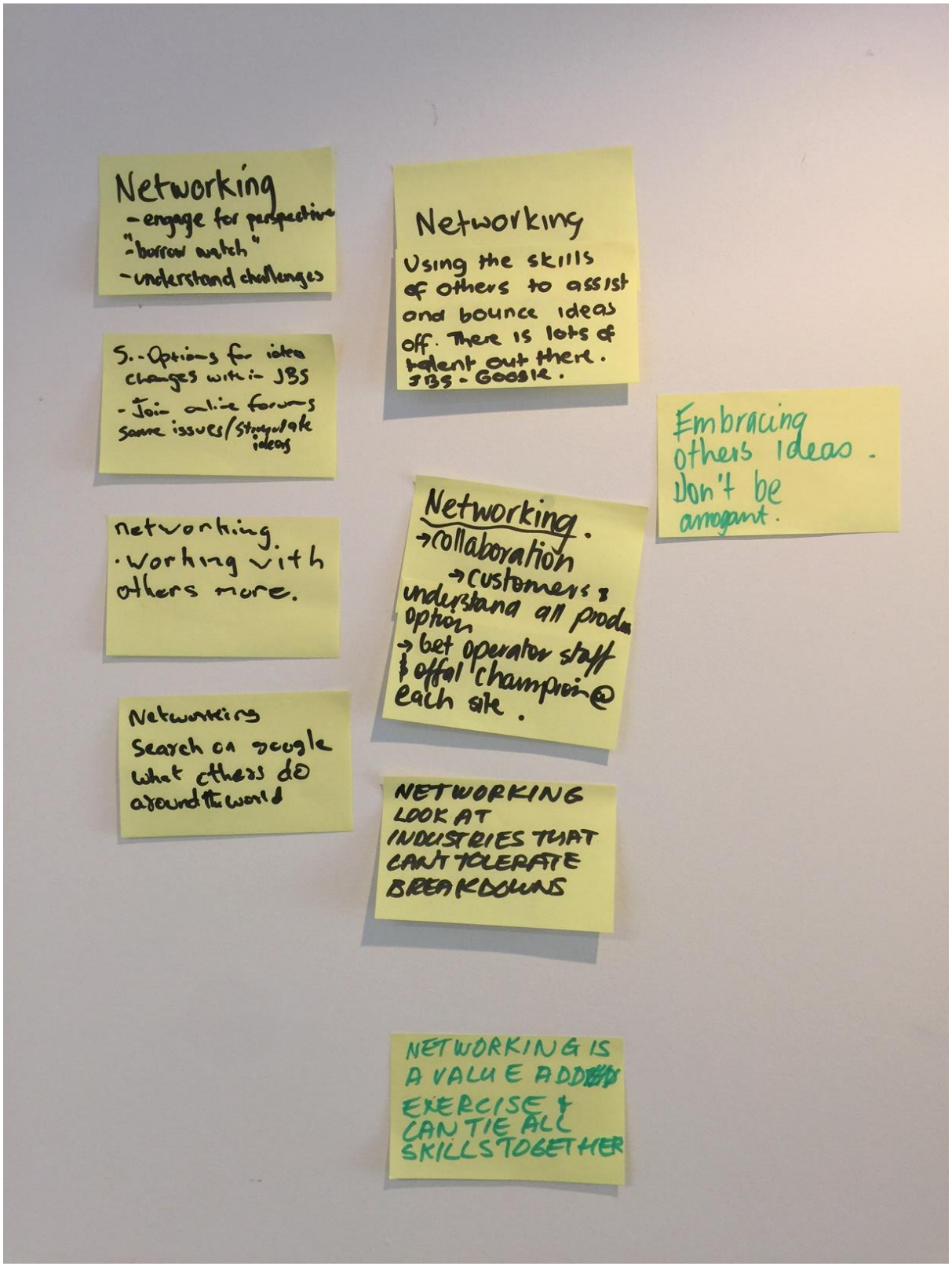


Figure 3: Applying discovery skills from the Innovator's DNA


Ratan Tata – Worlds cheapest car
Scott Cook – QuickBooks – his wife's frustration to balance the books, coupled with a sneak peak at and Apple Lisa
IDEA GENERATION OF
Questioning
• What would we do if we don't get Capex
Do we have to cook the tripe? Can you still sell it? What is it worth?
Experimenting
-Alternative ways to collect. ie. Nail feeds
-trial different engagement techniques
2.
-Staggered start times
-Rotation teams
-Start up crews
-Requirements clean times Pre op " change options
-Training differently.
Experimenting
• Try different thing to better Process
Experimenting
Reduce processing time by adding Chemicals
Questioning
If we don't get funding
Experimenting
→ bet all offal champions in for a dunnies & prepare product best
→ Ask the operator how to solve the
→ Ask for suggestions
Questioning
Deep dive instead of sitting on the surface. Why can't I have Virtual Reality connected to a Leaking counter ?
Questioning
Deep dive instead of sitting on the surface.
Ask the hard ~~best~~ questions not just the obvious.
QUESTIONING WHAT IF BREAKDOWNS WERE ILLEGAL
Change and depth to people's thinking.
"Liked the Breakdowns should be illegal.
EXPERIMENTING CAN WE EXPLORE SOLUTIONS ON THE FLOOR WITH PEOPLE THERE & THEN
QUESTIONING LET'S PREVENT THE INTRODUCED ERRORS
QUESTIONING HOW CAN WE DEVELOP & IMPLEMENT IMPROVEMENTS & CONTROLS QUICKLY
QUESTIONING HOW CAN WE ACHIEVE NO BREAKDOWNS


Skil
Finding and testing
innovators a radical
TED conferences, Aspen
Festival etc
Michael Lazaridis –
Blackberry (Coke and wi
data)
High school teacher – "D
too caught up with comp
person that puts wirel
technology and compute
is going to make a big d
(Associating, observing)
Observing
watch the current
process & corelate
with other jobs
Observing
→ Is AMH the E
best? Kilcoy?
→ What could we
do that is differ
ent → VA?
→ Cultural Change
↳ Quality culture
Networking
Embracing other
Ideas


Networking
- engage for perspective
"- borrow watch"
- understand challenges
Networking
Using the skills of others to assist and bounce ideas off. There is lots of talent out there.
JBS - Google.
5. - Options for idea changes with in JBS
- Join online forums same issues/Strategy/ideas
Embracing others ideas. Don't be arrogant.
networking.
· working with others more.
Networking.
→collaboration
→customers
understand all prod
option
→ bet operator staff
offal champion
each site.
Networking
Search on google what others do around the world
NETWORKING
LOOK AT
INDUSTRIES THAT
CAN'T TOLERATE
BREAKDOWNS
NETWORKING IS
A VALUE ADD
EXERCISE &
CAN TIE ALL
SKILLS TOGETHER

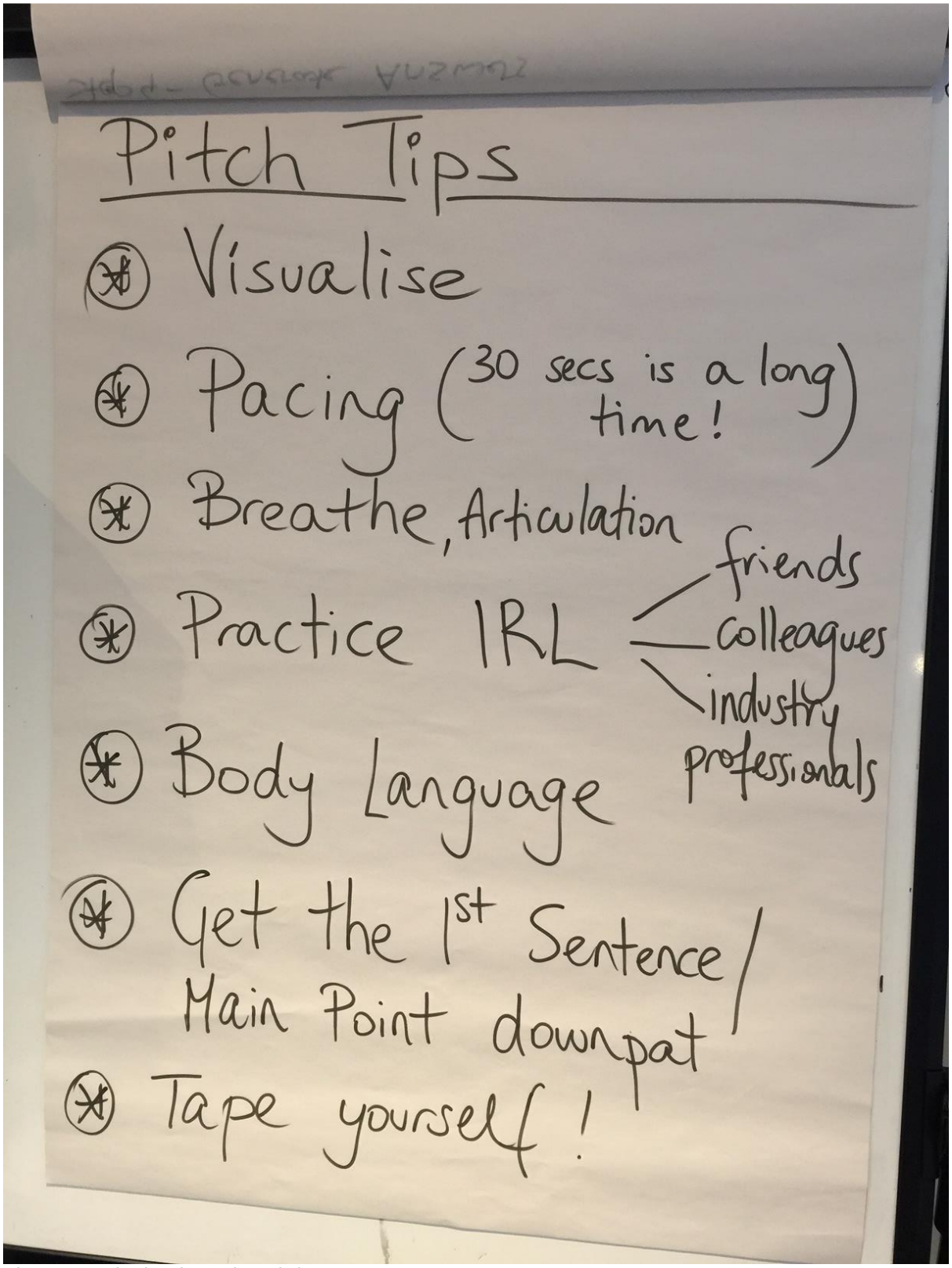


Figure 4: Perfecting the project pitch

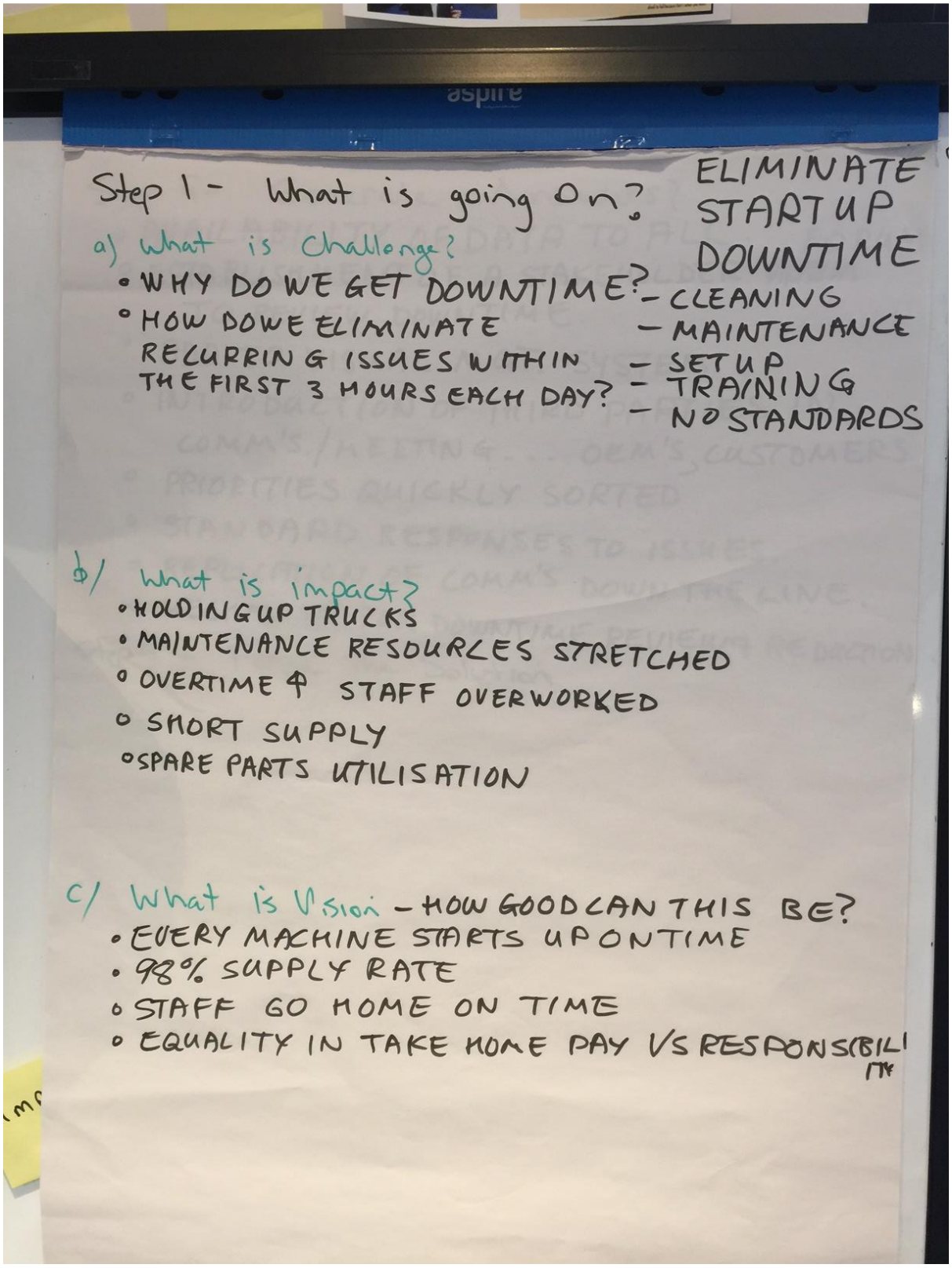
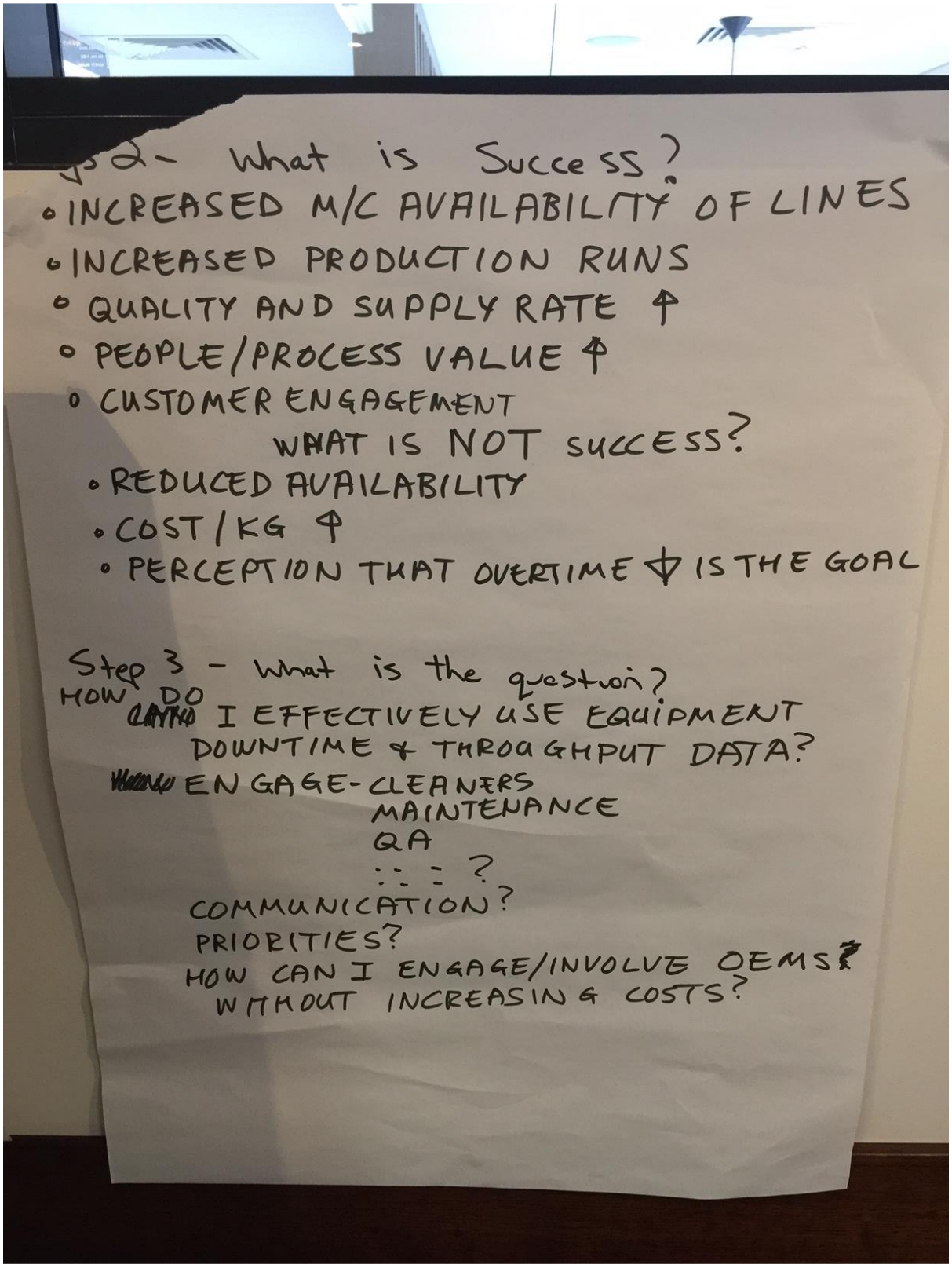
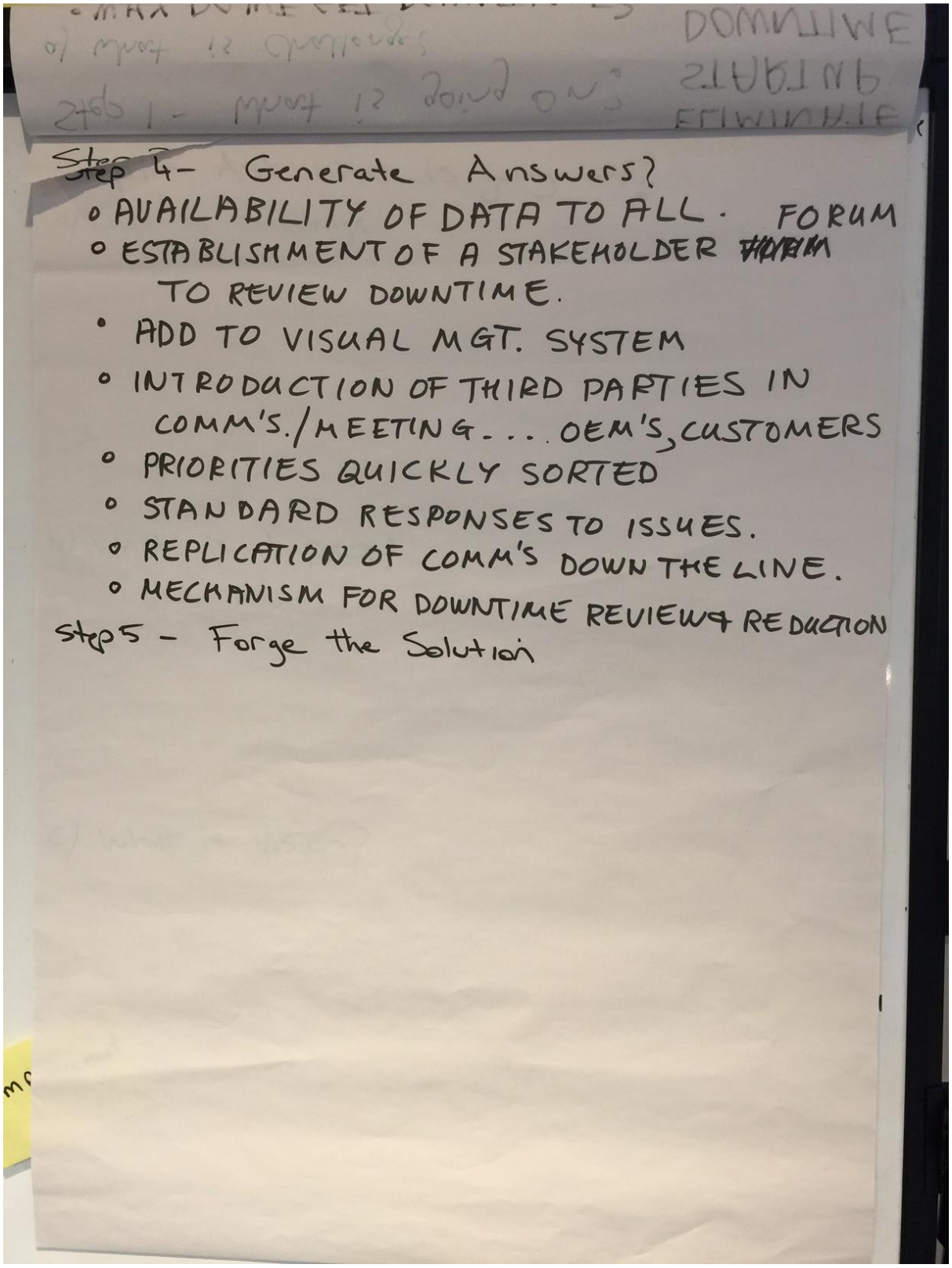


Figure 5: Hurson's Productive Thinking Model


Step 2 – What is Success?
• INCREASED M/C AVAILABILITY OF LINES
• INCREASED PRODUCTION RUNS
• QUALITY AND SUPPLY RATE ↑
• PEOPLE/PROCESS VALUE ↑
• CUSTOMER ENGAGEMENT
WHAT IS NOT SUCCESS?
• REDUCED AVAILABILITY
• COST/KG ↑
• PERCEPTION THAT OVERTIME ↓ IS THE GOAL
Step 3 – What is the question?
HOW DO I EFFECTIVELY USE EQUIPMENT DOWNTIME & THROUGHPUT DATA?
ENGAGE- CLEANERS
MAINTENANCE
QA
. . . ?
COMMUNICATION?
PRIORITIES?
HOW CAN I ENGAGE/INVOLVE OEMS?
WITHOUT INCREASING COSTS?



Step 4- Generate Answers?

- AVAILABILITY OF DATA TO ALL. FORUM
- ESTABLISHMENT OF A STAKEHOLDER ~~FORUM~~ TO REVIEW DOWNTIME.
- ADD TO VISUAL MGT. SYSTEM
- INTRODUCTION OF THIRD PARTIES IN COMM'S./MEETING... OEM'S, CUSTOMERS
- PRIORITIES QUICKLY SORTED
- STANDARD RESPONSES TO ISSUES.
- REPLICATION OF COMM'S DOWN THE LINE.
- MECHANISM FOR DOWNTIME REVIEW & REDUCTION

step 5 - Forge the Solution