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SOCIAL VENTURING IN THE SOCIAL SCIENCES

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INTRODUCTION

Business venturing is often promoted as a desirable mechanism for transferring knowledge from research-intensive universities to the private sector for commercialisation (Czarnitzki et al. 2014). We understand business venturing in this context as the set of entrepreneurial activities leading to the creation of science-based ventures and spin-off companies, i.e. ventures that aim to exploit newly created knowledge for the delivery of value in certain markets or market-based activities. Yet, universities face difficulties in fostering business venturing and creating spin-offs, particularly from social science research. While mechanisms for knowledge transfer and commercialisation are well-established across STEM disciplines, relying mostly on mechanisms of intellectual property protection (e.g. patents, licensing), processes and practices are less clear when it comes to the creation of social science ventures - those whose product or service is based on social science research. Business venturing for social scientists remains elusive despite offering new and bold opportunities for scholarly impact (Fellingham, 2020).

This white paper seeks to address this issue. We propose a framework to scale up the impact of social science research. The framework is grounded in Prospective Inquiry and Social Venturing, leveraging the generative power of social science knowledge and the motivation behind social enterprising. Combined, Prospective Inquiry and Social Venturing can give the research efforts of social scientists the necessary intentionality and direction to produce scalable research impact, as it is embedded into the research process itself and the daily practices of social scientists. This allows for a departure from the still-dominant STEM-based models and has the potential to become a pathway to research impact in the social sciences, what we call impact-in-process.

Through our framework, we offer social science researchers a way to bring research impact and business prospection together and early into the core of the research process. We also offer university-based research and innovation services a way to open new opportunity spaces for social science research, leveraging its transformative potential whilst overcoming the limitations of the STEM-based commercialisation models. Finally, we offer external stakeholders interested in science-based spin-offs (e.g., business incubators, investors, business development agencies) a way to engage with social science researchers and better assess the transformative potential of social science knowledge.

CHALLENGES TO BUSINESS VENTURING IN THE SOCIAL SCIENCES

There are many complex challenges in the commercialisation of social science knowledge, stemming from its differences with prevailing STEM commercialisation models, institutional and discipline-specific rules and incentives, and its very own distinctive features and language. In the following, we will offer an overview of three widespread challenges.

Theory-practice gap and the challenging world of applied social science

Across the social sciences, there is a growing disconnect between the worlds of theory and practice, matched with concerns about the problems that stem from such a disconnect, which renders academic research not attuned with practice. In response, we have seen a surge in impact agendas (Smith et al., 2020), commitment to stakeholder engagement as part of funding applications (e.g., impact statements for NSF and ESRC), calls to increase the weight given to practical impact when assessing scholarly contributions (Haley et al., 2017), and expressions of commitment to responsible research.

This tension between theory and practice and the related challenge of balancing it is certainly not new. It has been experienced by the social sciences many times over the last century, with differing results. Auguste Comte's attempt to understand and guide social change divided sociology into basic research and social interventionism (Perlstadt et al. 2004), with the latter comprising researchers actively enforcing social change. This led to the formation of fields such as applied sociology and social work, where applied researchers began to play a translational role in between theory and social change. Applied sociology uses sociological knowledge to deal with problems as defined by specific interest groups, rather than the researcher (Steele & Price 2007). Sociological theories are used to not only understand but also intervene and enhance social life.

Social work research is part of applied sociology as an advocacy-driven field designed to connect individuals or groups of people with the resources to solve or address problems in their lives. Sociology, applied sociology, and social work all deal with the ways humans think and behave, yet they do it in different ways. While sociologists study them from a theoretical perspective, applied sociologists and social workers confront and cope with real-world people and problems. Most recently, new forms of applied sociology have emerged including social engineering and public sociology. Social engineering is used in social planning to know how to evaluate the problems of a given social structure, and how to break down the structures that are not working well (Turner, 1998). Whereas public sociology uses sociological theories to engage 'lay' audiences to stimulate informed public dialogue.

Clinical psychology emerged from the research of the new science of psychology in the early 1900s (Benjamin, 2005). The science of psychology began to flourish in response to informal and uncertified therapeutic practices, dominated in the 1800s by spiritualists, seers, psychics, mediums, and mental healers. It sought to improve the assessment, diagnosis, and treatment of mental illness, mimicking biomedical sciences and the work of psychiatrists. With science improving, psychology began to gradually detach itself from the mental illnesses they were trying to solve. In 1897, Witmer urged the audience of academic colleagues at the APA conference to use their psychology to "throw light upon the problems that confront humanity" (p.116). In 1907, Witmer launched The Psychological Clinic, a journal for publishing case studies with descriptions of how psychological problems were being solved through applied research. From then on, clinical psychologists have been battling – quite successfully – psychotherapists and psychiatrists, showing that they can do PhD-level work both in psychological treatments and clinical trials research (Benjamin, 2005).

The field of anthropology went through a similar expansion (Santee, 2011). The field experienced an increase in the application of anthropology theories in the 1940s, mostly in response to the social problems emerging in the early years of the Cold War and the decolonization process in the British Empire. The Society for Applied Anthropology[i] was formed in 1941 with the aim of solving real-world problems by using anthropological methods and ideas. Applied anthropology research in the 1950s was marginalized by theory-focused academics, but it grew as a sub-discipline along with a growingly complex world facing problems that anthropology theory, by itself, was unable to resolve. It then moved into community development and action anthropology to be able to engage and decisively solve problems whilst learning something in the process.

[i] https://www.appliedanthro.org

History science was also extended in the early 1900s, in an effort to use the scientific knowledge of history and experience to solve present problems of human betterment (Shambaugh, 2012). Applied history reappeared in the late 1980s[i], with well-known applied historians using historical reasoning to clarify public and private challenges and choices. In 1998, the Journal of Applied History[ii] was launched "for historians to bring the results of their historical research to bear on the present, on the issues that (should) concern us today."

This movement is certainly encouraging, as it could (1) solve the relevance problem and (2) begin to bridge the research-practice gap and enable venturing in the social sciences. Yet, it seems unable to find grip across fields that prioritize and incentivize theoretical development and methodological refinement over application. Though promising, applied social sciences and action research tend to downplay the role of theory (Cooperrider, 2021), which might diminish the possibility of producing interesting research outputs, threatening the aspirations and chances of researchers to climb up the academic ladder.

No distinct infrastructure

The second challenge stems from the dominance of STEM-based models, which have constructed a commercialisation infrastructure around something elusive to the social sciences: intellectual property that can be 'owned and protected'. We know that all sciences cannot be treated equally, yet commercialisation infrastructure is yet to consider the uniqueness of what social sciences do and how social scientists work.

STEM disciplines are high-consensus, rapid-discovery sciences. There is a broad agreement on theoretical foundations, and the focus is placed on methodological innovation and testing of solutions (Collins, 1994). "High consensus results because there is higher social prestige in moving ahead to new research discoveries than by continuing to dispute the interpretation of older discoveries." (p.155). The opposite occurs in the social sciences, which are characterized by low consensus and continuous theoretical disputes. This places the emphasis on theoretical development, which slows down discovery, testing and solution development. The challenge is augmented by a review process that is meant to assess and make robust research available for it to be transferable. Low consensus and slow discovery science turns review processes into long theoretical negotiations to agree on the validity of claims of theoretical value.

[i] https://www.belfercenter.org/project/applied-history-project
[ii] https://brill.com/view/journals/joah/joah-overview.xml

This leads to three problems: relevance, timeliness and value. First, the theoretical value contained in academic outputs rarely aligns with the practical utility sought by external audiences. In the case of business school academics, for example, it is argued that they are spending far too much time writing and reviewing journal articles that do not pursue meaningful real-world effects (Haley & Jack, 2023). Second, while publishing has become faster in the last ten years, mostly due to the rapid transition to online publishing, social sciences remain slow, mostly due to the above, with review processes averaging from 210 to 330 days, and no notable acceleration (Petrou, 2022). Not surprisingly, peer review is seen as a failed experiment that neither improves scientific rigour nor prevents bad research from being published (Mastroianni, 2022). This is problematic if the aim is to make social science knowledge available to tackle current issues. Finally, the assessment of the value of social science knowledge tends to rely on the appreciation of theoretical contribution, which tests the correspondence to observable facts and the explanatory power of propositional statements. To meet such aspirations, researchers need to investigate the past and search for observable facts of the world as is. Yet, the process of discovering and crafting solutions is forward-looking, and they emerge through the creation of new facts for a world that is ought to be.

Ideas, language and the purpose of social science

Battle of ideas in the social sciences. Social science operates at the level of meaning and meaning is entwined with language and the social practices underpinning it. Because there is no unifying language in the social sciences, there are particular difficulties in mixing ideas with other domains. This, we argue, has two components: incremental relabelling and atomization. Since social sciences are characterized by low consensus, attention is placed on updating explanation of social phenomena. The problem is that the pace of social science is faster than the pace of changes in social life, which leads to continuous reframing and incremental relabelling: a battle of ideas. This complication is amplified by the atomization of scientific domains, which multiplies the relabelling effect.

The growth of social sciences and the institutionalization of academia led to research specialization and silos. Social sciences thus operate through micro-communities where academics craft narrow and precise explanations of equally narrow phenomena. As a result, academics grow within niche academic spaces, through the skilful use of a specialized set of theories and methods. However, problems of practice are idiosyncratic and complex, any solution will require a deep appreciation of context and a combination of bodies of knowledge.

It is challenging for academics who have built expertise, legitimacy, and reputation within a niche academic space to cross disciplines to jointly tackle complex real-life problems. Neither are they well-prepared to translate, adapt, pivot facing market demands. This leads to a second (dual) problem of language and meaning.

Language and meaning. Across the social sciences, the particular contexts of practice have unique problems, norms and language and thus require the adjustment of the knowledge expressed in the purified language of general theory. Issues with academic silos, battles of ideas and language constrain such adjustment. This leads to two problems of language and meaning: across social sciences and between research and practice.

First, unlike biomedical sciences (e.g. biochemistry and molecular biology) across the social sciences we do not have a unifying set of basic components of social life - i.e., the social equivalent of genes, proteins, molecules, and cells in biomedical sciences - nor a common language to talk about them across sub-disciplines and research practices. Social processes and human behaviour not only manifest differently across contexts but they can (and likely will) look differently depending on the perspective of the observer, who approaches social phenomena carrying heavy disciplinary and theoretical bags. The language we use to talk about and give meaning to ideas across social sciences differs. How psychologists observe, measure, and explain legitimacy, for example, is different from how an organizational theorist or an economic geographer would treat the same concept. The broader idea here is what Wittgenstein (1958) famously described as language-game, which is the interweaving of language with a particular way of life. He argued that it is only in the context of a specific language-game that words and gestures have specific meaning.

Second, separating theory and practice means that the gap-contribution language of theory cannot be easily matched with the problem-solution language of practice (Watts, 2017). This apparently fundamental distinction in language has implications for our understanding of what research and practice are supposed to pursue. Although a good theory should have both originality and utility (Corley & Gioia, 2011), the distinction in language marks a distinction in the utility that theoretical and practical knowledge provide. These reflect different questions to be answered, separating the domains further and triggering a tension between the ‘epistemic utilities’ of truth and information and the ‘practical utilities’ of simplicity and manageability to generate instrumental value for human activity (Niiniluoto, 1983).

This means that in trying to bridge the gap, we try to balance the theoretical statements of facts and relationships that comprise theories with the technical norms of relationships between means and ends that provide the guides for action necessary in practice. They always seem to be at odds with each other, because, as things stand, practical problems appear to be too idiosyncratic to be theoretically interesting, and theoretical solutions appear to be too generic to be practically meaningful. Under such an understanding, it appears that epistemic and practical utilities are impossible to reconcile, which is not particularly conducive to building meaningful connections between researchers and practitioners.

Three questions emerge from these three challenges, which we argue need to be taken into consideration in the development of new models for venturing in the social sciences.

Challenge	Question
Theory-practice gap and the challenging world of applied social science	**How can we solve the relevance problem, bridge the gap, and enable venturing whilst leveraging social scientists' research skills, theoretical knowledge, and passion to ignite positive change?**
No distinct infrastructure	**How can we facilitate business venturing in situations where there is little agreement on theoretical foundations, less emphasis on discovery, testing and solution development, and knowledge cannot be owned and protected?**
Ideas, language and the purpose of social science	**How can we open a pathway for venturing in the social sciences without losing what is special and unique about it: its ideas, language and the purpose?**

Table 1. Questions requiring special consideration

THE DISTINCTIVENESS OF SOCIAL SCIENCES

To deal with the distinct challenges for venturing in the social sciences – particularly in contrast to STEM sciences – it is helpful to appreciate the distinct nature of the knowledge that social science creates. Social science is concerned with social facts. Such facts are grounded in the intentionality of a human collective. As such, they stand on "brute" facts, i.e. those that exist independently of human institutions (Searle, 1995) and are typically the focus of STEM research. Social and brute facts have different ontologies or modes of existence. Social facts involve the assignment of function to brute facts from the outside, by users or observers, and this implies that what the function designates – that is, meaning – is not part of the physics of the brute phenomenon. Therefore, social facts are ontologically subjective because they involve not intrinsic but observer-relative features. The objective nature of social facts – e.g. money – arises from the agreement or consensus of a particular community to treat them as such. In contrast, brute facts are ontologically objective. Their objectivity is inherent in their physics.

The main implication of this is that the knowledge created by social sciences – i.e., certain theoretical accounts of social facts – cannot be separated from the institutional context that grants such facts their objective status. In this sense, social science knowledge is contextually and historically situated. Therefore, the use of social science knowledge requires significant institutional groundwork for its application. Unlike a technical invention that can be deployed without dependence on human practices, a social invention can be utilised only in certain compatible institutional conditions. Ultimately, the impact of social science lies in its ability to provide new language to enable dialogue and reflection on current practices and the envisioning of future possibilities. In this lies its generative potential. This is unique to social science, where knowledge outputs can be used as both an interpretative and creative element. Social science outputs can not only explain social life but also have the capacity to change it.

At the core of its capacity to contextualise knowledge and change life, there are three unique features: co-creation, transformation and generation.

Social science knowledge can be uniquely co-created, whereby "researchers and the practitioners can frame and solve problems where their interests intersect" (Mohrman et al. 2008: 616–617). Co-creation is a goal-oriented form of dynamic interaction to facilitate research-practice collaboration (Pulkkinen & Hautamäki, 2019). Instead of transferring knowledge from research to practice, co-creation allows researchers and practitioners to form a learning community and jointly produce knowledge (Van de Ven & Johnson, 2006), capable of combining the language of relationships of theory with the language of operating principles of practice (Sharma et al. 2022). This entails aligning interests, theories, and practices to find a theory-practice combination that can directly address social issues and improve life circumstances. In turn, effective collaboration can strengthen research, deal with relevance in knowledge production and thus help bridge the research-practice gap.

Social science knowledge can be transformed. Social processes and human behaviour not only manifest differently across contexts but they can (and likely will) look differently depending on the perspective of the observer, who approaches social phenomena carrying heavy disciplinary and theoretical bags. The particular contexts of practice have unique problems, norms and language, which opens opportunities for the adjustment of social science knowledge. To do so, we can leverage what seems to be a disadvantage when compared to STEM disciplines: the fact that social sciences have no unifying language to delineate the basic components of social life (the social equivalent of genes, proteins, molecules, cells in biomedical sciences) nor a common language to talk about them across sub-disciplines and research practices. Unlike STEM language, social science language is adjacent to natural language and can change with changes in how society talks. For social scientists, it is easier to embrace contextualisation and perspectivism, and societal change in general, which allow them to better understand and frame social problems and the knowledge social scientists produce can be better adapted to alternative problem spaces.

Social science knowledge can change and create future realities. The theories resulting from social science inquiry have interpretative and creative power. They can explain the world as is, but also help us construct the world we aspire to see, through disciplined imagination. Social science can deal with and produce knowledge around natural phenomena, where the world is taken for granted. It can also deal with and produce knowledge around artificial phenomena, through which social inquiry can construct future possibilities at the interface between (human) goals and the constraints of the world. Most of our work centres its attention on the former, yet social scientists can build also create and evaluate mental representations of possible futures (Gilbert & Wilson, 2007) in a way that catalyses changes in the present (Laszlo, 2021) and guides action towards desirable ends.

As we imagine the future, social science knowledge has the generative capacity to turn something ideal into real, where social scientists can be instrumental for creating the world they later discover. They have the “capacity to challenge prevailing assumptions regarding the nature of social life and to offer alternatives to contemporary patterns of conduct” (Gergen, 1978: 1344). This is unique to social life and social science, where the knowledge outputs can be used as both an interpretative and creative element.

In physics, for example, however refined a theory of the trajectory of the moon might be, it has no power to change its course. Social theory has the capacity to change social life. The concepts that social sciences create represent powerful tools for seeing the social world in a different light or imagining it differently, as a means for energising collective action.

A RECONSIDERATION OF VENTURING: REALISATION AND SOCIAL ORIENTATION

To open a way forward for business venturing in the social sciences, we need to reconsider the 'what' and 'how' of business venturing in this context.

First, business venturing needs to be seen as the realisation of social science knowledge. Here, knowledge can be constructed in academia and realised outside of it through venturing. This is central given the purpose of social science research. Business venturing, in that sense, is not to be treated as selling knowledge for profit, but rather as the process through which social science knowledge becomes material outside academia, expressed in knowledge artefacts. When the 'what' (realisation instead of commercialisation) is not seen as evil, it is easier to think about and engage with the how (venturing).

Second, social-oriented venturing ought to be considered as the most adequate vehicle to realisation and can operate as a conduit to scale up research impact. "Commercialization is an ugly word. Academically, the notion of producing and selling for a profit is the antithesis of the cherished ideal of disinterested devotion to learning" (Geiger, 2004: 389). This is a constant issue in conversations about the contribution of social science knowledge. Social science is the scientific study of human beings, and the realisation of outputs has the natural tendency to focus on the betterment of the human condition.

Since the functioning of commercial engines is contingent upon the nature of what is being realised, the purpose of a social science venture can only be to develop science-based business solutions that directly address social issues. Put differently, a social science-based social venture is the best vehicle to develop a commercial engine to realise social science knowledge without losing its purpose.

Social venture is then the de-facto model for scaling up the impact of social science knowledge. Recent experiences in science-based incubation processes reinforce this point. While in a traditional incubation programme less than 10% of the ventures would become a social venture, evidence from social science incubation shows that over half of social science ventures will also be social ventures.

In table 2 below, we position social science-based social venturing, in contrast to the range of possibilities for the dissemination and realisation of social science knowledge, with and without (positive) changes in human condition.

	No change in human condition	**Change in human condition**
Scaling up realised social science knowledge	**Commercial services**	**Social science-based social venturing**
Realisation of social science knowledge	**Dissemination**	**Impact case**
Social science knowledge	**Scientific publication**	**Third-party use**

Table 2. Avenues for the realisation of social science knowledge

SOCIAL SCIENCE VENTURING ON THE GROUND

Social science venturing is difficult to visualise for most academics, particularly when commercialisation is seen as evil and most of what counts as 'spinning out' happens after our "science" is out in the form of a scientific publication.

So, what does venturing in the social sciences look like?

In the same way, realisation and social orientation open an opportunity space for social scientists, by changing the 'what' and 'how' of business venturing in this context, stories of social scientists spinning out might increase the appetite for more or at least provoke social scientists' curiosity. In the following, we offer three exemplary cases of social science spin-offs. The processes they have followed are far from conventional under a STEM commercialisation logic, which helps understand the complexities involved but also appreciate how distinct these initiatives can be and visualise their potential to realise social science knowledge and scale up research impact.

Fun Academy is bringing the benefits of the world-leading Finnish school education system to a global audience. Emerging from the University of Helsinki and Rovio Entertainment, its focus is on early years education, providing products and training to early years professionals and now parents. Fun Academy differs from other commercialisation cases in three interesting ways. The collaborative nature of academic and entrepreneurial expertise creates a multi-functional team from the outset, resulting in a global mindset on foundation and a clear route to market. This route to market appears to be strategic rather than opportunistic, taking advantage of the B2B route to build confidence in a B2C approach. Crunchbase details Fun Academy's main investors as being Chinese-based VC funds, who not only have provided capital for the company to grow, but also provided opportunities for the company to access the Chinese market. Accessing this strategic partner-type VC has accelerated their growth in ways that pure financial investment could not.

MammalWeb. As a spin-out from Durham University, MammalWeb is a "citizen science" platform intended to collate, validate and curate camera trap data that can inform us about the distribution and ecology of mammals. MammalWeb became a spin-out company in order to overcome what were viewed as IT constraints within a University setting and as such is incorporated as a non-profit organisation. In MammalWeb's case, the multi-disciplinary team came from within the University, bringing all the skills required to build a successful organisation. As a non-profit, it received project-based funding, typically from public sector organisations. The organisation has grown internationally, bringing the number of projects to c.250 across Europe and the Middle East.

Sophia Oxford is an early example of research and social policy commercialisation from the University of Oxford. Initially formed in 2007 as the not-for-profit partner of the Oxford Poverty and Human Development Initiative (OPHI), it recently announced the creation of a Social Venture, Wise Responder Inc (in the USA) to bring the internationally recognised "multidimensional poverty index" (MPI) methodology to financial institutions, investors, and corporates. For some researchers, commercialisation in the arena of social policy can seem counter to the research ethos. But Sophia demonstrates that judicious selection of clients and diversification of revenue streams can overcome the inherent contradiction and allow research outputs to achieve a wider audience via the translation of research outputs into a compelling product. In Sophia Oxford's case, this has taken 15 years to synthesise and translate internationally.

There are several elements these cases have in common. First, venturing is taken as an extension of research, not as a distraction from it. In SOPHIA, commercialisation activity has been viewed as supporting research rather than being driven as an activity in and of itself. This means that the necessary focus and energy could not be devoted to growing the business, unless there is an external trigger or relationship formed on the basis of trust.

Second, research-practice collaboration is in place from the outset. The process of writing a shared vision is critical across cases. At MammalWeb, a shared understanding of what was needed to do to get where the company wanted to go has been crucial to the progress of the company.

Third, retaining social orientation is central. At MammalWeb, a cross-discipline team worked together to elevate an idea into a powerful concept for a spin-out company, and in fact derive value in areas which may not have been the primary driver i.e., via non-profit corporate structures. SOPHIA shows that the tension arising between social sciences research and the profit objective can indeed be overcome in a way which creates ongoing impact and is respectful of the original objectives of the research.

Finally, social science venturing can benefit from leveraging institutional reputation and embracing unconventional go-to-market and growth strategies. Despite their success, Fun Academy, SOPHIA and MammalWeb continue to leverage the research strengths and reputation of the Universities of Helsinki, Oxford and Durham. In the former, building a brand upon Helsinki-enabled business-to-business relationships which reduced the energy needed to launch a final consumer proposition. In the latter, so much of a start-up is around building a strong and compelling narrative, until there is sufficient traction and evidence to support such a narrative.

Research impact via commercialisation can use innovative go-to-market strategies. At Fun Academy, dedicated leadership who are focused on achieving a global deployment has achieved a level of success which is not seen by companies with a more organic growth model. Leveraging diplomatic channels and governmental links expedited business development where there is no real home market. Strategic equity investment facilitated country entry into markets such as China.

A FRAMEWORK TO ADVANCE SOCIAL VENTURING IN THE SOCIAL SCIENCES

To move towards the upper right quadrant in Table 2, we propose a new framework to scale up the impact of social science research. The framework is grounded in Prospective Inquiry and Social Venturing, leveraging the generative power of social science knowledge and the motivation and models underpinning social enterprising.

Prospective Inquiry involves the collective generation, enactment, and evaluation of alternatives to the present, as theories for the future. Here, theories can be used in a generative sense, which involves theorization FOR a world that is to be constructed in accordance with the theory as chosen, with theory gaining generative power. Prospective Inquiry allows us to align the focus of social sciences on explanation and theory development with the needs and future orientation of practice. This requires a move to place more emphasis on solving practical problems, of the sort that outsiders would recognise. This move involves a consideration of use-inspired research that advances our fundamental understanding of human life. Such a move does not see trade-offs between the pursuit of fundamental knowledge and practical applications. It rather embraces both simultaneously, treating them as complements, not as substitutes where one necessarily drives out the other.

A focus on problems and solutions presents several advantages for social venturing in the social sciences. First, if knowledge works in the real world, we can address credibility and replicability issues, promote multi-disciplinary research efforts, attract investment, and encourage more ambitious research designs. From a venturing point of view, a focus on complex problems in areas of interest for social science research, e.g. health, education, inequality, sustainability, opens at the same time an array of business opportunities.

From here, we can broadly frame research as intervention since solution-oriented social science focus on the generation of new facts (to solve problems). This is different from scholarship as explanation that focuses on the organisation of existing facts. Both are goal-directed activities, with the goal being, in the latter, the derivation of a conceptual model and, in the former, the envisioning of change in the world.

Focusing on solutions to practical problems is not intuitive to social scientists. The skills needed to identify and deal with gaps in knowledge are different from those needed to identify and deal with problems of practice. In its call for solution-oriented social science, Watts (2007) recommends two potential ways forward. First, to find inspiration in engineering and its focus on building tangible devices and systems that have specific, well-defined properties. Second, to focus on solving specific issues and where outcomes are assessed based on intended functionality and generative power. This is the space of Prospective Inquiry.

Prospective inquiry comprises three distinct elements: mutually meaningful spaces, research interventions, and reflection leading to knowledge spin-in and spin-out.

Mutually meaningful spaces

First, researchers and practitioners construct mutually meaningful spaces, within which they can identify common denominators and frame new desired futures. Shared meaning means facing the future together, where the space between research and practice is not a void to be crossed over, but a research commons, a meeting point of conceptual rigour and practical impact in a shared quest for tackling issues that are relevant and meaningful to researchers and entrepreneurs in their attempts to make a difference in the world.

Mutually meaningful spaces allow researchers and practitioners to deal with two issues if the intention is to scale up impact through social venturing: teaming up and the identification of problems to solve.

Through the construction of mutually meaningful spaces, Prospective Inquiry opens the possibility for the formation of new venture teams, i.e., all of the individuals that are responsible for ideation, decision-making as well as regular operations of the venture. These are groups of two or more individuals who jointly establish a new venture in which they have an equity interest and who are present at the pre-start-up phase of the venture.

Prospective Inquiry can do so, from the inception of the research process, through the development of a common interest in changing current circumstances and the commitment to generating and evaluating possibilities that arise from shared understanding and experiences. In other words, what researchers and practitioners are collectively interested in is better understanding, envisioning, and changing the world, and the propelling force to make it happen. Enabled by motivation and action, as central features of prospection (Seligman et al. 2013), the identification of a shared interest and intention for change provides direction and gives thrust to relational future-oriented research and prospective theorising. It combines systematic, causal reasoning and solution orientation, where the latter gives thrust to the former.

Mutually meaningful spaces also allow researchers and practitioners to deal with the elusive nature of practical problems and found a middle ground to connect the needs of practice with the outputs of research. A major challenge is to identify a set of problems that are not so large and complex as to require a total theory of social, economic, and political life, but are still of sufficient difficulty to justify a genuinely scientific approach. Watts refers to these as Goldilocks problems: complex enough to inspire action but simple enough to remain tractable. This comes with a dual challenge. First, real-world social problems are generally messy and multifaceted. Second, to be able to tackle them through social science requires a translation from real life to knowledge problems. We offer problematisation dialogues as a tool.

Instead of trying to find meaning in social science products, as research-then-dissemination normally does, problematisation dialogues use mutually meaningful spaces so that problem formulation can be conducted from within a space of shared meaning. When shared meaning brings people together, they in effect develop a common language for their aspirations.

There are four critical dimensions (Table 3) that researchers and practitioners can attend to in the process of exploring and formulating problems, namely worthiness, divisibility, centrality, and specificity. These dimensions are not attributes of the problem, but rather activities that research teams and problem owners engage in and through which problem statements appear to evolve. They co-exist and can be used recurrently throughout the research process, as knowledge solutions begin to materialize.

Problem definition is not a snapshot, rather a collaborative process. The change dimensions of the problem highlighted above —centrality, divisibility, worthiness, and specificity—are not static attributes, rather they ebb and flow throughout the research process, and often trade one for the other based on the interaction across various actors.

	Problem Worthiness	Problem Divisibility	Problem Centrality	Problem Specificity
Focal point	**Determination of value of the problem**	**Identification of parts of the problem**	**Selection of core part of the problem**	**Precision in problem definition**
Task	**Valuing**	**Splitting apart**	**Narrowing down**	**Spelling out**
Effect	**Gains in worthiness increase the appreciation of the importance of the problem at hand.**	**Gains in divisibility increase granularity in problem formulation and improve understanding of parts and relationships making up the broader issue.**	**Gains in centrality reduce complexity in problem formulation and ensures that one is tackling the essential part of the problem.**	**Gains in specificity reduce ambiguity and thus improve accuracy in problem formulation.**
Contribution to venturing in the social sciences	**Creates commitment to the resolution of the problem, increases the sense of urgency and develops domain- or problem-specific solutions**	**Allows for addressing problem complexity ahead of the development of solution. Increases efficiency in the development of solutions toward impact, as it integrates the right expertise from the outset.**	**Streamlines research process by centring attention on core issue that will most likely lead to impact.**	**Optimizes the development of knowledge solutions, reducing errors in conceptualization and improving problem-solution fit.**

Table 3. Problem dimensions to guide problematisation dialogues
(Adapted from Chen et al. 2022)

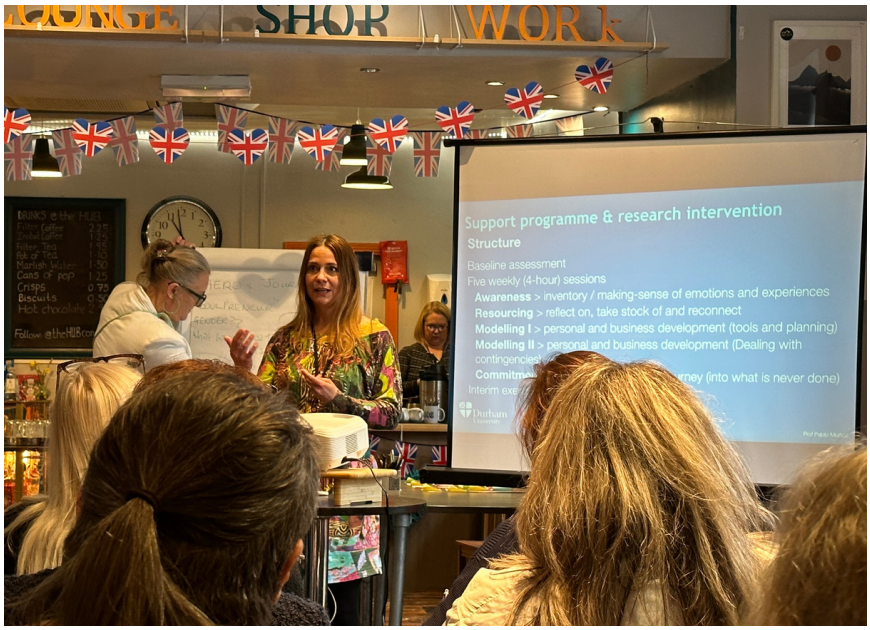
Research interventions

Research interventions involve the formulation and enactment of normative statements (theories) for the future. They focus on the generation of new facts, in line with envisioned changes in the world – that stem from problematisation dialogues. A research intervention comprises three activities: framing an imagined future, prospective theorising and realisation of knowledge (theory enactment), which combined can yield solutions.

Framing refers to the collective envisioning of elements, relationships, and dynamic interactions constituting a desired future state, one that is capable of inspiring possible pathways that might lead to solving real-life problems. It creates affordances for the exploration of if-then possibilities so that changes can materialise. Prospective theorising provides scaffolding in the form of if-then normative statements, expressed in a CAMO format: (C)ontext of intervention, the (A)gency of intervention (who initiates or drives the intervention), the (M)echanisms to be activated (which will give rise to the desired outcomes), and the (O)utcomes to be achieved. These normative statements can be used in a generative manner, which involves theorisation FOR a world that is to be constructed in a way that solves the problems emerging from the problematisation dialogues.

Realisation of social science knowledge – theory enactment. The CAMO format provides a structure for catalysing situations through prospective research. In enacting a theory, we seek to create in the world new facts that the theory envisages through its normative structure. In other words, we test the theory by creating the conditions in which to observe whether it works as intended.

The enactment of a prospective normative statement produces outcomes, generating new facts that may have not materialised otherwise. These new facts, derived from reflecting on practical problems and the enactment of imagined futures, can lay the ground for scalable research impact and social venturing.



Reflection

How do we know if the new facts have the potential to become a social venture?

Some of these facts produced through enactment may be in line with the expectations generated from the theory, while others may be surprising in that expectations fail to materialise or the observed action consequences are counterproductive. This prompts us to reflect on our research efforts, now with an expanded set of facts to be considered. Two types of reflections can be made: inward- and outward-looking.

Researchers and practitioners can reflect inwards on the catalytic power of a normative statement and the research activity itself (spin-in) What transpires as a result of a research intervention can be treated as new phenomena, marked by whether and how the new facts of the world align with our blueprints. Reflection enables us to consider not only whether our research interventions stimulate exciting possibilities but also whether they have been effective. In this sense, researchers and practitioners can reflect on the generative power of a prospective theory and the execution of its interventions, the models guiding the execution, and the premises – principles and aspirations – underpinning those models.

Researchers and practitioners can also reflect outwards and spin out through the construction of knowledge artefacts, which in turn lay the ground to scale up research impact. These mechanisms can be embedded in our daily practices as social scientists.

Prospective inquiry leverages the excellence of traditional social science research but focuses on a different object (imagined futures), deploys a different methodological approach (problem-based research intervention), and applies a different logic of assessment of a piece of knowledge (generative power). Alongside asking ‘So what?’ to assess the explanatory elegance of our work, prospective inquiry pays attention to direction (social orientation of social science research) and consequentiality (social effects of social science research) – in a quest to unleash the generative potential of social science knowledge and, thereby, create affordances to scale up impact through social venturing.

Social venturing: Teaming-up and spinning-out

Social venturing refers to the 'process involving the innovative use and combination of resources to pursue opportunities to catalyse social change and/or address social needs' (Mair and Marti, 2006: 37). It is thus not so much about the individual entrepreneur or business, rather about the process through which socially oriented business solutions are created and instituted in markets so that positive social change can be catalysed.

Solutions are constructed upon an understanding of needs within a problem space and the desire and ability to change the status quo. This is all contained in our framework. Understanding needs and delineating problem spaces can be done within mutually meaningful spaces. Socially oriented solutions emerge from responsive social science knowledge products. Desire and ability to change are powered by prospective inquiry. These three elements are normally captured in a statement that delineates values, intention and direction, as well as who ought to benefit from the knowledge product and how. In the world of social ventures, this is known as a hybrid mission guiding decisions and actions. Mission statements in social venturing are hybrid because they contain dual objectives – social and economic.

Here, the social mission represents their main normative purpose, which runs alongside a more utilitarian objective of making the business economically functional (Muñoz & Kimmitt, 2019). The role of the spin-out team is to define a hybrid framework so that the knowledge product under development can help the venture solve a social problem and scale up social impact whilst being financially sustainable. At the same time, this lays the ground for the formation of the venture's impact model, which explains how social and commercial value is created.

The question is 'What now'?

Forming an entrepreneurial team is the natural first step, yet not so natural in the world of social sciences, particularly when it comes to aligning language, incentives, and career aspirations.

Successful 'teaming-up' in social venturing involves building commitment and opening spaces so that others can self-select into the new-venture creation process. This can be facilitated by the early research-practice engagement that our framework promotes, which organically tangles research design and venturing processes. In this sense, the entrepreneurial team is formed throughout the research/venturing process by fostering commitment, rather than after the knowledge product is developed.

Pre-commitments from team members, partners and other stakeholders in the early stages of the research process can help reduce the inevitable uncertainty associated with venturing processes and foster trust-based relationships (Sarasvathy, 2001), rather than transactional ones that ex-post (after the paper is out) team formation tend to create.

Building commitment and entrepreneurial teams early in the process also contributes to the definition of go-to-market strategies. Since knowledge solutions are yet to be instituted in markets, a constantly expanding network of partnerships can help determine which market and problem space the new venture can eventually end up entering or creating.

Everything that happens from here on falls outside the scope of our framework. Luckily, new social science ventures are not alone. There is a growing infrastructure in the UK, with networks, incubators, investors and grants capable of hosting and helping new social science ventures to open spaces in the market, scale up and gain maturity.

MOVING FORWARD

Universities need an infrastructure for spin-off creation in the social sciences. Alongside the collaborative network of investors, managers and advisors, they require facilitation intelligence to realise social science knowledge and scale up research impact. Our framework offers an avenue to move in such a direction. While significant progress has been made to understand what counts as scholarly impact and how to reach external audience once the research output is produced, current facilitation processes suffer from knowledge-problem misalignment, i.e., the (real-life) problems that research may solve is only explored post hoc, once the research outcomes are at hand. If research impact is the solution to problems of practice, research cannot be separated from the problem it can potentially solve and those who intend to solve them.

The facilitation intelligence that our framework offers can be part of an in-house incubation process, focused on the research process itself rather than as part of outreach or match-making activities. While scholars think frequently about the real-life implications of their work, the recommendations (normally framed as implications for practice or policy) for the use of our hard-won research insights and explanations tend to fall in the realm of informed speculation. We produce and try to move social science knowledge to practice or policy, but rarely conduct research in such a way that our interests and efforts align with the needs and future aspirations of practice. Thus, whatever impact may arise in relation to our findings or recommendations could be deemed circumstantial at best. The short and formulaic discussion of 'practical implications' and post-hoc outreach activities are simply not enough.

Through our framework, we offer social science researchers a way to bring research impact and business prospection together and early into the core of the research process. We also offer university-based research and innovation services a mechanism to open new opportunity spaces for social science research, leveraging its transformative potential whilst overcoming the limitations of the STEM-based commercialisation models. New initiatives aimed at facilitating venturing in the social sciences, such as ASPECT and ARC Accelerator, can also benefit from our framework, which can be plugged into the support activities they offer to social scientists. Finally, we offer external stakeholders interested in science-based spin-offs (e.g., business incubators, investors, business development agencies) a way to engage with social science researchers and better assess the transformative potential of social science knowledge.

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