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AGILE BUSINESS MODEL INNOVATION IN AN INCUMBENT COMPANY CONTEXT: UK INDUSTRY-ACADEMIC COLLABORATION CASE

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Abstract
Disruptive competitors, volatile economics and environmental crisis upset the congruence that successful companies enjoy. Business model innovation (BMI) can be essential for a company to survive by creating value that conventional models fail to provide. While the need for BMI and agile approaches are widely discussed, less is known about how incumbent organisations adopt the agile approaches to fit into their environment.
The purpose of this paper is to illustrate how one industry-academic collaboration manages agile business model innovation, and to discuss how challenges for a complex large company are addressed. The academic interventions heightened the learning within the project by bringing rigour to the information structure, hence lowering the uncertainty level. Concurrently, senior leadership alignment is increased through strong emotional engagement, resulting in a reduction of resistance to disruptive business model innovation concepts. A framework of agile BMI decision-making factors is presented.

Keywords: Business model innovation (BMI), decision-making factors, alignment, agile approach, Honeycomb Business Model Tool™

1. INTRODUCTION AND THEORETICAL BACKGROUND
Today's increasing uncertainty, highly complex and fast-moving business environment calls for business model innovation (BMI). A business model (BM) is the logic of how an organisation creates, delivers and captures value (Osterwalder and Pigneur, 2010). BMI is the development of novel configurations of resources and transactions to create new market or a new way to serve markets (Bock and George, 2011). As BMI redefines the existing product/service and their value proposition, its opportunity-centric, disruptive nature often creates conflicts with existing BMs (Velu and Stiles, 2013). While the need for BMI and agile approaches are widely discussed (Reis, 2011; Tushman and O'Reilly, 1996), less is known about how incumbent organisations adopt the agile approaches to fit into their environment.

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The purpose of this paper is to illustrate how one industry-academic collaboration manages agile business model innovation, and to discuss how challenges for a complex large company were addressed.

1.1 Strategic agility and experimentation

Successful radical BMI is deeply coupled with experimentation (Chesbrough, 2010; McGrath, 2010) and with strategic agility: which is key to transforming or renewing BMs (Doz and Kosonen, 2010). According to Snowden and Boone (2007), a complex context does not allow one to single out right answers. Instead *probe*, *sense* and *respond* is proposed as a sensible path to deal with the uncertainty. Leaders need to conduct experiments and allow patterns to emerge (Snowden and Boones, 2007, p.5). Agile experimentation-driven approaches reduce uncertainty through an iterative process of building, testing and learning. Experimenting is seen as an enabler of strategic sensibility (Doz and Kosonen, 2010, p.373), and allows the testing of BM assumptions and the deliverability of results (McGrath, 2010, p.258). Experimentation also helps capture the advantage of emerging trends and changing markets (ibid. p.253). Borrowing Lean start-up methods (Reis, 2011), agile BMI employs rapid, low-cost experimentation at the interface of customers and markets (Bock and George, 2011, p.3). BM experiments are seen to evolve in a highly path-dependent manner, where the future trajectory of models yet to come being shaped by rapid adaptation of the previous experimentation outcomes (McGrath, 2010). Doz and Kosonen (2010, p.374) offer three core meta-capabilities for increasing strategic flexibility. Strategic sensitivity, leadership unity and resource fluidity, remain necessary for BMI as well as distancing to provide the team an opportunity to stay away from day to day activities.

On the other hand, a negative correlation between firm size and innovation exists (Hockert and Wüstenhagen, 2010). Size often matters as experimentation is typically associated with small entrepreneurial start-ups. While small firms are agile to respond quickly to rapidly changing markets, large organisations tend to be slower and costly to change (Chesbrough, 2010). Small start-ups seem able to succeed in capitalising new BMs often more than incumbents with better brand management, more people and more resources. Large organisations are often argued to prefer safe ideas that can be expected to work well (McGrath, 2010) while smaller firms are flexible and suffer less from organisational inertia. The counter argument is that, once determined, large companies may achieve a greater sustainability goal than small ones thanks to their greater access to resources and capabilities (Gallo and Christensen, 2011).

1.2 Resistance

The conflict between the old and new BMs in radical innovation within established organisations is well established (Schaltegger *et al.,* 2012; Gallo and Christensen, 2011). Resistance is a major barrier against efficient BMI. Often it is not the disruptive innovation itself but the tension caused with the current BM in the process of exploitation that generates the challenge (Gallo and Christensen, 2011).

Fear potentially surfaces when exploring a new, uncertain profit stream or initially less profitable business model, as it could simultaneously reduce the value of a profitable current business (Velu and Stiles, 2013). Senior managers can deliberately or subconsciously change systems in order to create predictable outcomes (Snowden and Boones, 2007), and their fear that their own contribution may become less visible in new BMs can create conflict (Schaltegger *et al.,* 2012).

Transforming the BM of an organisation with a long success history is therefore more difficult as more stakeholders try to protect the status quo (Doz and Kosonen, 2010). The influence of prevailing business convention is termed *organisational inertia* (Hockert and

Wüstenhagen, 2010). *Structural inertia* refers to a resistance to change due to its size, complexity intertwined in company's structure, systems, procedures and process. It makes changes difficult, costly and slow. *Cultural inertia* is more pervasive, and is attributed to the age and success of the company. Over time, organisations develop their learning and embed it in their informal norms, values and social networks. The success and institutionalisation rates have a positive correlation with cultural inertia in a form of complacence and arrogance. Cultural inertia can be the most difficult barrier for managers to tackle when introducing innovation because of its subtlety and indirectness (Tushman and O'Reilly, 1996). Shimuzu and Hitt (2004) subcategorise organisational inertia as a) institutionalising initial decisions by rules and routines, and b) ignoring ideas and actions that deviate from the routine.

2. UK'S LEADING RETAILER'S AGILE BMI PROJECT WITH ACADEMIA

The authors examined the decision-making process over the period of an industry-academic BMI collaboration at a UK leading retail organisation between 2014 -2016. The project is currently on-going and due to complete by October 2016[5].

The case organisation has over 80,000 employees, and a long history of success. The objectives of the project are twofold: one, to learn new methods that the company can to apply to their future BMI projects. And two, to develop BMs that 1) meet customers' needs, 2) are scalable, 3) make a profitable return, and 4) significantly reduce clothing waste going to landfill. The sustainability goal was so drastic that both novel ideas, i.e. radical innovation, and reconfiguration of existing models, i.e. incremental innovation, were required. This project was conducted in conjunction with the University of Cambridge and was part-funded by the UK government.

In order to fulfil the purpose of the research, three phases of data collection were conducted. The unit of analysis is the decision-making process and its influencing factors.

2.1 Preliminary interviews

First, four sets of one-to-one interviews were conducted with key senior leaders about their decision-making styles. Each interview lasted for an hour, and six main questions, 20 sub-questions and one probe question were used. Notes were taken during and after interviews. A senior academic member with extensive business experience conducted the interviews to ensure that conversations were made at an equivalent level of experiences and seniority.

2.2 Participatory observations

Second, authors conducted extensive participatory observations during the second year of the project in which a range of critical decisions were made on the BMI direction. **Figure 1** shows how four BM ideas were created and modified in the process.

2.2.1 Ideation and Experimentations

Clusters of circular economy business model ideas were identified through a creative multi-stakeholder ideation workshop. Subsequently the academic partners refined them using the Cambridge Value Mapping Tool™ (Institute for Manufacturing, University of Cambridge, 2016; Vladimirova, 2016). This activity articulated the system value in terms of *value captured, missed, destroyed, absence* and *surplus*. Based on this analysis of value opportunities, innovative business models were brainstormed and four strong models emerged: one was incremental (C), and three were radical (A,B,D). Idea A and D had two sub-themes (A.1, A.2 and D.1, D.2), whereas idea B and C were single concepts. Then ideas were subject to 11 experiments to address the assumptions around them. Experiments included one demo

[5] The detail of the first year of the project can be found in Weißbrod and Bocken (2015).

website run with multi-participant tests, three dummy web tests, two events, one customer focus group interview and four online surveys.

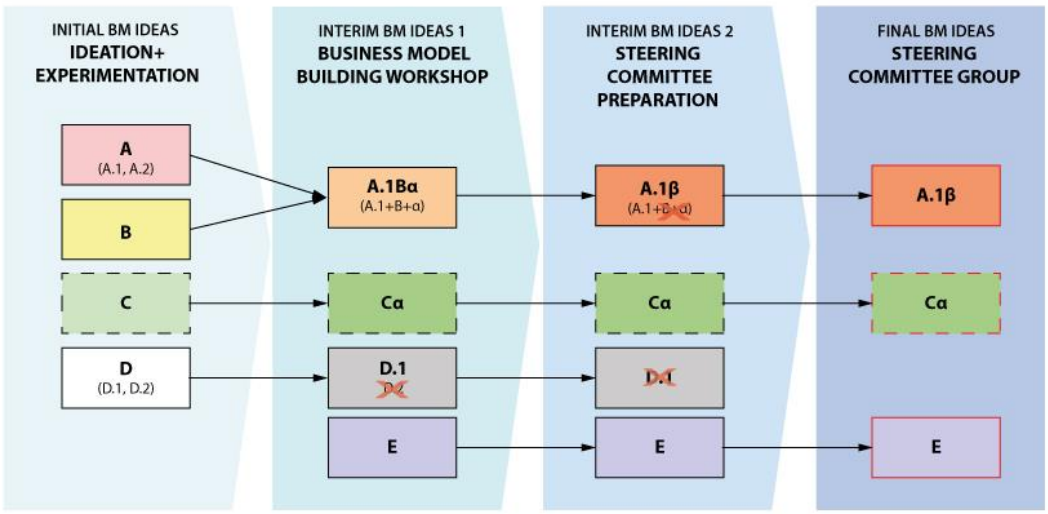

Figure 1 Decision-making process during the agile BMI in an incumbent organisation

2.2.2 BM building workshop

Further development of each business model was attained through an iterative process between the industry and academic partners resulting in dynamic modifications and redirection. This step included a multi-stakeholder BM development workshop with senior leaders from the case organisation, external market research consultants, an experiment participant, as well as both industry and academic project members. The Honeycomb Business Model Tool™ was created and utilised during the workshop (See **Figure 2**).

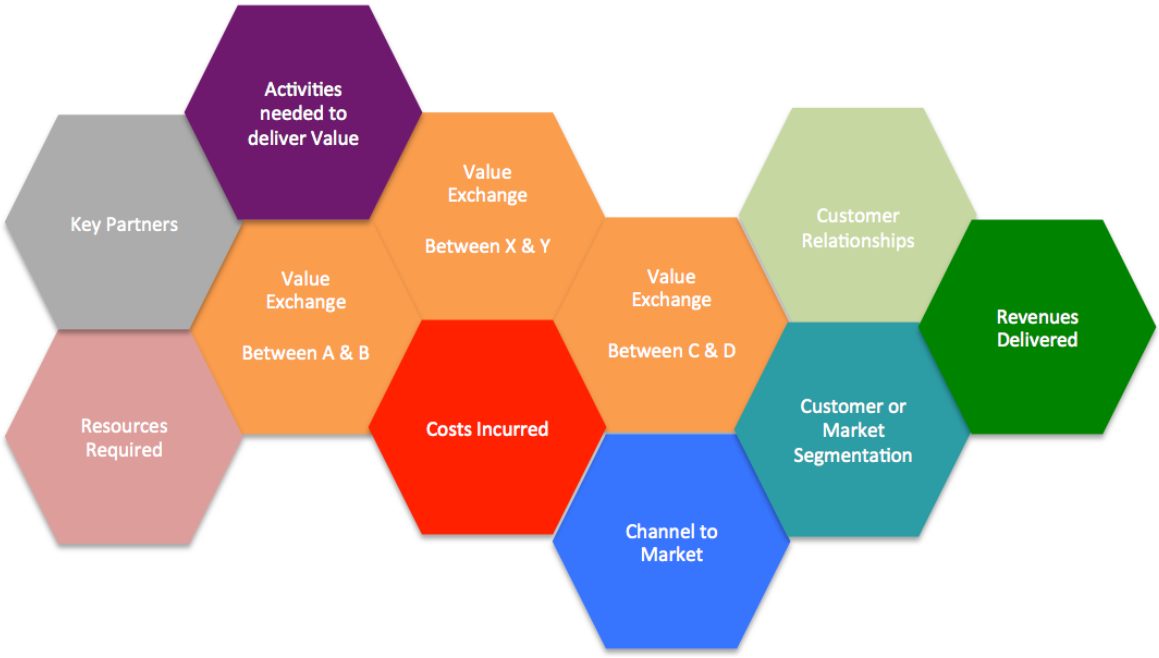

Figure 2 Honeycomb Business Model Tool™

The Honeycomb Business Model Tool™[6] has been developed from the Business Model Canvas (Osterwalder and Pigneur, 2010) and Cambridge Value Mapping Tool™ (ibid) to add new functionality and capability. New blocks for 'Value exchanges' enable detailed analysis across multiple stakeholders. The employment of modular hexagon shapes (honeycombs) elaborates the capability to add new building blocks. The honeycomb endows the users with opportunities to expand the building blocks to as many as required. The step-by-step introduction of each building block enables the whole team to stay in the same stage of the activity without distraction. Otherwise, the presence of all the blocks in sight simultaneously can easily divert attention from one to another block. Along with the Honeycomb Business Model Tool™, academic members presented a range of information under different themes from competitor analysis, environmental impact analysis, to market foresights. A discussion with one the of experiment participants added insights from real-life experiences. As a result of intensive two-days workshop activities, four solid BM ideas were developed. Idea A.1 and B were combined together with new details (α). Idea C also gained new details (Cα). One of the sub ideas (D.2) was dropped while D.1 survived. Unexpectedly, a whole new and radical idea E was conceived.

2.2.3 Steering committee group (SCG) meetings and preparations

The third phase was to determine the practicality of each BM ideas and gain senior leaders' approvals. Strong and rapid iterations took place between industry and academic team members to build strong business cases and convincing pilot plans. Several sets of business case development preparation documents and action lists were created and circulated to optimise the preparation and refine the BM ideas into feasible ones. While the initial timeline of the project anticipated activation of pilots of BMs immediately after the previous phase, the iterative development process stretched the design stage by 3 months but reduced uncertainty in the eventual implementations. One informal and one formal steering committee group (SCG) meeting with senior leaders took place. The steering committee group includes the sustainability initiative director, sustainability initiative head, innovation & quality & director, innovation & quality head (industry), principal investigator and commercial director (academic).

2.2.4 Pilot preparation

Three modified BM ideas remained to the final pilot stage. A.1Bα became A.1ß with new element (ß), D.1 were dropped and Cα and E survived. In the case of A.1ß, the leadership decided to take a more cautious approach as it is the most complex and disruptive BM which can potentially cannibalise the existing business. Process modelling and analysis are being undertaken currently. Idea Cα is the only incremental BMI idea and relatively straightforward to pilot in real-life. The SCG decided to hire external research agency to investigate further implications prior to a regional pilot study in a near future. D.1 was discarded as no direct environmental / financial benefit were indicated. E survived thanks to the continuous support from one senior leader. Additional academic research is being carried out to scrutinise its potential impact on the business and environment. According to Schaltegger *et al.* (2012)'s basic typology of sustainability-oriented business model innovation, BM Cα falls into the 'accommodative strategic management' to experiment within the given business model, whereas two other BMs (A.1ß and E) fit into the 'proactive strategic management' leading to BM redesign.

[6] The detailed analysis of Honeycomb Business Model Tool™ and its impact on business model innovation is discussed in a forthcoming paper (Park, et al, 2016).

2.3 Validation interviews

Third, two interviews were conducted to validate the findings. One was via email and phone call with the sustainability initiative manager, and the other was in person and via phone call with the head of sustainable business. Five open questions and a probe question were initially deployed, and further questions followed as conversations unfolded. The interviews provided further insights as well as validation of some of the findings, and rectification of misunderstandings.

3. FINDINGS AND DISCUSSION

As mentioned in Section 2, the project is still in progress, and it is too early to come to firm conclusions. Nevertheless, the process clearly confirms some of Chesbrough's (2010) three means to escape the trap of BMI, i.e. experimentation of fidelity of new ideas, effectuation of the experimental data, and leadership to manage, and deliver the experiment processes and results. A certain level of autonomy was bestowed to run agile, start-up type BM experimentations with relatively unconstrained R&D capability of a large incumbent company. External financial resources (in this case from the UK government as an R&D grant) lowered the threshold to commence experimentations, and helped mitigate a concern in resource allocation between experiments to test any new BMI and the existing business. As a result, a total of 11 experiments were formulated and conducted flexibly to keep the experimentation results open-ended for two to four weeks. Key senior leaders maintained their sponsorship, and the industry-academic collaboration successfully managed to expose the organisation to a new set of thinking that they may apply to their future BMIs.

Our thematic analysis revealed a framework (**Figure 3**) that explains how factors helped one incumbent organisation overcome typical challenges during the agile BMI process. Factors were witnessed to surface over time and influence four aspects of the decision-making process. As the project *learning* accumulates, the level of *uncertainty* decreases. Concurrently the organisational *resistance* reduces, and the *alignment* of senior leadership increases.

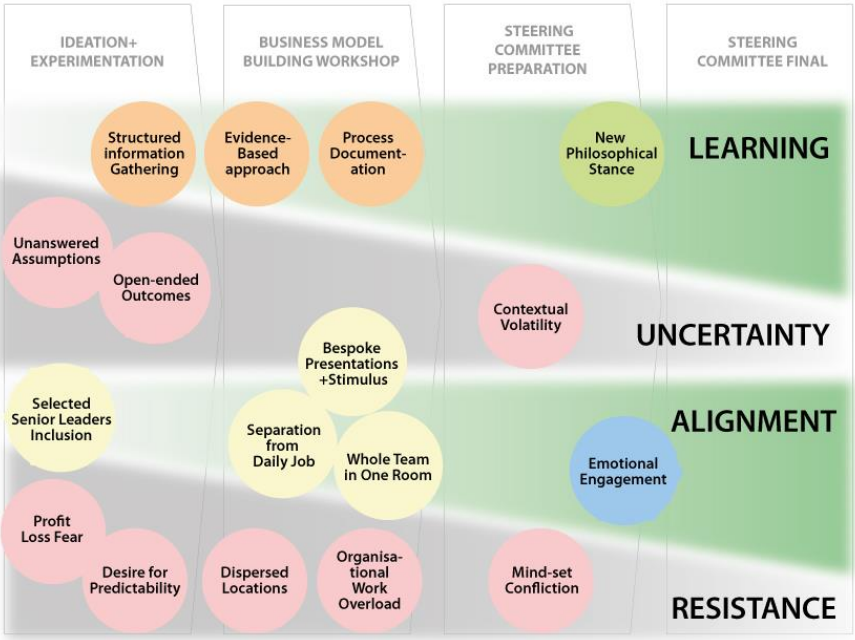

Figure 3 Agile BMI decision-making factors and aspects in an incumbent organization context (modified from Fig 1)

3.1 Heightening project learning

The case company wanted to learn ways of finding market opportunities more quickly and in greater depth, and subsequently to evaluate them within a large-scale business environment. The below four factors are observed to heighten the project learning. These are distinctly derived from academic partners, providing the organisation with a '*new philosophical stance'*.

3.1.1 Structured information gathering

Collaboration with academia brings a genuinely different perspective and involvement (Doz and Kosonen, 2010, p. 324). Based upon the conventions of academic research methods, academic partners strategically adopted rigorous structures in data gathering and knowledge building. An academic approach that pursues thorough investigation of phenomena brought another level of in-depth information and insights. For example, 'experimentation cards' were used to ensure efficient data collection under a concrete set of criteria. In-depth research of relevant context of market that any novel BM aims to reach provided strong and convincing decision criteria for decision makers, as well as adding direct insight to ideas.

3.1.2 Evidence-based approach

The strictly evidence-based attitude of academia helped the industry project members to have more confidence in persuading senior leaders with supporting data. One of the members had a strong intention to realise a certain idea. However, the relevant survey data showed negative evidence in the customer needs, thus abandoned the idea. Had there not been for the evidence, the company would have pursued the idea, potentially wasting time and resources.

3.1.3 Process documentation

All the project activities were recorded and documented and systematically archived. Rigorous documentation and following reflections enabled the team to capture the learning during the process, and retain them to influence future BMI activity.

> *"…if you weren't in our team, we would just keep on going… and at the end of the two years we ask 'what happened?' 'I don't know!' I don't remember.' we would have lost it."* (Head of sustainable business)

3.1.4 Fresh exposure to old and new data

Opportunities were provided for new information to be considered in fresh ways. The BM building workshop set a stage for all senior leaders and team members with extra participants to gather and listen to each other. A series of presentations were prepared by academic partners to help the senior leaders focus harder on certain aspects than others. Also, in-depth personas analysis (see Miller *et al.,* in press) supplied a new level of details of customer segmentations and their behavioural patterns. Also, the workshop procured the stage where established information to be combined with new information. Bringing together different sets of information enriched BM ideas and catalysed new details. e.g. A.1+B+α, C+α, a.1+ß.

3.2 Reduction in uncertainty

Actions that heightened the project learning described above consequently reduced the level of uncertainty from both external and internal contexts. The three factors below were observed as the main means to reduce uncertainty.

3.2.1 Open-ended outcomes

Keeping the experimentation outcome open-ended is key to agile approaches. Team members were given a license to adjust the plan as the project progressed. By doing so, uncertainty was

proactively embedded in the process, which is counter-intuitive for a traditional mind-set that prefers forecasting.

3.2.2 Resolving unanswered assumptions

Experiments provided the opportunity to pose and test the assumptions that the organisation normally had in their decision-making. Sometimes opposing results against previous assumptions emerged. For example, an assumption about customers' resistance toward a BM idea was upturned when nil positive evidence appeared from a total of 970 responses. It helped the team address the uncertainty in certain aspects of new BM ideas.

3.2.3 Coping with contextual volatility

In the midst of the senior leadership meeting preparation, a change of the top management was announced abruptly. The organizational shift initially raised the uncertainty level about the validity of all BM ideas, and caused a delay to the process to a certain extent. However, embracing the unexpected conditions and accordant adjustments are the nature of agile approaches. In retrospect it played a positive role in testing the senior leadership alignment. They maintained their strong sponsorship for the project, and committed to present the BMI ideas to the new CEO and obtained permission to go forward.

3.3 Strengthening senior leadership alignment

Keeping the senior leadership aligned was understood as critical and managed from the beginning. They were informed to understand the problem, kept up to date, engaged in stages of the process, and remained committed to the goal. The alignment level gradually increased, and emotional engagement was carefully nurtured and obtained. Direct evidence of customer reaction was important to obtaining alignment.

3.3.1 Selected key senior leadership inclusion

One of the significant joint achievements of the project was engaging key senior leaders from the very beginning, and growing their sponsorships over time. Unlike conventional projects in the company, the key senior leaders were introduced to the whole collaboration team from the beginning. Along the way, they were constantly invited to take part, observe and shape the project collectively. Thanks to the effort, although the nature of agile approaches is often different from the conventional business norms, they understood and supported the process by patiently waiting for the results and listening to the analysis:

> *"Iterate the experiments and models fast. Keep reviewing and where things are not working, change and re-run."* (Quality & innovation director)

3.3.2 Separation from daily job

The industry partners specifically suffered from a lack of time in their busy daily work schedules. Blocking each member's diary for two full days for the BM building workshop allowed the team time to focus on the project solely. The positive effect of the workshop responds to Doz and Kosonen's (2010) argument that distancing from the day-to-day job provides a chance to gain perspective on their past and future.

3.3.3 Whole team in one room

One of the physical challenges was the dispersed location of team members in different cities or countries. Far from having serendipity, even arranging a meeting among the team members was difficult. Again the BM building workshop addressed this challenge by spending time together in a same meeting room and same accommodation location for two days. It provided

a powerful chance to a build collaborative spirit among members, learn about each other and share the same goal and passion for the project.

3.3.4 Bespoke presentations and stimulus

The preliminary interviews about senior leaders' decision-making styles provided the team with rich information that articulated the conditions of 'winning' ideas. It helped the team to prepare and present data and ideas in a bespoke manner.

"*Best done visually*": the emotional buy-in was key to success and leaders' clearly preferred 'a package of experiences that tells a story' to being presented with many slides of hard data. Duly, sufficient sensual stimuli were carefully prepared in the workshop environment. The rooms were decorated in the themes of BM contexts with ample props such as piles of clothes, a sewing machine, wardrobe pictures, as well as experiment result posters, life-size personas and environmental data graphs. The bespoke preparation of workshop rooms invited the participants into the real-life BM contexts and provided creative catalysts.

3.3.5 Emotional engagement

Along with the room decoration, presentations included sufficient supporting visual metaphors to convey messages effectively, and provide 'aha' moments. Bringing one experiment participant in to the workshop allowed a chance to sympathise with a customer. As a result, all the senior leaders strengthened their sponsorships toward the BMs of their choice at the end of the workshop.

3.4 Tackling organisational resistance

A few traits of resistance caused by a tension between existing and new were shown at the beginning of the project. Even though it is impossible to be completely free, most of them were addressed during the process.

3.4.1 Fear of losing current profit

At the beginning, one of the key senior leaders clearly stated that an idea less profitable than the existing one had little chance to be chosen. This type of resistance caused by fear of profit loss is common.

> *"Consider the shop square foot return compare to the existing standard model."*
> (Innovation & quality head)

This particular senior member was highly sceptical about idea A for this reason. However, the strong emotional engagement with the supporting customer experiment data engaged him successfully during the workshop, where he was convinced and became an advocate of the idea.

3.4.2 Desire for predictability

Similarly, one of the most influential decision makers advocated the suitability of the idea to the existing brand position as well as the financial viability of ideas to begin with.

> "*New idea must bring into life in the XX (the current brand) world."*
> (Quality & innovation director)

Again, the resistance was coped with through storytelling. He later became the biggest supporter of idea E that is the most radical and novel to the company. The strong story surrounding the customer experience that idea E offers convinced him.

3.4.3 Organisational work overload

An extremely busy work environment of the industry partner was another obstacle to pursue agility of the process.

"…booking meeting rooms, booking travel, HR, performance review, end of year forecasting, new year forecasting, cost budget target… the reality is it puts certain mind-set in you that you have to control and have standard and rigid structures to deal with the workload…" (Head of sustainable business)

The recruitment of one more industry team member halved the burden of the workload, in addition to one more part-time academic member.

3.4.4 Mind-set conflict

The nature of the daily work causes another difficulty for industry team members. The day-to-day job requires a completely practical skillset that can be the opposite of innovative, agile thinking. Reconfiguring a mind-set from a conventional organisational job to experimental innovation is extremely challenging for one person within a day.

4. CONCLUSIONS

The study investigated how one industry-academic collaboration enabled the case organisation to adopt agile BMI approaches suited to their set of circumstances. How the collaboration effectively addressed challenges for a large company to apply agile BMI approaches was also introduced. Broadly, the industry-academic collaboration heightened the structured learning within the project, by bringing in academic research rigour, which led to an important reduction in uncertainty. Reduction of uncertainty decreased the organisational resistance, and increased senior leadership alignment.

The contributions to knowledge in this paper are: one, by providing an in-depth investigation of decision-making process of one industry-academic collaboration within a BMI project, the authors have been able to articulate the patterns and attributes of each decision during the process in the real-life context. Two, the research explored how the challenges of a large company in adopting agile approaches were addressed. By doing so, the paper provides resolutions for obstacles that were found previously. Three, current research sheds a light on how academic intervention helped the industry partner in conducting intensive BMI. The industry-academic collaboration enabled the company to make more informed-decision by bringing in the structure in their information gathering and adopting a disparate philosophical stance toward knowledge. The revelation of benefit of academic intervention highlighted in this study strengthens the bridge between businesses and academia.

5. FURTHER RESEARCH OPPORTUNITIES

Possible extensions of this study are threefold: continuing the investigation into how the current project unfolds and observing the end-results of developed BMs will provide useful insights. Two, a longitudinal study to examine the implementation of the learning from this project to the company's future project is another path to take. Three, given the limitation of a single case study, verifying the framework with multiple cases across the industry will yield another meaningful avenue of research.

6. ACKNOWLEDGEMENT

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