

## **A multi-dimensional approach for managing open innovation in NPD**

### **Structured Abstract:**

#### **Purpose**

This paper explores openness within New Product Development (NPD) projects. Our study examines the impact of breadth, depth and partner newness on product innovativeness and product competitive advantage. We also seek to examine the contingent effects of the appropriability regime. We make suggestions to academics and practitioners based on our findings.

#### **Design/Methodology/Approach**

We use a structured survey instrument producing an empirical analysis of 205 NPD projects in the manufacturing sector in the UK. We use an ordinary least squares (OLS) regression model to test hypothesised relationships between openness (breadth, depth and partner newness), product innovativeness, product competitive advantage and the appropriability regime.

#### **Findings**

We find that each of the three dimensions of openness; depth, breadth and partner newness, have a significant but differing impact on product innovativeness. Specifically, our study indicates that breadth has a positive effect but only in the presence of a strong appropriability regime, partner newness has a direct positive effect, and depth has a direct negative effect. We also find that product innovativeness has a positive impact on product competitive advantage.

#### **Research Limitation/Implications**

Further research should focus on replicating the findings in other countries, search for further moderating factors, such as the stage of the NPD process, and analyse the longitudinal impact of openness within NPD projects.

#### **Practical Implications**

Organisations are encouraging managers to be more open in their approach to NPD. Our findings suggest that managers need to think about the three dimensions of openness; breadth, depth and partner newness. Their engagement with each of these dimensions depends on the desired outcomes of the innovation project and the strength of patents.

#### **Originality/Value.**

Our research extends the extant supplier involvement in new product development (SINPD) literature to examine the effect of up to 11 types of external actor in NPD projects. We test a new multi-dimensional measurement scale for the openness construct. We show that each dimension has a different relationship with product innovativeness.

*Key words: new product development, open innovation, integration*