CASCADE

Cascading Innovation to the Craft, Artisan and Creative Sectors

Oslo Manual, 2018

Executive Summary

Prepared by The Rural Hub & SubMeet

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Contents

Introduction

The *Oslo Manual, 2018* refers to the publication of the OECD (Organisation for Economic Cooperation and Development) under the title "Measurement of Scientific and Technological Activities; Proposed Guidelines for Collecting and Interpreting Data on Technological Innovation: Oslo Manual". The *Oslo Manual* was first published in 1992 by the OECD in cooperation with Eurostat. Since its first publication in 1997, the manual has been since revised in the years of 1997, 2005, and 2018.

The *Oslo Manual* is a guide for conducting measurements and information of scientific and technological activities; and clarifies how said activities are innovative. It acts as a global benchmark of innovation as it facilitates international comparability and provides a platform for research and experimentation in the measurement of innovation. Alongside this, the definitions outlined in the Oslo manual serve as a guideline for research transfer activities.

The *Oslo Manual, 2018* provides an in-depth analysis of the concepts, theories, and process of innovation. This publication aims to produce innovation indicators based on design, production, and use. The guide highlights the need for technological innovation in the 21st century. It does so by defining concepts, explaining the criteria, and acknowledging the theory behind the innovation process. According to the Manual, innovation consists of implementing significant changes in the product, process, marketing, and the organisation of companies to improve their overall results. Innovation is subject to using and generating new knowledge. This information made to the companies is conducted through surveys, which serve to adequately measure the level of innovation that occurs in a certain company and establishes the necessary criteria for innovation.

This *Oslo Manual, 2018* focuses on the measurement and analysis of data related to innovation, and therefore aimed at relevant stakeholders. However, it also serves as a didactic tool for the implementation of innovation in organisations, by describing the elements that generate culture and innovative systems.

Although the Manual proposes a series of guidelines and criteria to measure all the factors described, as well as the objectives and results of the organisations, the difficulty of conducting these measures in an objective and rigorous way is also recognised. It is essential that each organisation knows its status, strengths, and areas for improvement to determine organisational priorities, and the most appropriate way to improve its innovation system.

Depending on the degree of data harmonisation, the methodology of linking innovation surveys and economic-financial data to measure the economic impact of innovation can be applied on a global

scale. The Oslo Manual, 2018 broadens the scope of innovation and references the importance of innovation in today's digital society through strategic intelligence strategies.

Concept of Innovation

The concept of innovation is defined as the “conception and implementation of significant changes in the product, process, marketing, or organisation of an entity” (OECD, 2018). Innovation is a key factor for the growth of a country. The countries, aware that their future depends on innovation, have opted for knowledge-based economies to achieve smart, sustainable, and inclusive growth.

Innovative changes are established through the application of new knowledge and technology that can be developed internally, in collaboration with external partners or acquired through advisory services or technology purchases. Innovation activities include all scientific, technological, organisational, financial, and commercial actions that lead to the development of new knowledge that leads to innovation. This applies to both activities that have been successful, such as ongoing activities or those conducted that have been cancelled due to lack of feasibility. Innovation involves the use of new knowledge or a new combination of existing knowledge.

Acquiring new knowledge around the concept of innovation is conducted by means of Research and Development (R&D) (OECD, 2018). This comprises applied research, modifying existing techniques, developing new products or processes to assess their technical feasibility and economic viability, and further research to modify designs or technical functionalities.

Other innovative activities related to innovation but not Research and Development include defining new concepts, processes or commercialisation methods, organisational changes (OECD 2018). These organisational changes can feature services, customer relations, application of fundamental or strategic research, in-hour or external, expansion of design and development capabilities, observation of competitors, input from consultants. Likewise, a company can obtain new and useful knowledge to innovate by acquiring technical information, rights over patented inventions, technological knowledge, and experience, increase the professional expertise required in the innovation process by training or hiring new personnel, investing in equipment, software, intermediate inputs that incorporate the innovation work done by others or developing new marketing and sales methods. These activities are considered elements of innovation when they contextualised by the four types of innovation mentioned in the *Oslo Manual, 2018*. These will improve overall performance.

Types of Innovation

Product Innovation

Product innovation provides a new or significantly improved good or service in terms of technical characteristics, use of other functionalities. In terms of its technical characteristics or in terms of its use or other functionalities (OECD, 2018). This improvement can be achieved with knowledge or technology, with improvements in materials, in components or with integrated information technology. To be considered innovative, a product must present characteristics and a performance that are different from the organisation's existing products, including improvements in terms of time or service.

Process Innovation

This concept is applied to both the production and distribution sectors. It is achieved through significant changes in the techniques, materials and/or software used. It aims to lower the cost of production or distribution, improve times of service, or improve the quality of the product or service. Process innovation can include new or significantly improve techniques, equipment and software used in ancillary support activities such as purchasing, accounting or maintenance (OECD, 2018). The introduction of ICT is an example of process innovation if it is intended to improve the efficiency and/or quality of a core support activity.

Marketing Innovation

Marketing innovation consists of using a marketing method not previously used before in the organisation. This can include significant changes in design, packaging, positioning, promotion, or pricing, always with the objective of increasing sales. The variation in the marketing innovation method must involve a fundamental change from what has been previously conducted before. Changes in positioning may consist of the creation of new sales channels, such as the development of franchises, direct sales, changes in the way the product is displayed or the sale of licenses for use (OECD, 2018). Changes in promotion involve the modification of communication using new media, a logo change, loyalty systems and changes in personalisation of the relationship with the customer. Pricing refers to the price variation system based on demand or of the options offered by the organisation.

Organisational Innovation

Organisational innovation refers to the changes in company practices and procedures. This looks at modifications in the workplace, external relations as an application of strategic decisions with the purpose of improving results by strengthening productivity or reducing internal transaction costs for

customers and suppliers. Organisational innovation looks to introduce advanced systems for managing production operations, supply, and quality management. Within this type of innovation, organisations can change relations with customers and suppliers or begin outsourcing subcontracting activities. Organisational innovation takes many forms such as new computer programmes and new ways of collecting and distributing information between companies. On the contrary, a new written standard does not imply innovation. Instead, it requires an automated information processing programmes and routines.

Innovation activities can present themselves as successful, ongoing, or abandoned. All companies or organisations that developed innovative activities during the period under study in the *Oslo Manual* are considered as "companies with innovative activities;" despite if the activity has led to the introduction of innovation. Activities that are not considered innovative are as follows:

- Stopping the process of an obsolete activity
- Replacing and/or expanding equipment
- Passing on cost changes to prices
- Seasonal changes
- Selling something new in the typical format

Our research

We have interviewed successful larger-scale well-established entrepreneurs and expert innovation informants to establish the essential learning needed to support our end users in innovation learning. Each partner has conducted three interviews per country, comprising a mixture of micro-entrepreneurs and larger organisations such as innovation agencies, craft councils, museums, etc.

The purpose of these interviews was to explore how innovators of process-based initiatives perceived factors that facilitate or obstruct innovation implementation and diffusion; and therefore understand the barriers to innovation within this setting. This placed a focus on barriers to design innovation, business model innovation and marketing innovation; while also exploring the categories of innovation set out in the *Oslo Manual, 2018*.

Our research indicated that the most common types of innovation comprised;

- New product/ materials
- Networking
- New trends
- Business Expansion
- Digital (Web) tools

Results

Types of Innovation

In order to correctly analyse the distinct types of innovation, we categorised the data according to the four types of innovation, indicated by the *Oslo Manual, 2018;* product, process, marketing, organisation. From the interviews conducted, we identified that innovation is primarily related to process and product. No interviewee linked innovation to organisation; and very few mentioned marketing as a key aspect of innovation.

This data indicates that individuals found that the best way to innovate within an organisation is to prioritise the products and processes of the business. An innovative business is one that manages to insert itself in the market competition through tactics that differentiate it from its competition and that can generate profitability quickly. The results demonstrated that individuals thought that in order to thrive on innovation within a company, the organisation must be willing to adapt and learn to manoeuvre in an increasingly changing environment. They perceived that this is most likely to occur through product and/or process change. It was noted that this could be achieved through digitising processes or through changes in business models that implement modern technologies.

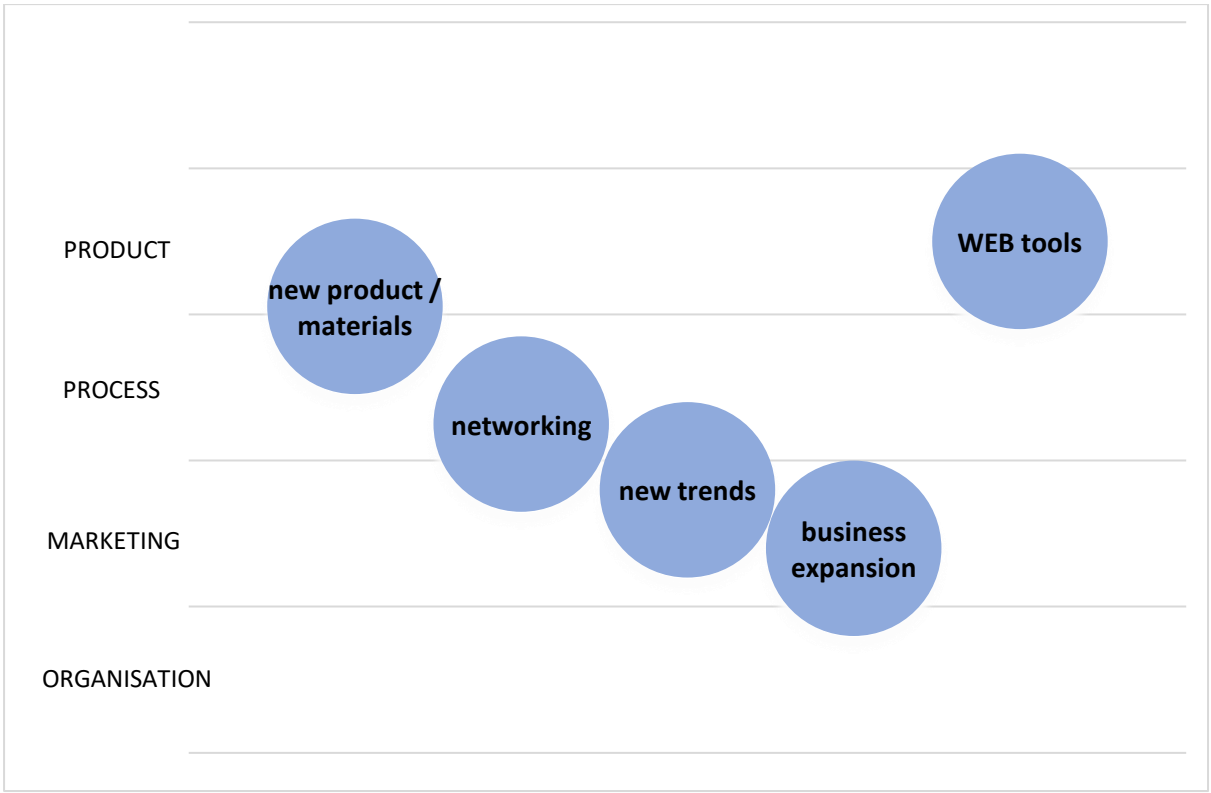

Figure 1. Results based on how to innovate through the four types of innovation (Oslo Manual, 2018)

Sources of Innovation

We found that the acquisition of knowledge is considered the main source of innovation. The results reveal that the way of obtaining knowledge affects the innovation of the company. In this sense, the importance of the knowledge acquisition is reflected through information technologies, internal R&D, and technological management capability. Meanwhile, the effect of the knowledge acquisition depends on the type of source considered.

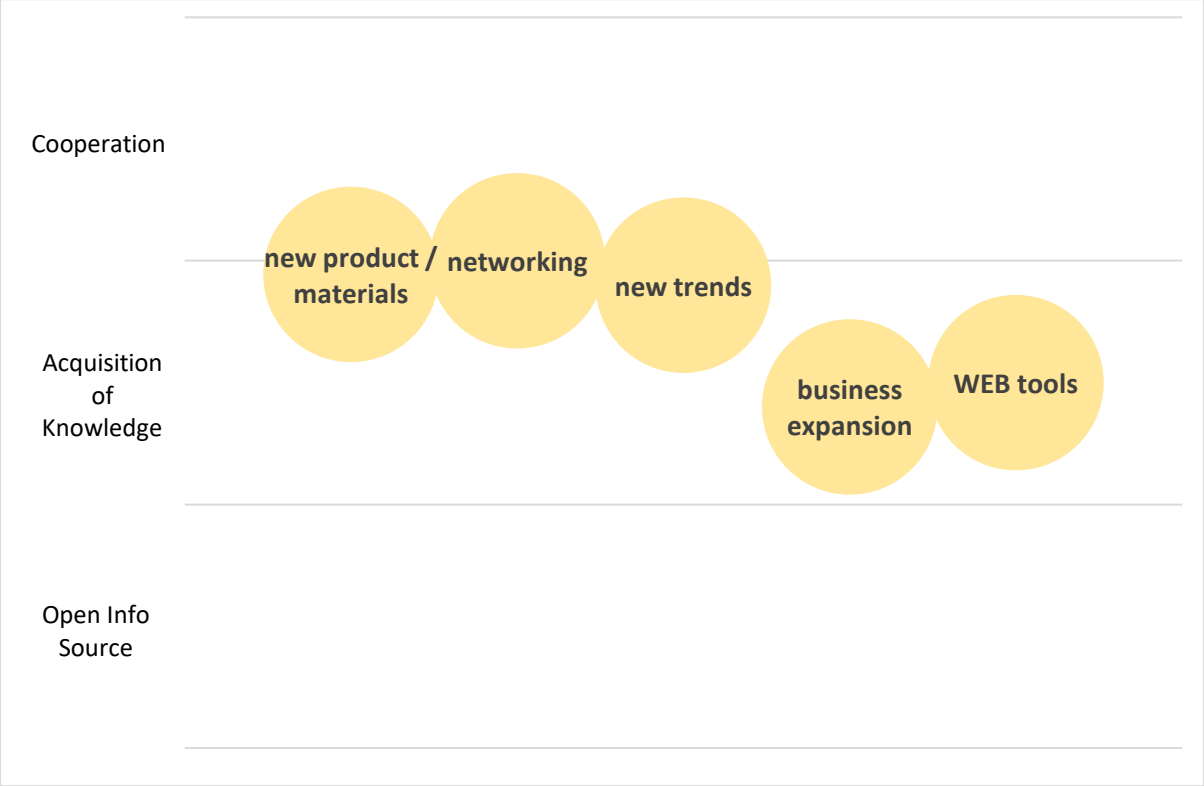

Figure 2: Results on innovative techniques classified through source

This graph indicates that knowledge acquisition is pertinent to innovation within an organisation. When implemented, it promotes the continuous improvements of the organisations processes, thus achieving successful results and greater competitive advantages. Conclusive data from our interviews shows that there is a need to conceive proposals that make it possible to capture the existing knowledge in organisations, transfer it and use it in the creation of new products/materials, networking strategies, adhering to emerging trends, through business expansion and the implementation of digital (web) tools. Moreover, to implement innovation it is essential to recognise the link between knowledge acquisition and continuous improvement of an organisation.

Information and knowledge have become intangible assess for the development of innovation within an organisation. Knowledge is a particular capacity of each individual that is acquired through practice,

learning and experience. Just as information is categorised by data, knowledge is derived from information.

Summary and Conclusion

Our research showed that individuals believed that the key factors to innovation is through new products and/or materials. It is mostly related to process and product innovation rather than organisation or marketing. The main source of innovation was found to be through the acquisition of knowledge. Knowledge management is strongly linked to innovation and continuous improvement. The link is established precisely by having knowledge as the main basis. Continuous improvement encourages the innovation process to take place under the precepts of each day to increase newer solutions based on the knowledge present in an organisation.

Innovation in the generation of management models can be a complex process. In this way, knowledge about the way in which innovation is implemented in the company that seeks to meet the changing needs of consumers should be prioritised. Continuous improvement through knowledge acquisition has the power to promote a series of general action programs and the deployment of resources to achieve complete objectives in all the processes in which it is applied.

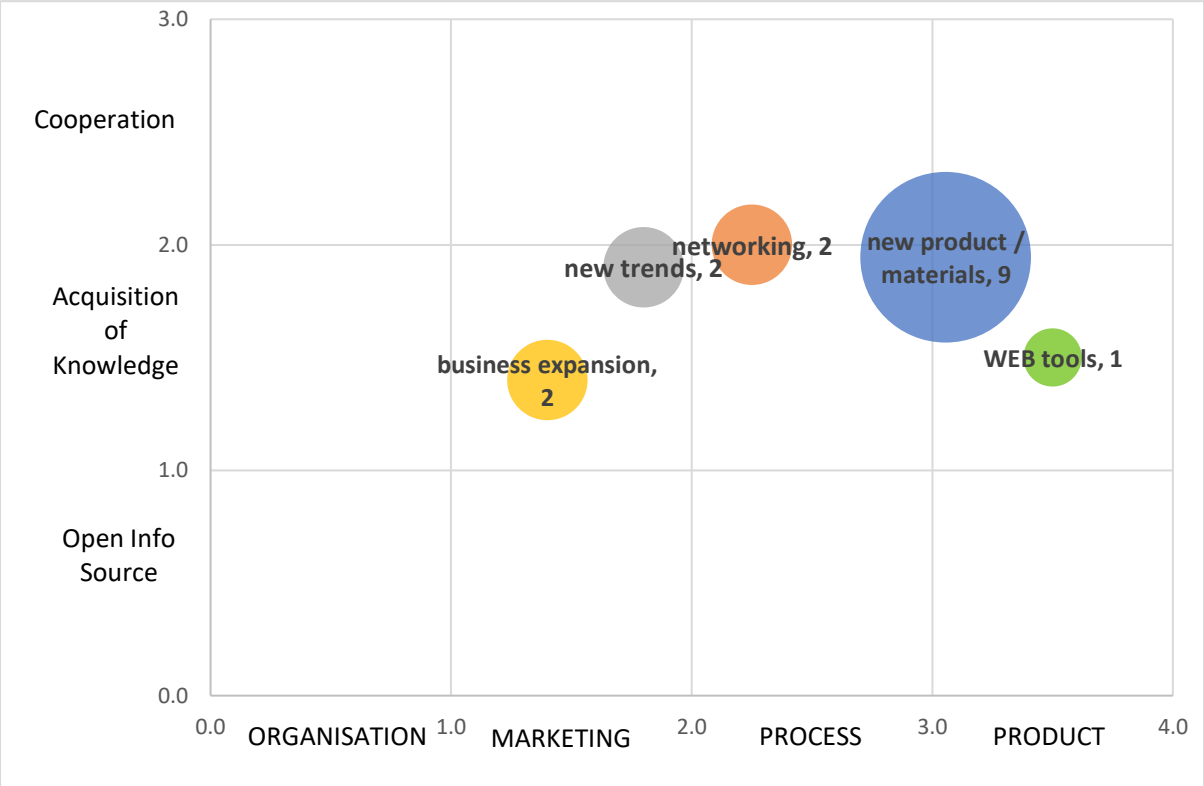

Figure 3: A cross reference of innovative techniques, innovative types and sources of innovation based on the results of the interviews conducted by the CASCADE consortium.

Our data highlights the necessary focuses related to innovation, aimed at stakeholders. This serves as a didactic tool for the implementation of innovation in organisations, by describing the elements that generate culture and innovation systems through product and/or process innovation. It is essential

that each organisation knows its status (strengths and areas for improvement) to determine organisational priorities, and the most appropriate way to improve its innovation system.

Depending on the degree of data harmonisation, the methodology of linking innovation surveys and economic-financial data to measure the economic impact of innovation can be applied on a global scale. The Oslo Manual, 2018 broadens the scope of innovation and references the importance of innovation in today's digital society through strategic intelligence strategies.

It is necessary to recognise that today's world depends on technology and digital tools and that this can have a beneficial impact on the innovation of an organisation. This is not only vital to stay in the market, but also to get the most out of current business tools. Through innovation an organisation can:

- Stay competitive in the market and differentiate from similar businesses
- Save time and money in processes that you can conduct automatically
- Diversify communication channels and determine new market opportunities

Therefore, implementing innovative strategies through product and process change can determine concrete actions that organisations can put into practice to see positive results. In order for the innovation process to take place, the data collected demonstrated that organisations must place a focus on product and process innovation. However, it is worth noting that innovation does not exclusively imply the generation of new products and services, but also affects the way actions are conducted. In this sense, there are various definition of types of innovation. The *Oslo Manual*, 2018 can function as a guide for organisations to redefine their business strategies in order to achieve continual success.