Identifying Innovation Hot Spots in Nutrigenomics

Rens Vandeberg MSc¹, Wouter Boon MSc¹, Dr Ellen Moors¹, Prof Dr Stefan Kuhlmann¹, Prof Dr Ruud Smits¹, Dr Roald Verhoeff² and Patricia Osseweijer MA²

¹ Department of Innovation Studies, Utrecht University
² Kluyver Centre, Delft University

Introduction

A hot spot stands out in its surroundings; it is hotter and brighter than other R&D activities. An extended first-time nutrigenomics patent analysis identifies nutrigenomics innovation hot spots which are used for selecting cases in the context of studying user involvement in nutrigenomics innovation processes¹.

Method

Results

The period 1990-2000 shows overall relative growth in patents; genomics and nutrigenomics patents have an even steeper growth path. This indicates an increasing R&D interest in nutrigenomics.

Relative advantage

For each country the Normalised Revealed Technological Advantage (NRTA) was calculated, showing the relative advantage in nutrigenomics for the country compared to all other countries (1<NRTA<1; 1=highest advantage²). Nutrigenomics - as an R&D area – has a clear relative advantage over other patents in The Netherlands (0.54) and Austria (0.50).

Specialisation

In the nutrigenomics patents four subfields were identified based on the clustering of similar IPC classes (in which all patents are classified):

1. Tea and coffee products
2. Dairy products
3. Plant products
4. Fats

The Fast Growing Specialisation Index (FGSI) shows the momentum of a country in the subfields. The dairy products Technological map shows the most divergent picture. The Netherlands is strengthening its leading position: Dutch dairy R&D as a hot spot.

NWO project: User Producer Interaction in Nutrigenomics Innovations

The identified hot spots (e.g. dairy products in The Netherlands) are used for case studies on user-producer interaction in nutrigenomics innovations.

Innovation literature³ shows the importance of user involvement in innovation processes:

- Innovation success increases
- The enormous creative potential of users is utilized
- Possible societal acceptance issues are tackled

We will study user-producer interactions with a focus on interactive learning (i.e. knowledge exchange between producers and users of nutrigenomics innovations) and formulate the following research question:

How contribute learning mechanisms to network alignment between users and producers, and stakeholders in the institutional landscape in the emerging technology field of nutrigenomics?

From this research we will derive do’s & don’ts for successful interaction and innovation.

More information: r.vandeberg@geo.uu.nl | www.rensvandeberg.com

¹ This poster is based on a forthcoming article by Vandeberg and Boon
² For a detailed description of the used scientometric calculation see Nesta & Patel National Patterns of Technology Accumulation. In: Moed, Glänzel and Schmoch (Eds) (2004) Handbook of Quantitative Science and Technology Research