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Mutual Learning Exercise on Knowledge Valorisation: Intermediaries

Topic 3 Discussion paper

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Mutual Learning Exercise on Knowledge Valorisation: Intermediaries

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Discussion Paper

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1. Introduction

1.1. Policy background

Knowledge Valorisation (KV) is one of the key objectives of the European Union's (EU) research and innovation (R&I) policy. It aims to create social and economic value from knowledge by linking different areas and sectors and by transforming data, know-how and research results into sustainable products, services, solutions and knowledge-based policies that benefit society. Boosting knowledge valorisation is essential to deliver new responses to the challenges and opportunities currently faced by the EU, in particular the twin climate and digital transition but also general security, social and economic issues and the competitiveness of the EU.

This powerful definition says a lot about the expected impact of a dynamic, efficient and multi-stakeholder knowledge valorisation strategy, linking various objectives and ERA core actions. The expectations are high, namely, to improve the valorisation of knowledge (ERA action 7) and to promote attractive and mobile research careers (ERA action 4), in an integrated way, by avoiding silos, as these matters are interdependent and conducive to accelerating the emergence of a highly competitive European knowledge-based economy.

Amongst others, one of the key challenges is the paradigm shift in the approach to intellectual assets and the expected more active role of the relevant stakeholders of the innovation ecosystem. As recommended by the EU Guiding Principles (GPs), knowledge valorisation policies should involve all categories of research & innovation ecosystem actors such as universities, higher education institutions (HEIs), research & technology organisations (RTOS), research & technology large scale infrastructures (RTIs), SMEs, spin-offs & start-ups, investors and funding bodies, policy makers & public authorities, citizens and CSOs, and of course knowledge & technology transfer professionals.

1.2. Scope of the topic

Connecting researchers with industry, public administration/policy and civil society is imperative for enabling the valorisation of knowledge. The pathways and connections are complex. The distribution and valorisation of the knowledge generated by R&I producers should interact with and reach out to the whole ecosystem, and be co-created, absorbed, translated, transformed, adapted, applied, and valued by users. This can be enabled, facilitated, and enhanced through the support and leverage effects of intermediaries.

1.3. Purpose of the Discussion Paper

The aim of this Discussion Paper is to identify the main policy challenges, to summarise the rationale behind the role given to KV intermediaries in an open ecosystem (see also § 2.2) and multi-actor perspective, to map and analyse the landscape of established intermediaries, and to characterise new approaches and models adopted by conventional and novel intermediaries.

This Paper aims to provide a structure helping to raise questions and to stimulate discussion during the topic 3 country visit on Intermediaries in Stockholm on 20 & 21 September 2023.

2. Intermediation - what are we talking about?

2.1. General definition

Intermediation corresponds to *“the act of carrying messages, making connections or processing transactions between organisations, people or things that are unwilling or unable to meet”* (Cambridge dictionary), or that require a pro-active approach in establishing, stimulating, and supporting the relationship.

In some sectors, intermediation is a vital function without which no transactions would easily take place, such as in the retail, logistics & financial sectors, both in business-to-business and business-to-consumer contexts.

Intermediation is also a critical function of the KV process, which needs to connect researchers and knowledge actors to industry and society. It is about matching the offer and the demand of knowledge, the co-creation of solutions, and reaching potential users of knowledge across pathways and business models which generate added value for all R&I actors involved.

2.2. The knowledge ecosystem context

The knowledge ecosystem can be defined as a complex, self-organising system of people and organisations interacting with each other and with their knowledge and technical environments, with the purpose to grow collective intelligence and capabilities.

The valorisation of knowledge takes place within an open, continuously evolving, multi-actor environment, with challenging business models and within changing ecosystems.

Ecosystems thinking becomes the key-standard on how to design vibrant business, innovation and knowledge support systems, for both public and private interests, at both territorial and business model level. It improves the capacity of organisations to position and interact with stakeholders and to drive their development, economic and societal resilience and business journey with a 360° multi-dimensional approach.

Ecosystems thinking is very much inspired by various powerful theories and concepts, such as the Smart Specialisation Strategy (S3) developed by the European Commission, the Triple and now Quadruple Helix movements, the rise of open innovation and collaborative R&D, the development KV theories, models & practices, and perhaps also by the way biological and natural ecosystems interact for surviving, adapting, evolving and growing. Ecosystems thinking is now considered as a core-competence for public and private smart organisations – including KV actors - recognising this is vital in an increasingly complex world.

Ecosystem thinking is very much about (a) economics: sustainable prosperity and wealth creation, (b) collaboration: networking and partnerships (c) openness: open collaboration, open innovation, open source, open market, open everything.

The knowledge ecosystem is not the only relevant ecosystem that KV should be aware of and connected with. KV should also be connected to the innovation ecosystem, the industrial ecosystem, the various industrial value-chain ecosystems, the socio-economic ecosystem, the territorial ecosystem, etc. The ecosystem mainly refers to an approach of the environment and stakeholders in which a project or an organisation operates, rather than anything else.

Despite the generation of knowledge by individuals (persons or organisations), it is generally accepted that collaborative processes provide a leverage effect and an augmented added value to the generated knowledge. The same goes for KV. This is a collective process involving various actors producing, transmitting, decoding, transforming and absorbing knowledge. As indicated in the GPs, *“the focus is on the whole R&I ecosystem and its connections on co-creation between actors and on the creation of societal value”*

2.3. Specific roles & core functions of Knowledge Valorisation intermediation

2.3.1. Efficient intermediation

Efficient intermediation requires (spatial) proximity to users and markets (place-based stakeholders), credible thematic or functional specialisations, a good degree of independence, the availability of significant and recurrent resources (funding), reliable and agile governance (controlling), excellent connections to industry and citizens (connecting), dynamic entrepreneurial culture (behaving), and adequate and advanced capabilities (skilling). It therefore requires operational capabilities to access and serve relevant actors (industry and/or others), while valorising the produced knowledge at its optimal strategic & monetary value.

The importance of operating across territories leads to the concept of intermediaries operating in a network mode or as a collective group of organisations, rather than as single organisations. The art of knowledge valorisation intermediation might well be centred on coordination and orchestration, and initiation and guidance, rather than individual (and fragmented) “soloist” service delivery.

Several other challenges include the degree of centralisation/decentralisation of intermediaries’ systems, the degree of openness of technology transfer players, how widespread the knowledge valorisation culture is for intermediaries, and the business, entrepreneurial and networking skills of the intermediaries’ teams.

There is no intermediary ecosystem that fits all countries, as it depends on the maturity of the system, the performance and skills of innovation transfer professionals, the dynamics of interactions between public, academic and private sectors, the entrepreneurial character and collaboration culture of key stakeholders, the importance given to knowledge valorisation by overarching R&I policy makers and institutional strategies’ owners (at national, regional & even local and organisational levels).

The mobility of qualified staff and talents across the ecosystem of intermediaries is equally an important factor to tackle, linking new research career paths with a stop-over within this very dynamic environment of innovation and knowledge valorisation intermediaries.

The art of knowledge intermediation is confronted with various challenges (see also § 6 below) which are described in the GPs and which concern the following aspects of implementation: (a) the funding model and the relevance of public financial intervention supporting intermediaries, (b) the business and ownership model of intermediaries, (c) the fundamental capacity to act between R&I actors and other actors, especially industry (particularly SMEs) and society, (d) the networked organisational model of intermediaries.

More specifically, new challenges are arising which raise a number of questions, namely: (1) the way the sustainability imperatives are taken on board as a criterion for intervention of intermediaries, (2) to what extent intermediation contributes to an inclusive approach of KV,

valorising all potentials (matters, people, organisations), and (3) how intermediaries can accelerate the adoption of demand-driven innovation and the exploration of innovative public procurement schemes.

2.3.2. Functional roles of intermediation

Intermediation has the following functions:

- Improved identification of use-cases
- Improved identification of potential users
- Open scouting of transfer opportunities
- Connecting with industry and civil society
- Reality-check of knowledge transfer usefulness
- Collecting data and benchmarks
- Accelerated pre-market screening
- Catalyst for relevant collaboration and critical partner search, at national, EU and international level
- Accessing business and technology intelligence
- Facilitation the climbing of the TRL (Technology Readiness Levels) scale
- Discovery of on-site demonstration possibilities
- Advanced business modelling and planning
- Sharing the risks with other entities
- Connecting research teams with business talents
- Checking intentions and monitoring feasibility of potential spin-offs
- Fostering uptake in policy making at different levels
- Citizen engagement, Etc ...

3. How Knowledge Valorisation intermediation contributes to the development of Intellectual Assets Management

3.1. IAM - Intellectual Assets Management

The concept of IAM is a cross-cutting principle, which is developed across this MLE, and which supports the transformation of conventional technology and knowledge transfer into new forms of knowledge valorisation.

Intellectual assets are defined by the EU Code of Practice on the management of intellectual assets for knowledge valorisation as *“any result or products generated by any R&I activities, such as intellectual property rights - patents, copyrights, trademarks -, data, know-how, prototypes, processes, practices, technologies, software, business models”*.

This means practices that foster the management and use of intellectual assets resulting from research, science & innovation in a broad sense, whether the assets are tangible (and legally enforceable, intangible (and linked to strategic management aspects), or even tacit knowledge.

The strategic nature of the IAM process also implies an A-To-Z approach (along all stages of the knowledge life cycle), a close-to-market perspective, contradictory valuations of assumptions, an alignment with the value and vision of the organisations, a multi-form protection mix, and a comprehensive spotting of potential collaboration and partnerships.

3.2. Contribution of intermediation to IAM development

The interaction between intermediaries and other R&I actors is to serve as an accelerator of the valorisation process. We therefore emphasize below three contributions of intermediation to the development of the culture of IAM:

- Strategy development capabilities

The integration of intermediaries into the valorisation landscape and its process pushes knowledge actors, and particularly the academic ones, to initiate strategic thinking and to develop more global and open strategies which inevitably produce a wide range of intellectual assets, interacting with pragmatic end-users and hands-on intermediaries.

- Entrepreneurship skills

Collaboration with intermediaries can contribute to stimulate an entrepreneurship culture, promote entrepreneurial discovery ("The entrepreneurial discovery process – EDP - is an inclusive, evidence-based process of stakeholder engagement that produces information about the potential of new activities, enabling effective targeting of R&I policies", JRC, 2021), stimulate the proximity with users and early-adopters, and inevitably create the appropriate conditions for the development of further skills. This is especially true for intermediaries strongly involved in business creation and spin-off generation, and closely connected with dynamic entrepreneurial ecosystems.

- Collaborative spirit & collective intelligence capability

Intermediation generally stimulates the emergence of a collaborative culture by all parties involved, at both strategic and operational levels. It paves the way for the deployment of collective intelligence practices and for the generalisation of open networking behaviour. These effects might be more limited in cases where TTOs/KTOs rather protect the interests of universities instead of behaving as truly open and collaborative agents.

4. Intermediaries- who is doing what?

4.1. Intermediaries, R&I actors and stakeholders

4.1.1. Definitions

Available definitions show that there are significant differences between these three types of actors.

First of all, stakeholders are defined as very general ecosystem actors. According to the Techtarjet website (www.techtarget.com), "*a **stakeholder** is a person, group or organisation with a vested interest, or stake, in the decision-making and activities of a business, organisation or project. Stakeholders can have a direct or indirect influence on the activities or projects of an organisation, and can be affected by its business or activities. Typical stakeholders are investors, employees, customers, suppliers, communities, governments, trade associations, competitors, R&I actors and intermediaries*".

R&I actors are defined in the GPs as "any types of ecosystem players involved in R&I activities, such as academia, public & private innovation and technology organisations, civil

society organisations (CSOs), private investors, individuals (innovators, entrepreneurs, researchers, scientists, teachers, students), industry, national & regional/local authorities and policymakers, research infrastructures, technology infrastructures, standardisation bodies, and ... intermediaries”.

Intermediaries are firms, agencies and individuals that facilitate transactions by providing the bridging and brokering, understanding the challenge and providing solutions, and leveraging the knowledge transfer necessary to achieve successful innovations and valuable results. Intermediaries are needed to bring organisations and knowledge together to build supply networks and develop new markets for new products, processes and services. The GPs provides a non-exhaustive list of examples of intermediaries: *“knowledge & technology transfer professionals, incubators, science parks, unions, national & regional innovation hubs or clusters, IP experts & consultants, innovation support professionals, science communication and policy engagement teams, knowledge for policy/science advice organisations, and citizen engagement professionals”*.

4.1.2. Understanding the difference and major trends

To structurally develop and implement knowledge valorisation, it is crucial to understand the variety and typology of intermediaries that support these processes, as well as their role as key knowledge valorisation actors. It also important to make a distinction between the long-list of generic R&D&I/Knowledge actors, and the short-list of R&D&I/Knowledge intermediaries.

One of the observed trends is the novel notion of a system of intermediary organisations, and how this systemic/networked approach could facilitate coordination and improve the efficiency of intermediation, while ensuring missions’ deployment over time and spatially across the concerned territories.

4.2. Mapping & typology of relevant intermediaries

Intermediaries are usually so numerous that it is important to only screen the relevant ones. Relevant does not only mean current and already operating ones, but all actors which have or might have a potential role in channelling, accelerating, improving and diversifying the valorisation of knowledge. The list of examples of intermediaries provided by the GPs (Recital 21) indicates who are the various organisations having a role in KV.

Intermediaries can be (fully or partially) independent (legally and/or financially) from R&I actors, or they can be part of the R&I actor’s organisation (department, business unit, specific project/scheme, subsidiary). They can also sometime be affiliated to several R&I actors, co-owners, and co-funders.

R&I actors may develop an intermediary function either on an ad-hoc basis, or as a complementary function. This is particularly the case for RTOs, Thematic Research Institutes, Spin-off programs’ management bodies, public sector organisations and funding bodies, and even investors and investment funds.

The intermediation can also sometimes be carried out by a project which is operating as a separate unit, or as an experimental scheme, or – as in the case of universities – throughout individual research teams or individuals acting in an independent capacity.

The motivations, incentives and funding models are fundamentally different for academia and non-academia intermediaries.

The GPs (Recommendation 5-b) calls for Member States to “*Consider specific funding schemes to complement research funding in order to ensure that knowledge valorisation is incentivised early on in research, including support to intermediaries.*”

4.2.1 Academia-based intermediaries

Academic-based intermediaries include TTOs, KTOs, and university-based incubators that are classically operating at the interface between knowledge producers and other R&I actors. Looking at the dynamics of ecosystems, it appears that these instrumental players are in the process of re-inventing themselves to better fit with the new holistic approach of knowledge valorisation.

4.2.1.1. *Tech Transfer Offices (TTOs) & Knowledge Transfer Offices (KTOs)*

TTOs and KTOs are the key-technical players orchestrating knowledge transfer and valorisation on behalf of universities and other academic institutions. Their experience is backed by decades of practices, and thousands of professionals, who are usually active in national and international professional associations (ASTP for example)

Many universities and Research institutes are equipped with an in-house TTO/KTO, and they provide an essential role to researchers & research teams but also to their external partners. Their mission ranges from R&D scouting, technology maturation & TRL assessment, IPR advise, commercialisation assessment & support, knowledge transfer strategies (Spin-off, licensing, contract research, etc), fund raising, etc. Even though their core mission is to protect the interests of universities and to maximise the return of its IP, their approaches have considerably evolved during the last few years, by notably embracing enhanced collaboration with other actors (than the Alma Mater) and intermediaries.

4.2.1.2. *University holding companies & venture funds*

Universities and RTOs set-up financial instruments capable of seed funding *the proof-of-concept* stage or the launch of spin-offs. These early-stage-funds are controlled by the university but usually involve other public or private investors. A few examples of these players (intermediaries) are KTH Holding AB (SE), SINTEFF venture (NO), VIVES inter-university fund (BE), VTT ventures (FIN), Tecnalia ventures (ES), etc. These instruments are integrated into the University Tech Transfer & Valorisation toolkits.

4.2.2. Public-private R&I connectors

4.2.2.1. *Incubators & Accelerators (public, PP, private)*

Business incubators help start-up companies and individual entrepreneurs to develop their businesses by providing a full range of services, such as business planning and modelling, coaching and mentoring support, technology assessment and market studies, feasibility analysis, management training, financial simulation and access to early-stage pre-seed and seed finance. It also usually offers shared office space and co-working facilities. Incubators are usually sponsored and operated either by universities & TTOs/KTOs, or by regional/local development agencies, or public/private partnerships.

A business accelerator is a program designed to help established start-ups (with a minimum viable product) to scale-up quickly. It often provides funding in exchange for equity in the business, and offers mentorship and resources from experienced entrepreneurs, investors, and business leaders, through an intense and accelerated period of growth and development.

Accelerators are in principle driven by private owners but can involve the mobilization of some public funds.

4.2.2.2. Science & Technology Parks (STPs)

STPs are spread across Europe and provide the physical infrastructure and location for creating concentration of innovation players and knowledge producers and absorbers. They contribute to the animation of the ecosystem and are complementary to the intangible and intellectual support provided by TTOs & KTOs. They are sometimes driven by a real-estate purpose (Ex: Technopolis in Finland).

4.2.3. Other instruments

A lot of other players are behaving as KV intermediaries on an ad-hoc basis (e.g., Fablab, Living Labs, Design Thinking platforms, Open Innovation initiatives, R&I foundations, large scale R&I infrastructures, matchmaking platforms, regional & local innovation agencies, digital platforms & hubs, etc). Two types of actors are particularly relevant here:

4.2.3.1. Spin-off programme implementation bodies

Business creation generated by spin-off programmes is not a new feature in KV but has grown significantly in recent years. It constitutes both a vehicle and a catalyst for engaging KV with start-ups, SMEs and investors.

4.2.3.2. Research & Technology Organisations (RTOs)

RTOs provide critical infrastructure and capabilities across most of the industry sectors and technology areas. RTOs have an excellent understanding of industrial and innovation challenges. RTOs include both large (and dominant RTOs) such as CEA (FR), VTT (FI), TNO (NL), IMEC (BE), RISE (SE), Tecnalia (ES), and small regionally based players and sector specific organisations (e.g., AINIA (ES), Materia Nova (BE), etc.)

4.2.4. Intermediaries linked to private sectors & corporates

Private enterprises (industry, from start-ups and SMEs to large corporates) are not only critical stakeholders but can also build-up capacities as KV accelerators or intermediaries.

4.2.4.1. Co-labs, Corporate accelerators & corporate venturing

The development of a dedicated innovation ecosystem, at the service of the research, knowledge (and business) expansion of Corporates is now a common practice. This megatrend has been enhanced by the emergence of Corporate Social responsibility (CSR), and Environmental & Sustainability Governance (ESG) obligations. A number of large tech-Corporates are considered as important KV players, reinforced through their corporate accelerators, corporate venturing, challenge-based competitions, etc. The following names are well-known references in the field: SAP (Start-up Focus), P&G (Connect & Develop), AstraZeneca (Bio Venture Hub), ABB (Synerleap), Microsoft (Sparks), O2 (Wayra), Adobe (KickBox), Orange Fab, Engie fab.

4.2.4.2. Consultants & KT/KM professionals

Knowledge transfer (KT) and knowledge management (KM) consultants, IP experts, technology brokers and innovation consultants are also very important catalysts and

intermediaries supporting industry and particularly SMEs, who might not have the capacity to internalise these competences.

4.2.5. Intermediaries within professional associations, NGOs & civil society organisations

Other non-governmental intermediation entities ensure an efficient outreach to citizens and civil society organisations, closing in this way the loop of the quadruple helix. This outreach is a way to share knowledge and stimulate its exploitation by civil society organisations through, for example, science communication and policy engagement teams, knowledge for policy/science advice organisations or citizen engagement professionals.

4.3. Sector-specific & cross-sectorial intermediation

Knowledge valorisation requires – at some point - the intervention of qualified thematically-specialised intermediaries. This is required to enable technology development and to provide an acute understanding of the demand, of the reality, challenges and perspectives of the various sectors and related markets.

An example is the important role of Cluster organisations in the dissemination and valorisation of knowledge to industry. This is due to the fact that their core mission is to promote research, innovation and collaboration between ecosystems' players in a given sector. Their access to the private sector, especially tech-firms and innovative SMEs is excellent, and they constitute an ideal complement to generalist and academic-based intermediaries. Examples of flagship Clusters which are active in the field of KV include: Food Valley Wageningen (NL), Atlanpole biotherapies Nantes (FR), Wagrallim (BE), Medicon Valley (SE/DK), AFIL Milan (IT), Cleantech Alps (CH), BioCat (ES), EcoPlus (AT), etc.

4.4. The territorial dimension of intermediaries

Efficient KV often requires proximity to marketplaces, to potential clients, and to territorial ecosystems. This is needed to enable a better understanding of the needs of enterprises and of society, and of the opportunities offered by the market. Intermediation should be as decentralised as possible and be fed by both bottom-up and place-based approaches. Paying attention to the decentralised character of networks of intermediaries is justified for the simple reason that a decentralised place is where industry and knowledge are concentrated, but also because regional ecosystems are rich environments full of cases, models, data, experiments, stakeholders, resources and innovation governance.

The emergence of the regional dimension of R&I, and the acceleration of the implementation of the S3 by all European regions has increased the importance given to the regional (and sometimes sub-regional) factor., including regional (and sometimes sub-regional) intermediaries.

5. Inspiring practices

A lot of interesting and relevant multi-stakeholder practices & initiatives have developed across the EU and beyond, a selection of which will be discussed at the MLE meeting, and further described in the Thematic Report on Topic 3.

As the enhancement of networking capabilities are of the utmost importance for connecting and valorising knowledge, it is worth exploring how digital platforms can contribute to the quality and efficiency of the knowledge valorisation mission. Collaboration between start-ups and large tech corporates through open innovation schemes and challenge-based initiatives, as well as maximising the externalities generated by flagship initiatives & collaborative projects are very interesting pathways to unlock knowledge valorisation. We will also explore how to go beyond the traditional actors and instruments, by involving the young generation (students), the end-users, and civil society, through living-lab settings, and other users' experience discovery and change-making methods.

New classes, new types, new alliances, and new models of knowledge valorisation intermediaries/intermediation networks will be identified and discussed, within the framework of purpose-driven strategies. Some examples have been identified and further discussed (non-exhaustive list).

These considerations are showing that the subject of intermediaries and the way they operate and interact, is very much connected to Topic 4 (networks & processes) of this MLE on KV.

6. Why and how entrepreneurship as a methodology

6.1. Why and how can entrepreneurship become a pillar of KV policies

The GPs significantly emphasizes the importance of “fostering transversal skills such as entrepreneurship ...” on the Education agenda, and of “entrepreneurial practices, processes, competences and skills... as a necessary component of successful knowledge valorisation initiatives”.

Developing entrepreneurship skills, entrepreneurial practices, efforts, approaches, processes and methods are heavily present in the text of the GPs, together with references to discovery-driven methods, creativity and critical thinking, engagement with citizens and civil society, understanding of large societal challenges and how knowledge development might bring solutions, eventually through novelties and entrepreneurial entities (start-ups, Spin-offs, scale-ups, etc).

6.1.1. A key component of spin-off policies

The development of the entrepreneurship culture within circles of knowledge contributes to the acceleration of spin-offs creation and increases the propensity of universities, public authorities and other agents to more systematically develop spin-off programs. It consequently accelerates the potential of KV through the creation of new ventures, which takes on board intellectual and knowledge assets. The dynamic management of spin-off portfolios then feeds the valorisation strategies and methodologies, with use-cases, business-cases, business and funding models, and entrepreneurs' feedback.

6.1.2. A vehicle for skills development & creative leadership

Entrepreneurship development appears to be a perfect vehicle for learning & acquiring skills which appears to be critical throughout the knowledge ecosystem and the KV process, especially in connection with business development and small business (sustainable) growth paths. The required skills for this entrepreneurial journey are different, complementary and sometimes less formal, than the ones conventionally taught. These include, among others, ideation, design thinking, business casing, modelling and planning, effectuation, investment

readiness, DeepTech innovation marketing, conflict management, creative solutions, collective intelligence, open innovation and collaborative partnership, leadership and team guidance.

6.1.3. An ecosystemic cultural change for knowledge valorisation

As indicated above, ecosystem thinking and multi-actors' co-creation are the fil rouge behind the emergence of the new KV concept, contrasting with the former linear model. The distinction between knowledge producers and knowledge absorbers is obsolete. What is instead important is the engagement of various competences and actors interacting together in a global co-created way to reach the goal of the generation of socio-economic value. Entrepreneurship development obviously helps adopting such an open, comprehensive and collaborative approach of KV, involving intermediaries taking a pivotal role of stimulation, catalysing, translating, and connecting.

6.1.4. An inclusive & social innovation approach

Entrepreneurship is by nature an inclusive phenomenon, open to everyone, everywhere, everything. Aside from the required skills, the act of entrepreneurship requires strong behavioural attributes (curiosity, exploration, experimentation, innovation, competition, creativity, risk-taking, disrupting, operationality, making a difference, addressing small & grand societal challenges, networking, teamwork, etc). It is important to leave the process open, bottom-up, and not too much (not only) prescribed by top-down strategic orientations & limitations, in order to spot all possible potentials.

7. Challenges & perspectives of knowledge valorisation intermediation

In preparation for the Stockholm country visit, participants are invited to consider the following questions which will be discussed in further detail during the upcoming meeting (20 & 21 September 2023).

The discussion will be structured in a way to raise points of attention in relation to Topic 3 (intermediaries), and to identify solutions & good practices, as well as to formulate recommendations for the implementation of a KV approach which involves qualified and publicly funded intermediaries.

Eight categories of 'policy and implementation challenges' have been defined:

Four general challenges:

- Modelling & funding
- Assessment, evaluation & accreditation
- Skills & competences
- Connectivity and networking

Four New challenges:

- Open & inclusive entrepreneurship, including all potentials- improving inclusiveness in venture development
- Integrating sustainability in KV
- Demand-driven and innovative public procurement, including the role and need for intermediaries in linking public needs and policies to innovation and business development (in SMEs).
- International collaboration

7.1. General challenges

7.1.1. Modelling intermediaries: What are the recommended models for KV intermediaries, in terms of legal statute, business goal, size, centralised/decentralised character, physical/digital nature, etc?

- Even if there is no standard model for KV intermediaries, could we list the most important common characteristics (criteria)?
- What are the pros and cons of the different models: public, private, public/private models for intermediaries?
- Should intermediaries be controlled by public authorities (national, regional, local), by public agencies (funding bodies) or by academia (universities/research Institutes)? Should they keep a minimum level of management independence, so as to provide advice without being influenced by the main funders?
- Should intermediaries be generalist (technologies/sectors) or should they be deployed following some macro-specialisations (digital transformation, bioeconomy, health tech, etc)?
- What reforms are needed to ensure that intermediaries incorporate the new broad concept of KV (e.g., by also encompassing science for policy making and connections to societal players/citizens)?
- Should intermediaries be mostly centralised bodies, or rather decentralised units, part of a network organisation covering territories optimally with a good physical proximity?
- Does the size of intermediaries matter? What is the role of networking in this respect?
- How can the digitisation (e.g., platform tools) help intermediaries and what are experiences so far? What can be the role of artificial intelligence?

7.1.2. Funding intermediaries: what is the recommended funding model, and the corresponding certification/recognition requirements?

- Should intermediaries receive public funding to exert what appears to be a mission of public interest?

- Under what type of financial instrument should they be funded in the case of public intervention?
- Is there a case for a public/private funding statute?

7.1.3. Qualifying, accreditation & monitoring of intermediaries: how to run a quality assurance policy for intermediaries?

- Should the knowledge valorisation (public) funding bodies create and impose a certification/accreditation scheme for intermediaries?
- What would be the accreditation criteria? Both qualitatively and quantitatively?
- How should intermediaries be monitored & assessed? On what basis would the reporting be built (under which intervention logic? assessment criteria?)

7.1.4. Skills & competences of intermediaries: intermediation is a difficult role, requiring multiple talents & skills

- Is there a problem of skills & competences in the HR market? What are the main critical skills' gaps in this new interconnected, collaborative, specialised, end-user and business driven environment?
- Could the gap be filled by conventional, academic education players? Should novel intermediaries bring specific education solutions & schemes?
- What are the key skills intermediaries need to develop to be able to fully address the identified challenges and perspectives?

7.1.5. Connectivity of intermediaries with enterprises: the connecting capacity with Start-ups, Scale-ups, SMEs, & large Corporates is critical

- How can we ensure intermediaries have a direct and qualified access to enterprises and their leaders & decision makers?
- Should we describe the process through which intermediaries source, select, connect, analyse, advise and negotiate the collaborative transaction?

7.2. New Challenges

7.2.1. Open & inclusive entrepreneurship

- How can one strategically manage intellectual assets so as to systematically integrate all possible potentials (people, firms, technologies, DeepTech/low tech, sectors, services profit/non-profit, large/small) in the process?

7.2.2. Sustainable by design

- How could sustainability be better and systematically integrated in knowledge valorisation values and strategies? What would be the role of intermediaries?

7.2.3. Demand driven & innovative public procurement

- How could intermediaries stimulate and support the participation of innovation-absorbing firms to innovation (public) procurement schemes?

7.2.4. Leveraging selective transnational collaborations

- How can we stimulate cross-border collaboration transactions between neighbouring ecosystems and/or individual R&I players through intermediaries? Do you have any available examples from any programmes (Interreg)?
- What are the KV-related risks which should be taken into account by KV intermediaries in international R&I collaborations with third countries given the current geo-political situation, particularly regarding the management of intellectual assets?

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The Discussion Paper focuses on knowledge valorisation intermediaries and provides a basis for discussion during the Topic 3 country visit. The Paper summarises the rationale behind the role given to knowledge valorisation intermediaries in an open ecosystem, maps and analyses the landscape of established intermediaries, identifies the main policy challenges, and characterises new approaches and models adopted by conventional and novel intermediaries.

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