Enriching the Values of Micro and Small Business Research Projects: two sides of a story

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Abstract

The research aim was to critically examine the two sides of co-creation from the small business and GCU researcher perspectives. The interest is in the value created and delivered. Previous studies have suggested the importance of identity and trust in these types of collaborative projects. The approach used a single case study to explore indepth the development of identity and trust, and the subsequent movement of the project participants to the creation of value. The results of the study revealed important action learning and knowledge management developments. A strong focus at the beginning on identifying key propositional knowledge needs, later led to more opportunities to co-create value for both parties. The understanding of the processes and importance of trust in these significant knowledge exchange projects reveals both a strength and weakness in these university-business collaborative projects. The indepth undersrtanding and interpretation of the value derived in-action and on-action speaks highly of the role of these university-business collaborative projects. Suggesting that the university has a key role to play in future economic development.

Keywords

Action-Based Learning, Work-Based Learning, Reflective Practice, Reflection on Action, Reflection in Action, SME Engagement, Co-creation, Stakeholder Value

Introduction

The National Committee of Inquiry into Higher Education (1996) chaired by Lord Dearing envisioned a university sector central to the UK's knowledge-based economy. Policy makers recognise that 'the economic and social prosperity of the UK depends on a healthy knowledge-based economy'. This became a catalyst for new collaborative commercial approaches. With government support, the university-business partnership ideology has been put into practice. Literature previously identified universities as an integral part of the skills and innovations supply chain to business, one which has the capacity to introduce and support business growth and economic affluence. Even though widening participation has increased in emphasis over recent years, the majority of Business Schools (BS) still hold-out on directly engaging in university-business collaborations due to associated difficulties. This paper proposes that rather than micro/small-business engagement being a side-line or marginal activity, it should instead take centre stage, not only for economic prosperity but also for knowledge transfer, graduate prospects and local business development.

The paper reports on an empirical study analysing the university/business values derived through one small business engagement project. The qualitative inquiry adopts a narrative case study approach to map the journey of all involved parties; university, business and graduate interns, over the life-time of this collaborative market research project. Data collected through semi-structured interviews, observations, memos and discussions were coupled with critical evaluation of work and action-based learning literature. Analysis reveals evidence of multiple value adding factors; it emerged that the existence of knowledge, present or generated through the blended learning techniques was a key value adding element. A range of learning practices are embellished throughout the study signifying the broad range of personal and professional development benefits received by all parties. Findings also enabled a construction of a universal process model providing a project framework, detailing areas of collaborative efforts and associated recompenses; this included ease in project advancements and a noticeably advanced project outcome. Conclusions support the assumption of enhanced value, derived through university-business collaboration. The study highlights these values in terms of individual and organisational learning, originality and quality of outputs and an ease in project activities/deliverables.

Given the growing importance of Small Medium Enterprises (SMEs) to the UK Economy (BIS, 2013; CBI, 2010), understanding the value co-created by collaborative projects in delivering both work-based and action-based learning for graduates/students, academics and micro/small business management, drives home the value of this type of collaboration. Scaling up these activities is relatively easy if the government provides support through additional innovation funding, and collectively universities/government send messages out to the business community extoling its overall value.

The graduate market has never been more challenging or competitive. Increasing numbers of graduates are entering the work place with little or no professional work-based experience. Recent research findings stress the importance of work experience; a recent national study revealed that graduates who have no previous work experience have little to no chance of receiving a job offer for graduate programmes (High Fliers, 2013). Additionally, there is great emphasis placed on improving graduate employability skills through collaboration between universities and businesses, with government policies currently reflecting such an agenda. Furthermore, graduates are progressively placing greater expectations on the 'payback' for the invested time and money spent during their university endeavours.

Universities, particularly business and management schools, have long experimented with embedding case studies and live projects into the curricula (Bak, 2011). University-business collaborative projects stimulate action learning in SME management (Clarke, Thorpe et al. 2006); whilst at the same time providing important Work-Based Learning (WBL) for the academics and students (Flint 2011). However, the concept still demands further contemporary attention and drive. Policy makers recognise that 'the economic and social prosperity of the UK depends on a healthy knowledge-based economy' (Wilson, 2012) and accept that universities play a substantial role in facilitating it. A Review of Business University Collaboration placed university-business activity as a focal point in building healthier collaborative opportunities that better foster economic growth, business development and wider participation for students and graduates within the business community.

Traditional education approaches and course structures within Higher Education Institutes (HEI) are identified as one of the reasons why they fail to meet social inclusion targets (Warrick, 1999 & Scott 2006, cited in Jones & Lau 2010). Jones & Lau (2010) cite reasons such as grade-based entrance requirements, and the nature of the higher education environment for failures to meet such targets. One other plausible reason, which this paper will posit, is the relative lack of vocational learning in traditional higher education scenarios. Those from lower income backgrounds who are likely to assess the 'value' of a degree (i.e. its future employment prospects) may consider opportunities to apply their skills to work opportunities as a significant advantage.

The Coalition Government and previous administrations have prioritised university-business collaboration, evidenced through The Lambert Review (2003), the development of the Technology Strategy Board (TSB) and its targeted funding of collaborative projects. Furthermore, the government recently outlined aims to assist and stimulate growth through collaborative enterprises, emphasising the importance of Business Schools (BSs) being immersed in local business community (Young, 2013). Other work offers productive discussion on university-business collaboration; The Sainsbury Review (2007) highlights a link between university-business collaboration and how it is able to shape the national innovation ecosystem, helping the UK's innovation ecosystem to remain competitive in globalised markets. In addition, the Leitch Review (2006) provides important insight into the WBL aspect of university-business collaboration. The report emphasises the need to include co-financed WBL programmes for students, encouraging the productive embodiment of WBL in HEIs. However, although much literature advocates collaborative activities, many fail to go beyond the model of 'traditional' work-based placements.

The Confederation of British Industry (CBI) report 'Stronger Together' (2010) identified the improvement of the environment for university-business collaboration through research and innovation as one of the top business priorities for HEIs. The report highlighted the value of developing research and innovation partnerships between businesses and the HE sector, empowering the economy, businesses and tackling issues surrounding graduate employment prospects. As Laidlaw suggests, 'Effective collaboration between the higher education sector, business and government will be critical to the UK's economic recovery and sustainable international competitiveness' (Laidlaw, 2009).

In response to such literature and identified gaps in understanding of business-universities willingness to engage in collaborative projects, this study considers a live university-business collaborative research project. The aims are threefold:

i.   to highlight the increased value of developing WBL and Action-Based Learning (ABL) opportunities for graduates and
    a) the associated remunerations for the academic faculty, institution and local business community

ii.   explore value enhancing factors based upon the integration of blended learning theories (ABL, reflective practice and WBL) with university-business projects

iii.   provide a case study to extoll and sense-make the value of university-business collaboration

The paper will progress towards the measurement of value driven outputs and outcomes for key stakeholders, in particular the learning values and development opportunities. It will also explore the framework in an applied environment, detailing the associated benefits from empirical data.

Project Context

The University of Hertfordshire's Graduate Consulting Unit (GCU) is used as the basis for this study, following a typical collaborative research and consultancy project from start-up to closure. Participants include academics, researchers and the client.

Project Methodology

The GCU offers bespoke research and consultancy to local businesses and SMEs. Projects are mentored by academics and involve an extensive process of collaboration and co-creation during the project lifecycle. Work at the GCU is based around the value of research. Graduate researchers understand the value their research brings to clients through providing a service and to themselves (through adding invaluable work-based research experience to their degrees/portfolio).

Work at the GCU is based around combining knowledge with action. Deadlines have an immediate quality, as there is a relationship between the research team and the paying client expectations and deliverables. When issues arise, emphasis is placed on the importance of action. This is demonstrated through the team's proactive approach to management and adoption of an evolving project methodology. The process integrates a degree of 'action research'; the embodiment of reflective processes and progressive problem solving during the project lifecycle. Action research is an interactive inquiry process that balances problem solving actions implemented in a collaborative context with data-driven collaborative analysis or research to understand underlying causes enabling future predictions about personal and organizational change (Kokilavani et al., 2010, para. 5).

Researchers form the base of any GCU project as they are exclusively responsible for project delivery. The core concept leverages on providing graduate researchers with a platform to embark on live projects, applying skills previously attained through the classroom to real life situations. Furthermore, a significant distinction can be made between university-academic projects and GCU projects. An academic project is curriculum based and involves set criteria and pre-determined outcomes where the student has a narrow area of focus and limited contribution from others; a GCU project involves an academic and the client but enables researchers to exercise more control over project outcomes and take part in the various project cycle stages whilst involving both the academic and the client, see table 1 below.

Table 1. GCU Project Framework

Stakeholder	Activities	Rationale
Lead Researcher	Project Management, Graduate Training, Project Assurance, Client/Academic Liaison, Final Product Delivery	To manage project activities and facilitate researchers learning and development. To gain experience within a WBL and ABL environment.
Graduate Researcher	Primary and Secondary Research, Product Stage Delivery	To gain experience within a WBL and ABL environment.
Academic	Project Assurance, Consultancy, Knowledge Transfer, Mentoring	To develop connections with the local business community and engage in vocational projects.

| Client | Project Initiation, Stage Reviews | To obtain fresh and innovative research at competitive rates. |

Project Conceptualisation to Award

The small business involved in this case study provides resources for learning, specialist supplies, furniture and design for libraries, study spaces, and learning resource centres. An academic recommended the University of Hertfordshire's services to the SME; in consequence, they made contact through the web-site, nearly 45% of enterprises come through this route.

The initial concept of the project was to understand market changes, behavioural developments and impacts of reform on public sector financial patterns, in particular the academy marketplace. Specifically, the research endeavoured to produce a framework to consolidate and empower alignment with academy procurement practices, strategies and processes.

Research Methodology

The study adopts a phenomenological post-factum/theory building approach embracing a narrative inquiry as a tool for analysis; employed to map the journey of all three involved parties over the life-time of a collaborative market research project. A categorical exploration of personal perspectives and individual cognition coupled with impact analysis of external issues and internal innovations is intended to form a holistic representation of associated values. The proposed systematic research structure is supported by Bell (2002) affirming that 'Narrative inquiry rests on the epistemological assumption that we as human beings make sense of random experience by the imposition of story structures' (Bell, 2002, p. 207). Narrative approaches have been credited as a valuable source of knowledge for researchers engaged in theory building in the social science sector (Larty & Hamilton, 2011). The study embraces explanatory content in order to represent the operating stories surrounding the topic of interest and understand the chronological connections between integrated elements. Subsequently, an exploratory approach, which closely resembles paradigmatic social science enquiries, is implemented to retrieve comprehensive evidence to form a penetrative account of key events, impacts and outcomes. Data was collected through semi-structured interviews, memos and discussions with all the participants of the project. This specific approach benefits the research case as it is best fit for detecting originality.

In analysing the narrative material, a structural approach was initially taken to help order the different perspectives of the storyline, purpose and outcomes of the project. Subsequently, the initial analysis was followed by a contextualisation of the narratives: an examination of the cultural and social, economic and environmental factors influencing the actions/outcomes of the project. Finally, the narrative data and any environmental factors from stage two are further analysed for emergent themes and reflective learning of all parties. Information was collected during the study and analysed using the following sources:

  i.   memos
 ii.   voice recordings
iii.   documentations in researcher-client meetings
 iv.   subject telephone and face-to-face interviews
  v.   internal-project meetings between the academic mentors and graduate researchers
 vi.   project observations
vii.   post project interviews with researchers, academics and MBA group

The purpose of the observations and voice recordings was to produce detailed qualitative descriptions of the project values, beliefs and project processes affecting all members of the collaboration.

The triangulation of observations, audible recordings, transcripts, and project memos ensured full data for meta-analysis. All recordings and memos were transcribed independently of the researchers and collated in a QSR package.

Table 2. Data Collection Methods

Technique	Rationale	Sample
Literature Review	To explore literature and theory surrounding the topic of interest and retrieve key information of relevance to research aims.	Secondary Data
Researcher interviews	To explore issues in depth, probing apparent themes and reflections	Lead Researcher and Graduate Researchers
Researcher memos	To provide a baseline event map for the study, and to examine researchers during the process	Graduate Researcher memos
MBA interviews	To explore values the MBA group associated with the project	MBA students from Hertfordshire Business School (HBS)
Academic interview	Understand the academic's perspective of the project, values and lifecycle. To ascertain the actual benefits realised derived from the research study	Lead Academic
Client feedback	To provide a reflective log of events and client's thoughts throughout the project lifecycle	Director of Marketing and Business Development for micro/small business
Presentation feedback	Detailed review of project in its entirety. Provides platform to review expected outcomes against actual, and performance benchmarking	Client, Managing Directors and Senior Directors for range of local SMEs / stakeholders of client

Literature Review

Surrounding literature and theoretical learning concepts provide a platform for inquiry. The following literature review discusses various contemporary theories regarding learning practice, highlighting those concepts that are directly related to the context of this study and supports the proposed framework this paper presents.

Pedagogy within the Learning Environment

Carter (1973) defined pedagogy as 'the art, practice or profession of teaching' and 'the systematised learning or instruction concerning principles and methods of teaching and of student control and guidance' (Carter, 1973, p. 412). This term, commonly referred to as the science and art of teaching, is applicable to both theoretical and practical settings. For the purpose of this study, pedagogy is referred to as the recognition of the manner by which participants construct knowledge and acquire skills. As such, the identification of the various practices/methods of learning and how it will accomplish overall instructive and vocational purposes, values and aims will be explored throughout the study.

Learning is facilitated through exposure to the multiple learning methods confirmed through the case study. These devices are defined and explored to assess impact and assist analysis and evaluation. Embedded within pedagogy, this paper specifically explores Action-based Learning (ABL), reflective practice and Work-based Learning (WBL).

Reflective Practice

The term 'reflective practice' is broad and arguably ambiguous; a range of interpretations can be made and are cited. This includes practitioners who are engaging in solitary introspection, to that of engaging in

critical dialogue with others (Finlay, 2008). For the purpose of this study, reflective practice has been defined as a framework which embodies reflective thinking. Reflective thinking encompasses two core concepts: reflection-in-action and reflection-on-action, see figure 1 below.

Figure 1. The Reflective Practitioner Model
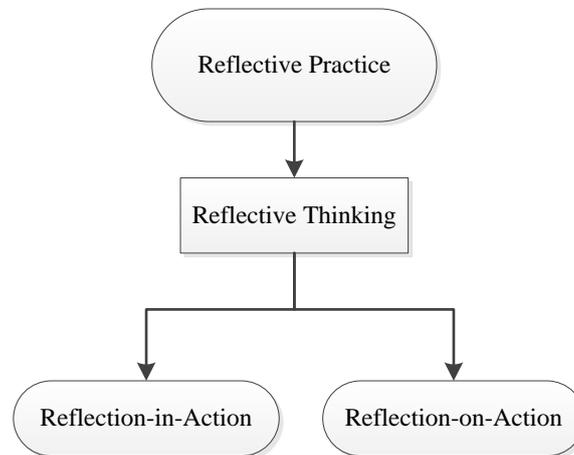
Dewey (1933) defined reflective thinking as 'active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusion to which it tends' (Dewey, 1933, p. 9). Dewey exposed two core aspects to the process of reflective thinking. 'Reflective thinking, in distinction from other operations to which we apply the name of thought, involves (i) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and (ii) an act of searching, hunting, inquiring to find material that will resolve the doubt, settle and dispose of the perplexity' (Dewey, 1933, p. 12). More recently reflective thinking has been applied to professional settings following influential work by Schön. Schön (1983), defining reflective practice as 'the capacity to reflect on action so as to engage in a process of continuous learning' (Schön, 1983, p. 26); he recognises it as one of the defining characteristics of professional practice. Additionally, Boud et al. (1998), Atkins and Murphy (1993) highlight that reflection is concerned with consciously looking at and thinking about our experiences, actions, feelings and responses, and then interpreting or analysing them in order to learn from them. Reflective practice has become one of the defining features of a professionals' competence to rationalise existing practice, and is acknowledged as a process of learning from and through experience thus gaining new insights of self and of practice (Boyd & Fales, 1983; Mezirow, 1981; Jarvis, 1992). Amongst key concepts associated with reflective thinking are: reflection-in-action and reflection-on-action. Finlay (2008) recognises that with both types of reflection professionals aim to connect with their feelings and build new understandings that shape future actions.

i. *Reflection-in-Action*
Reflection-in-action is concerned with critical practice which occurs when one is able to consciously evaluate and make changes on the spot during an event (Schön, 1991). Actions are purposeful and rational whereby individuals consciously reflect on an activity in the action present. For Schön, reflection-in-action was the core of 'professional artistry' – a concept he contrasted with the 'technical rationality' demanded by the (still dominant) positivist paradigm whereby problems are solvable through rigorous application of science (Finlay, 2008, p. 3).

ii. *Reflection-on-Action*
Reflection-on-action is a post-project process involving reflecting back on the completed event and examining the actions undertaken, judging your success and actions which could have been constructed differently to result in different outcomes (Plymouth University, 2010). One reflects *on* action, thinking back on what we have done in order to discover how knowing-in-action may

have contributed to an unexpected outcome (Schön, 1983, p. 26). As such, this paper represents and interprets the architecture of reflection-on-action as evaluative and residing in the project posteriori.

Learning Dimensions

Continuing epistemological development of learning dimensions and dynamics, particularly within a pragmatic environment, have focused on two conceptual theories: work based learning and action-based learning.

i. *Work-Based Learning*

WBL is acquired in the midst of action and is dedicated to the task at hand (Dretske 1981). Furthermore, implementation of knowledge is treated as a collective activity wherein learning becomes everyone's responsibility (Raelin, 1997, p. 564). Finally, its users demonstrate a learning-to-learn aptitude in order to stay abreast with changes in the field and to invent new tools with the assistance of others to solve new problems (Drucker 1994; Nonaka 1994). Although appreciating the traditional root of WBL, this study refers to an environment of learning at Higher Education (HE) level derived from undertaking paid or unpaid work and a major constituent of a programme of study where students are full-time employees, (Ebbutt, 1996; Garnett, 1997). At a pragmatic level, WBL manifests in the delivery of learning through collaborative partnerships between HE and professional bodies (Gray, 1999). Additionally, Raelin (1997) identifies that within the individual level, WBL might start with conceptualisation which provides practitioners with the means to challenge underlying perceptions. However, these theories are only useful to individuals when they are practised through ABL.

ii. *Action-Based Learning*

'Action-Based learning is grounded on the premise that there is no learning without action and no sober and deliberate action without learning' (Megginson & Whitaker, 2004, p. 114). Weinstein (1995) defines ABL as 'A process underpinning a belief in individual potential: a way of learning from our actions, and from what happens to us, and around us, by taking the time to question, understand and reflect, to gain insights, and consider how to act in the future' (Weinstein, 1995, p. 3). Brockbank and McGill (1998) recognise that ABL is a continuous process of learning and reflection by a group or 'set' of colleagues working on real issues, with the objective of achieving practical outcomes. By considering the social context of the individuals concerned, the collaborative process encourages an active stance to overcome the tendency to be passive towards the pressures of life and work.

The following figure visually demonstrates the on-going learning cycle posited by the collaborative project framework.

Figure 2. Learning Cycle
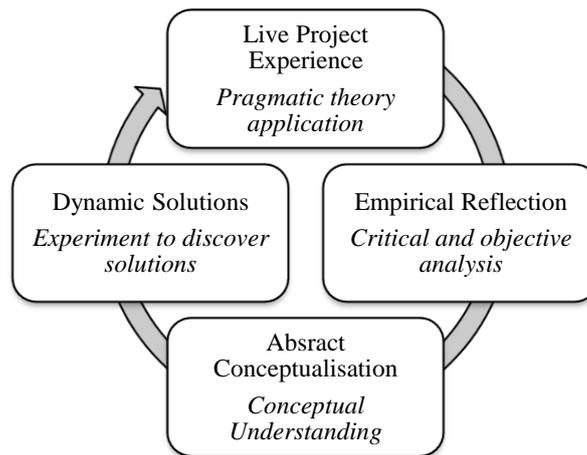
Source: Adapted from Ross (2013).

University-Business Collaboration

Cox and Taylor (2006) recognise that the expansion of the university sector can have far greater beneficial effects on their regional economies than is indicated by conventional impact studies. As such, the current UK Coalition Government, arguably similar to previous administrations, reaffirmed university-business collaboration as a policy priority. Furthermore, the government has continued to provide support to this strategy thus emphasising the importance of universities in supporting economic growth (Treasury, 2010; DBIS, 2011).

Both contemporary and previous literature emphasises the potential value and benefits of exercising such activities and developing collaboration between business schools and SMEs. Young (2013) highlights the increasing importance of micro/small business to the success of the micro-economy. This paper identifies that BS are underselling themselves in terms of their expertise, while at the same time failing to provide their students with the necessary breadth of skills and experience required. Actions are underlined to change this, including working alongside the Association of Business Schools (ABS) to increase SME and BS engagement. Such actions include incentivising BS and the development of a 'Supporting Small Business Charter' and an associated award scheme.

The Wilson Review (2012) identifies the existing and expanding good practice in university-business collaboration as one which delivers clear advantages for the businesses, student and university. Universities are presented with an opportunity to solidify school sustainability and to maximise the flow of technology and innovation to the wider world. For businesses, increased engagement represents an opportunity to improve management skills and the quality of insight and foresight they have about their businesses and opportunities (Thorpe, 2013). Equally, existing literature emphasises the need for further development in the context of enterprise skills and business experience (Wilson, 2012); the increasing benefits from the business connectivity of Local Enterprise Partnerships (LEPs) are highlighted. As these partnerships mature, there is the opportunity for universities to support the local economy through proactive engagement and increased collaboration with SMEs (Wilson, 2012).

While the benefits are partially recognised, authors such as Bradley et al. (2004) emphasise the need to develop an understanding of the university-business collaboration and potential associated benefits to the SME community. Additionally, it is further agreed that more evidence is needed to determine appropriate levels of financial support for encouraging such collaboration, thus the justification and value associated with studying business-university collaborations, particularly those involving the key small business sector.

Research Findings and Discussion

To further probe and explore key emerging themes relevant to the objectives, this paper utilised a variety of sources. The emergence of key themes derived through analysis has enabled a thorough understanding

of fundamental value adding factors resulting from collaborative project activities. This section highlights perceptions of all three parties regarding learning outcomes, project operations and project deliverables.

Project Modelling

Preliminary analysis of the project journey from the academics, graduate researchers and business client reveals the degree of action learning. Three subsequent models have been developed to explore the relationships of management stage values, learning theories employed and the associated values derived from such a learning framework.

Firstly, a conceptual taxonomy of the sense-making and subsequent learning outcomes resulting in co-creation of value for the three partners is mapped below, see Figure 3. This paper moves on to define and explore the learning methods and map the respective values against project deliverables, see Table 3 and 4.

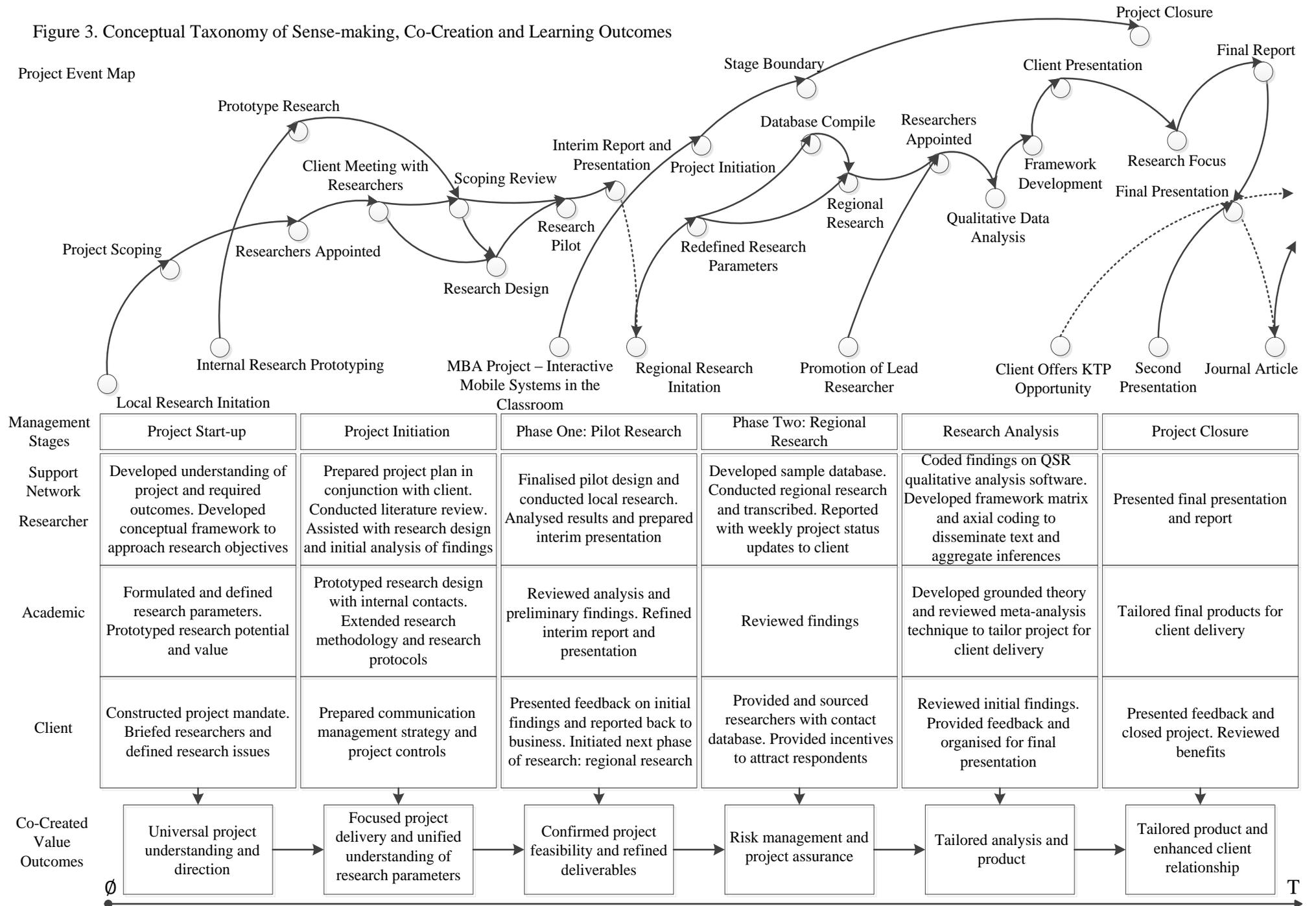Figure 3. Conceptual Taxonomy of Sense-making, Co-Creation and Learning Outcomes

Project Event Map

Project Closure

Final Report

Stage Boundary

Client Presentation

Prototype Research

Database Compile

Researchers Appointed

Research Focus

Client Meeting with Researchers

Interim Report and Presentation

Project Initiation

Framework Development

Final Presentation

Scoping Review

Research Pilot

Regional Research

Qualitative Data Analysis

Project Scoping

Researchers Appointed

Research Design

Redefined Research Parameters

Internal Research Prototyping

MBA Project – Interactive Mobile Systems in the Classroom

Regional Research Initation

Promotion of Lead Researcher

Client Offers KTP Opportunity

Second Presentation

Journal Article

Local Research Initation

Management Stages	Project Start-up	Project Initiation	Phase One: Pilot Research	Phase Two: Regional Research	Research Analysis	Project Closure
Support Network Researcher	Developed understanding of project and required outcomes. Developed conceptual framework to approach research objectives	Prepared project plan in conjunction with client. Conducted literature review. Assisted with research design and initial analysis of findings	Finalised pilot design and conducted local research. Analysed results and prepared interim presentation	Developed sample database. Conducted regional research and transcribed. Reported with weekly project status updates to client	Coded findings on QSR qualitative analysis software. Developed framework matrix and axial coding to disseminate text and aggregate inferences	Presented final presentation and report
Academic	Formulated and defined research parameters. Prototyped research potential and value	Prototyped research design with internal contacts. Extended research methodology and research protocols	Reviewed analysis and preliminary findings. Refined interim report and presentation	Reviewed findings	Developed grounded theory and reviewed meta-analysis technique to tailor project for client delivery	Tailored final products for client delivery
Client	Constructed project mandate. Briefed researchers and defined research issues	Prepared communication management strategy and project controls	Presented feedback on initial findings and reported back to business. Initiated next phase of research: regional research	Provided and sourced researchers with contact database. Provided incentives to attract respondents	Reviewed initial findings. Provided feedback and organised for final presentation	Presented feedback and closed project. Reviewed benefits
Co-Created Value Outcomes	Universal project understanding and direction	Focused project delivery and unified understanding of research parameters	Confirmed project feasibility and refined deliverables	Risk management and project assurance	Tailored analysis and product	Tailored product and enhanced client relationship

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Table 3. Taxonomy of Learning Dimensions

Partner	A priori / Tacit — Knowing-in-Action	Declarative Propositional Knowledge	Action-Present — Reflection-in-Action	Posteriori / Empirical — Reflection-on-Action
Client	· Tacit knowledge of business and restricted market research awareness[t3a]	· Problem recognition[t3g]	· Learning derived from involvement in research process[t3k]	· Value of co-collaboration with local university and business school[t3p] · Improved understanding of markets[t3q]
Academic	· Consultancy and marketing experience[t3b]	· Expert knowledge and experience[t3h] · Research benefits identification and attributed values[t3i]	· Knowledge transfer and pragmatic application of theory[t3l] · The ladder of reflection / convergence of meaning[t3m]	· Applied theory to practice[t3r] · Value of co-collaboration with local SME[t3s] · Mentoring graduates for professional development[t3t]
Graduate	· Fresh perspectives and ideas[t3c] · Operative attention[t3d] · Objective[t3e] · Willing suspension of disbelief[t3f]	· Degree level competencies and skills[t3j]	· Action based learning[t3n] · Reflective Practicum[t3o]	· Transition from curriculum based projects to professional[t3u] · Reinforced and developed research proficiency and theory[t3v]

Table 4. Expected, and Impact(s) Outcomes and Integrated Learning Dimension Matrix

Partner	Expected Outcomes	Actual Outcomes	Impact(s)
Client	· Large research sample[t3a] · End-to-End (E2E) Project exploring only defined variables[t3a] · Indication of current market changes[t3a] · Apprehensive of quality assurance or application. Lack of experience working with BS[t3a] · No experience of research or associated values to business[t3a] · No expectation of informed strategy derived from research[t3a]	· Small but detailed research sample[t3a] · Evolving project methodology that explored inferences and new variables during the project lifecycle[t3b,t3j,t3w,t3h] · Framework for current market changes and integrated associated affects and actions for SME[t3b,t3e,t3g,t3h,t3j,t3l,t3m,t3p,t3r,t3s,t3u,t3v] · High quality and relevant report with strategically active and engaging insights[t3b,t3c,t3d,t3e,t3f,t3g,t3h,t3j,t3l,t3m,t3p,t3q,t3s,t3r,t3t,t3v]	· Relevant and objective strategy for application[t3d,t3e,t3f,t3p,t3q,t3r,t3v] · Confidence working with local BS and graduates[t3h,t3k,t3p] · Opportunity to engage/ have access to university activities, network, and capitalise on associated resources[t3p] · Research and strategy integrated within future marketing activity[t3b,t3e,t3g,t3h,t3j,t3l,t3m,t3p,t3r,t3s,t3u,t3v]
Academic	· Understood value of research and potential for impact[t3b,t3h] · Potential for study to lead into strategy formation[t3b,t3h,t3s] · Limited co-creation[t3b]	· Exceeded expectations of impact on local SME[t3p,t3s] · Integrated and valuable strategy for SME adoption[t3h,t3j,t3r] · Extensive co-creation and collaborative development of project, particularly with graduate researchers[t3c,t3d,t3e,t3f,t3l,t3m,t3t,t3v]	· Readiness to work more collaboratively with graduates and GCU[t3c,t3l,t3t] · KTP opportunities for current students[t3p,t3s,t3t] · Enhanced confidence working with local SMEs in collaboration with graduates[t3p,t3q] · Increased KTP potential[t3p]
Graduate	· Little experience working on commercial projects with real impact(s)[t3c,t3d,t3e,t3f,t3o,t3u] · E2E Project Management structure[t3n]	· ABL opportunities that enhanced understanding of research and application of theory[t3d,t3n,t3o,t3t] · Delivery of strategy with fresh perspective and objectivity[t3c,t3d,t3e,t3f]	· Confidence on applying and adapting theory to practice[t3n,t3t,t3u,t3v] · Delivery of continued values and opportunities beyond project closure[t3l,t3m,t3p,t3q,t3t]

∗ Note: superscripts denote observed values delivered from learning dimensions (Table 3) on expected, actual and impact outcomes (Table 4).

Figure 3 illustrates the co-created value outcomes during the various management stages of the project. The model describes a link between the actionable stages and highlight events and augments the actions of the three parties and the associated co-created values. Therefore, the subsequent value chain denotes the actionable and event driven relationships during the project lifecycle. Table 3 develops the taxonomy of learning dimensions as observed during the research findings and throughout project process. Key distinguishing values are subsequently tagged in order to map the contribution against expected outcomes, actual outcomes and the impacts of each asset; this is shown in Table 4. The matrix illustrates particularly the values of ABL, co-creation, objectivity, use of innate researchers and collaborative activities on project deliverables and outcomes. Equally, internal values are clearly enhanced through extended project benefits, including Knowledge Transfer Partnership (KTP) opportunities, researcher confidence, and the pragmatic benefits associated with live projects.

The series of project events mapped out against each member of the support network allows a clear visualisation of the project process. Aligned collaborative efforts originate co-created value outcomes for each respective management stage as demonstrated in Figure 3. The model justifies the rationale behind approaching activities in a collaborative manner through placing emphasis on the existence of unified benefits, referred to as value outcomes. Integrated elements dynamically sense-make the project process and the direct contributions to observed value outcomes, represented in Table 3. To further expand upon the reasons behind the enhancement of co-created value outcomes, the learning dimension values are mapped against expected and actual project outcomes. It became apparent that perceived value is greatly influenced by the extent of collaborative activity as well as the inclusion of various learning dimensions. Evidence of such is present within Table 4 where actual outcomes and positive impacts are affiliated with multiple learning dimension attributes. These models show clear evidence of the notion of added value to the final project product through co-creation.

University-Business Collaboration

Collaboration is identified as an invaluable asset. Researchers believe that academic and client contribution is especially crucial to project success and personal growth. Academics provide researchers with direction, guidance and support; their role is to oversee the project and provide technical assistance if required. During the project researchers worked closely with a highly qualified and experienced academic who demonstrated excellent commercial supervision and team mentoring. In turn researchers were able to pick up valuable knowledge and apply enhanced informed decisions. Equally, researchers innately delivered objectivity and operative attention, consequently contributing a fresh, neutral and innovative perspective during collaborative discussions on project duration and strategy formation. The client enriched this co-creative environment by supplementing further guidance, which was mainly associated with project scoping and research direction. Client involvement throughout the project confirms project assurance and augments chances for project success; delivery confidence is therefore enhanced for all parties involved. Regular communication between the client and lead researcher was maintained throughout the duration of the project. Researchers were able to obtain an understanding of client views and manage expectations to deliver high value outcomes whilst taking an objective approach to the project. Collaborative activity endorsed project variety and accuracy. Furthermore, clearly defined roles empowered smooth project stage advancements.

Researcher comments:

> 'The challenge resides within the evolving project/action research setting however it is overcome through the exciting interaction. Knowledge transfer, relationship building and the mutual commitment to achieve excellence ultimately creates a rewarding project agenda.'

Researchers agreed that all members involved with project collaboration played a substantial part in project advancement. Each member provided a unique contribution and therefore there was no single most important contributor – all parties are considered equally as important. Academic and client inputs are usually based on experience or cognitive models built over time to sense-make situations; this provides major advantages as they are able to relate situations to prior events and can therefore interpret an issue/topic in light of another. Taking advantage of such methods ensures fast, informed and legitimate application. Researchers recognise that experience is central and worth expanding upon but also believe there is room for advancement. As newcomers, researchers have capabilities to influence change or bring a

new perspective not necessarily bound by the constraints of the past or embedded routines that may prevent deviation from previous practice, therefore through collaborative activity the project can benefit from diversity of ideas and approaches (Johnson et al., 2011 p. 464-474).

Learning: ABL, Reflective Practice and WBL

Researchers described the project approach as a 'hands on experience' which encourages the application of theory into practice. Projects embody a process of blended learning practice, combining ABL, reflective practice and WBL through exposure to live projects. The Lead Researcher and supporting staff confirmed substantial enhancements to personal and professional development. Areas specifically mentioned include augmentation of project management, communication and multitasking skills; all of which are beneficial for constructive project advancements.

Learning was identified as a key theme. It is a continuous process throughout the project lifecycle through which all parties benefit. Researchers acknowledged the presence of reflective learning made possible via advancing through the various project stages through unique and unfamiliar tasks. The findings suggest that they recognised the importance of ABL and WBL which are in most cases, fairly new practical learning methods to most graduate researchers. The use of reflection-in-action and reflection-on-action was also integrated into the project.

Researcher comments:

> 'Blended learning enabled vast transformations to existing capabilities. Researchers highly appreciate such a work setting where collaborative learning is made possible through many ways. We truly perceive a huge boost in personal attributes specifically with regards to competence and knowledge.'

Researchers found the combination of such methods highly significant to personal development. They had access to learning through work (ABL) described by researchers as 'learning by doing', learning at work (WBL) which relates to researcher involvement with onsite work training and learning from work which uses experience as a base for learning through reflection-on-action. This arrangement facilitates the generation of competent individuals who will in turn exercise their advanced skills in future projects. Associated benefits became apparent through project stage successes. It became evident that researchers in particular acknowledged a development in their ability to apply attained knowledge, capabilities and competences to new contexts and develop solutions to complex problems combining theory and practice. The method from which learning is generated is explained particularly well through Vygotsky's theory of social-constructivism.

Vygotsky's theory (1962) of socio-constructivism refers to the collaborative context of learning wherein knowledge is generated through social intercourse. The theory involves three key theories: social interaction, More Knowledgeable Other (MKO) and the Zone of Proximal Development (ZPD) (UCSE, 2013). Learning within a social atmosphere is bound to grant access to knowledge from a MKO. This combination is believed to have an enriching and accelerating effect on the learning process. The manner by which this is intended to add value to an individual is demonstrated in Figure 4.
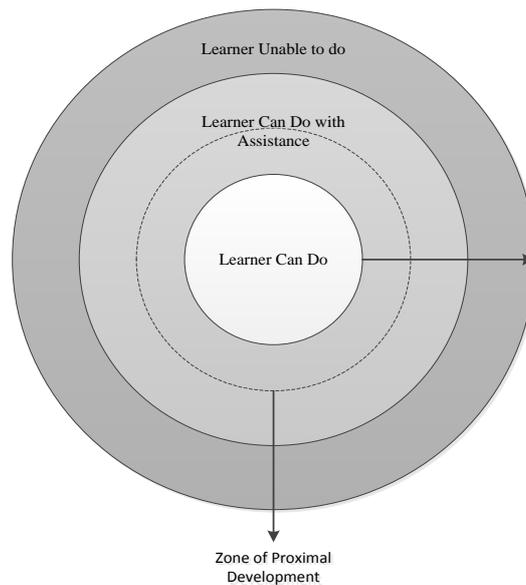
Figure 4. Zone of Proximal Development

Figure 4 visually illustrates and identifies the ZPD (the feasible area where learning takes place) which signifies potential for personal development within. The theory implies that through socio-constructivism, an individual is able to accumulate advances to their current levels of abilities and knowledge in order to expand the 'learner can do' zone. The academic environment is grounded in theories of socio-constructivism; implementation includes encouragement of discussion based learning and teamwork. This type of learning usually takes place through learning dialogue and active engagement; it promotes retention and in depth processing associated with cognitive manipulation of events. This theory was examined outside the academic environment into a practical working environment. Observably, opportunities for enhanced personal gains are derived from the ZPD. In this case, the model can be used to emphasise the benefits of collaborative learning in practical settings as increased exposure to the ZPD results in an extension of abilities and gradually a decrease of inabilities. As such, all parties involved in the project process, benefit. Individual benefits are largely present amongst graduate researchers as they have most exposure to the ZPD thus greater access to development opportunities. Alternatively, the academic and client realised enhanced understanding and appreciation for the respective activities rather than an intensive expansion of 'learner can do'. Effectively, values are extracted through collaborative activities and multiple interactions throughout the project duration.

Project Process Analysis

During the project delivery stage the client expressed the desire to collaborate further; this was intended to retrieve optimum results. The client did so by thoroughly engaging with the presentation through conversing, questioning and inputting additional information. It was made evident that the client recognised the value of collaborative activity and was therefore keen to continue exercising it. The academic's involvement was regular throughout the project, but would peak at the important milestones of the project; for example, initial project scoping, and delivery of interim and final reports. The academic was particularly motivated by the opportunity to solicit further projects for the school's postgraduate module on enterprise.

Academic's comments:

> "It's a win-win for me, it's helping my graduate students with further action-based learning opportunities, and there are research opportunities in studying this businesses approach to new markets."

The project was considered successful; all parties were highly satisfied and all goals were met and exceeded. Researchers believe that the extent to which success is achieved is greatly determined by the level of collaborative activity. They stated that the collaboration between the researchers, academics and client allowed the establishments of clear common goals which directly contributed to the project's success. Inputs from all parties are considered crucial for boosting content and quality. The end product highlights the benefits associated with having a framework which allows collaboration between all parties involved with the project. By capitalising on each parties' skills, competences and resources, the GCU project maximised output potential. Collaborative activity benefitted the GCU greatly. Identified benefits include: an integrated and coordinated project approach, information sharing and knowledge enhancement, clarity on best practice, risk sharing, and capacity to replicate success and apply attained transferable skills and value for money. Furthermore, collaborative activity derived excellent relationships, compatible cultures or an understanding of different organisational cultures, clear agreed mutual benefits and experience of change management, quality management, resource management and leadership.

Value Network Analysis (VNA)

Figure 5. Value Network
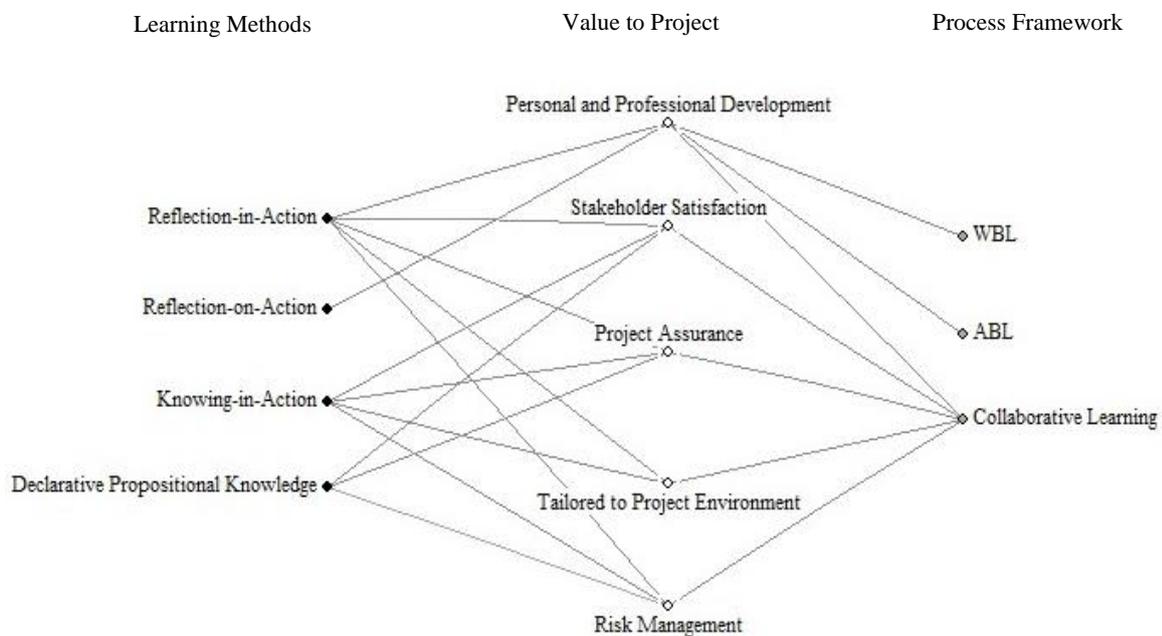
The VNA is employed as a diagnostic tool to assist a visual revelation of observed keys to value creation. Figure 6. illustrates the emerging value network contributing to project results. It focuses on the key activities currently cutting across the project framework. Nodes placed on both the far left and right of the model represent the embedded learning dimensions and the content of the process framework; these are matched towards their project value contributions. It is evident that the values derived through learning methods and the process framework categories are not mutually exclusive; almost every associated node contributes to multiple values. This suggests that the project, the process and all involved parties extract the appropriate combination of value adding factors to enrich the overall outcome. As such, the content caters to multiple requirements forming a 'win-win' scenario. The cross functional nature of the project content arguably derives an obvious, multi-purpose, mutual advantage.

Conclusions

Literature identifies the benefits of co-creation and highlights the growing significance of BS and SME collaboration (Young, 2013; Wilson, 2012; Thorpe, 2013). This study supports such claims and is unique in showcasing an in-depth case study of a live research project. Furthermore, current dialog fails to highlight and map the distinctive values that are derived from the collaborative process, particularly the impact such processes have on stakeholder learning and professional development.

The major implications of this research are twofold;

i. Exploiting university-business collaborative practice appears to have a constructive and multifaceted impact on all parties involved delivering an extended value chain in terms of project deliverables and learning (see Figure 3). Such benefits are internally and externally recognised and are demonstrated in Table 4; the project team identified enhanced professional development, learning and project value. Equally, collaboration between experienced individuals and innate graduate researchers enriches the project experience by enabling capitalisation of shared skills, competences and resources. While SMEs gain competitive advantage and graduates enhance their employability, the local business ecosystem is immersed with competitiveness, growth, innovation and knowledge transfer.

ii. The learning environment proved to be a prevailing value-adding factor throughout the process; combining ABL, reflective practice and WBL within an action research setting. Critical assessments taking place through reflective thinking allow application of solutions to complex problems, combining theory and practice to vocational situations. Arguably for the graduates, such learning methods may not have been as effective with university curriculum based activities due to the exclusion of such a project environment.

Table 5. Internal and External Benefits of Collaborative Research Projects

	Internal Benefits	External Benefits
Graduate	· Portfolio building · Application of theory to practice · Personal development · Research skills · Knowledge transfer from MKO · Live project engagement · Networking opportunities	· Prepared graduates with work-based experience · Enhanced graduate workforce skills
Micro-Small Business	· Reduced risk for R&I projects · Flexible, effective service · Expert consultancy delivered at cost effective price · Risk sharing/reduction · Enhanced internal capabilities · Specialist consultancy and research · Access to specialist research knowledge · Knowledge transfer engagement	· Stronger micro-small business sector · Reduced risk for R&I projects · Stimulate micro-small business growth · Contribute towards stimulating economic recovery · Enhanced collaboration and partnerships with universities · Enhanced national innovation ecosystem; providing competitiveness within globalised markets
Academic	· Promote university research excellence · New ideas for the classroom · Improved reputation and market awareness · Develop professional network · New opportunities for institution, staff and students	· Demonstration of research impact · Stronger links with industry · Industry awareness and focused UK HE sector

Collaborative engagement activities between universities and the local business community not only provides a platform to tackle contemporary issues regarding graduate employment, economic challenges, vehicle to stimulate the national innovation ecosystem and foster competitiveness in globalised markets, but as a means to deliver prodigious learning potential for the key stakeholders. The benefits of adopting such a model delivers beyond simply challenging contemporary issues, it compliments university agenda, graduate development and university-business partnerships.

Clearly, adopting a framework encouraging co-creation and local business engagement presents clear values to the researchers, academics, institution and local business community. Successful adaptation of this framework would undoubtedly provide key strides towards resolving some of the contemporary issues presently facing small businesses, universities and graduates. Businesses are provided with affordable specialist help, universities can successfully share their expertise, and graduates are delivered with a breadth of skills and experience which are crucial within this current economic climate. However, the model presents challenges, particularly regarding the arguably antithesis agenda of the two key stakeholders; the attitude and focus of universities and small businesses. Small businesses arguably concentrate on short-term and largely pragmatic approach to activities; universities arguably focus on long term agenda with a theoretical/strategic effort. The conflict of interests potentially acts as an engagement barrier and could cause unease with regards to protection of integrity; benefits may not be realised through all collaborative projects especially small projects which may fail to contribute obvious rewards. Furthermore, the availability of talent and quality of research is arguably a key selling point; however this resource-intensive collaborative activity is evidently presenting challenges which may be contributing to the lack of countrywide participation, for instance, low propensity to risk, lack of resources and insufficient government support.

The collaborative project framework relies on academic drive and local SME willingness. Increased efforts to promote, develop, incentivise and support this activity would potentially contribute to a universal understanding of the process, introduce a cohesive collaborative vision, promote trust, clarity, transparency and the associated beneficial remunerations.

Low figures in professional graduate employment still persist, however by embracing the formation of dedicated research units, effective opportunities are available for young graduates seeking work in a professional capacity. Businesses are provided with affordable specialist help, universities can successfully share their expertise while graduates are provided with the necessary breadth of skills and experience which is so crucial within this current economic climate.

Dedicated graduate research units within universities are still relatively low and increasing interest from universities, businesses and students provides impetus for such activities. This paper concludes with the notion that rather than these activities contributing marginally to university and faculty agenda, they should instead take centre stage.

Acknowledgements

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