



# Innovation in Kenya: Evidence from the World Bank's Kenya Innovation Survey

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# Overview

## **Main objectives of the Kenya Innovation Survey:**

- Estimating rate of technological innovation in 2010-12: product and process innovations
- Identifying firm characteristics associated with innovation
- Providing an overview of innovation-related activities
- Determining what the main obstacles to innovation are

## **Methodology:**

- Similar to Community Innovation Survey, with a number of additions
- Stratified random sample of 500 firms, comprising all industries
- Interviews and follow-ups
- 310 valid responses



## Basic definitions

- **Product innovation** is the introduction to market of a **new or significantly improved good or service** with respect to its capabilities, such as improved software, user-friendliness, components or sub-systems.
- **Process innovation** is the use of **new or significantly improved methods** for the production or supply of goods and services.
- The innovation must be **new to the enterprise**, but it does not need to be new to the industry sector or market. It does not matter if the innovation was originally developed by the enterprise or by other enterprises.
- A firm is considered to be **technologically innovative** if it introduced at least one product innovation and/or at least one process innovation and/or it had undertaken innovation activities in **2010-12**.



## Adapting the CIS questionnaire

- Relative to the standard CIS questionnaire, the following questions were added:
  - Year the enterprise began exporting
  - Percentage of employees with a university degree or diploma in 2012
  - Highest level of education of the top manager
  - Main buyer for the enterprise's output in 2012
  - Year the enterprise was established
  - Whether the enterprise began operations as a non-registered company
  - Whether the enterprise had any internationally recognized certification
  - Whether a given innovation originated mainly in Kenya or abroad
  - In case the firm did not access government funds for innovation activities, choose the reasons for not doing so

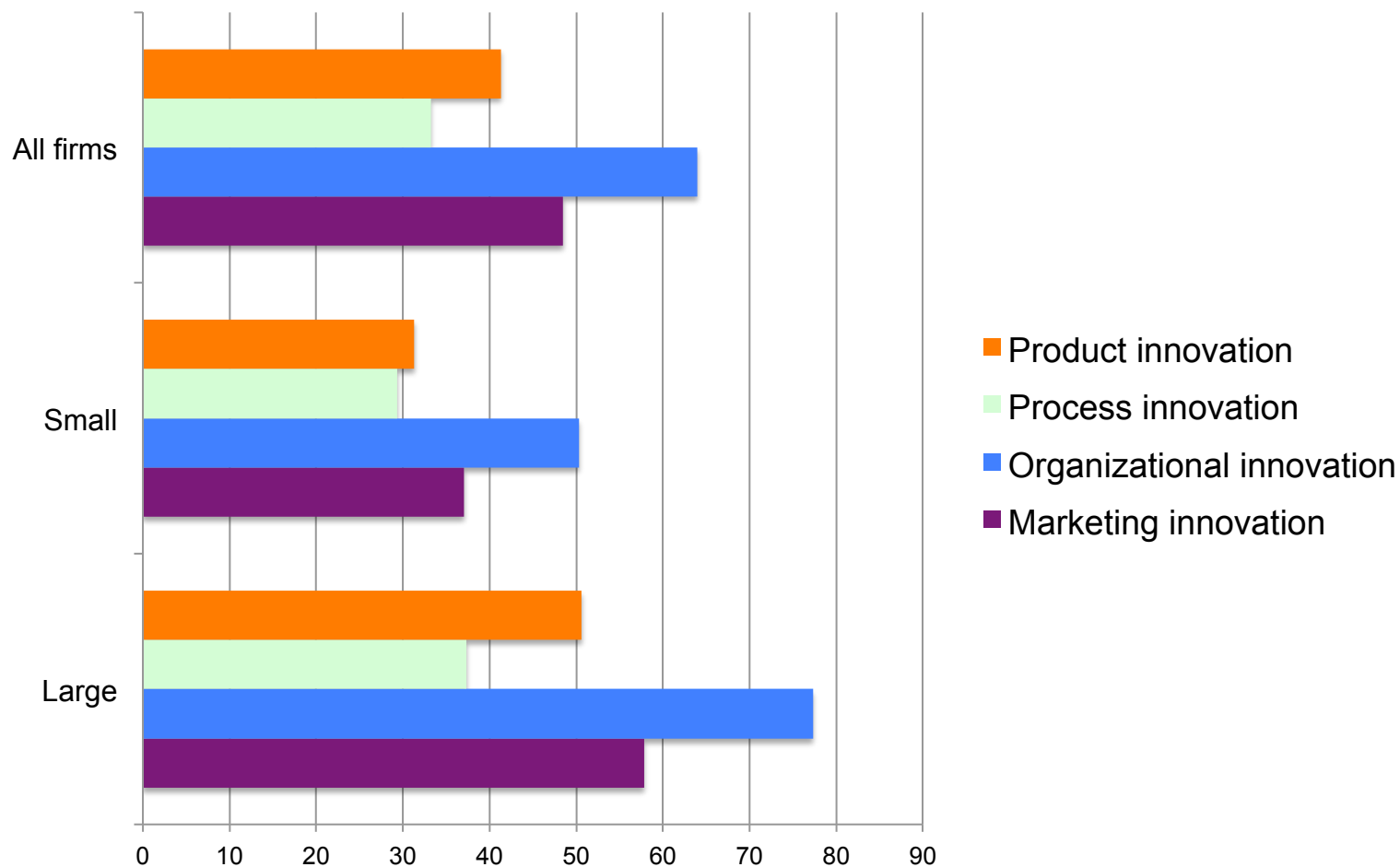


## Summary of main findings

- Technological innovation is correlated with size, exporting status, education level of the top manager
- Internal, market are most important sources of information for innovation
- Weak linkages between business sector and providers of basic research
- Innovation cost is the most important obstacle to innovation. Also market dominated by established firms, red tape
- Infrequent use of formal means of IPR protection



# Technological, organizational, and marketing innovation

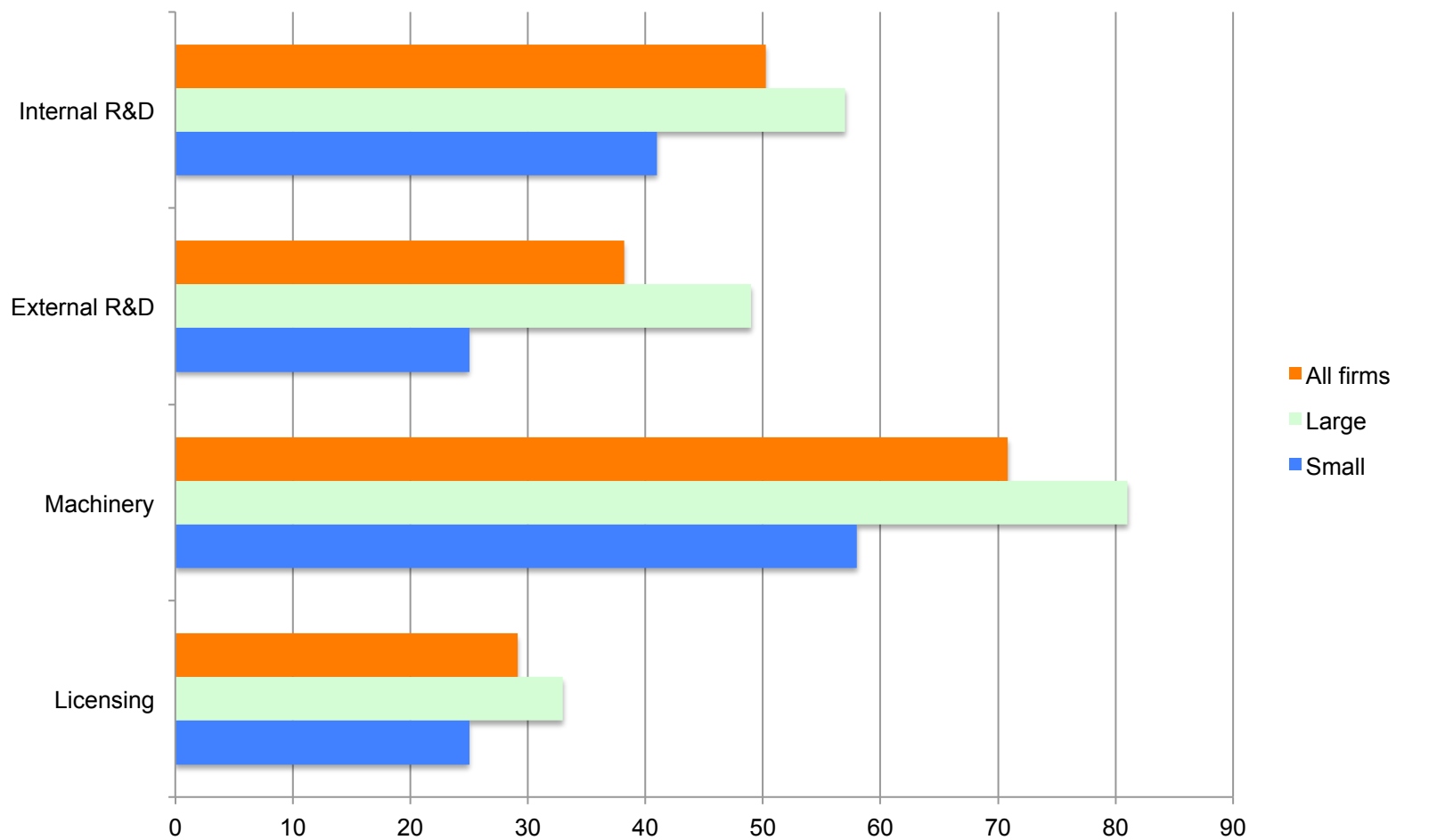


## Products new to the market and foreign innovations

- Products that are new to the Kenyan market constitute a more radical innovation than products new to the firm
- Innovations developed outside of Kenya imply international transfer of technology
- Size and education of the firm's manager are correlated with innovations new to the Kenyan market
- Exporting is correlated with innovations new to the market and introduction of foreign innovations



# Innovation activities, innovative firms



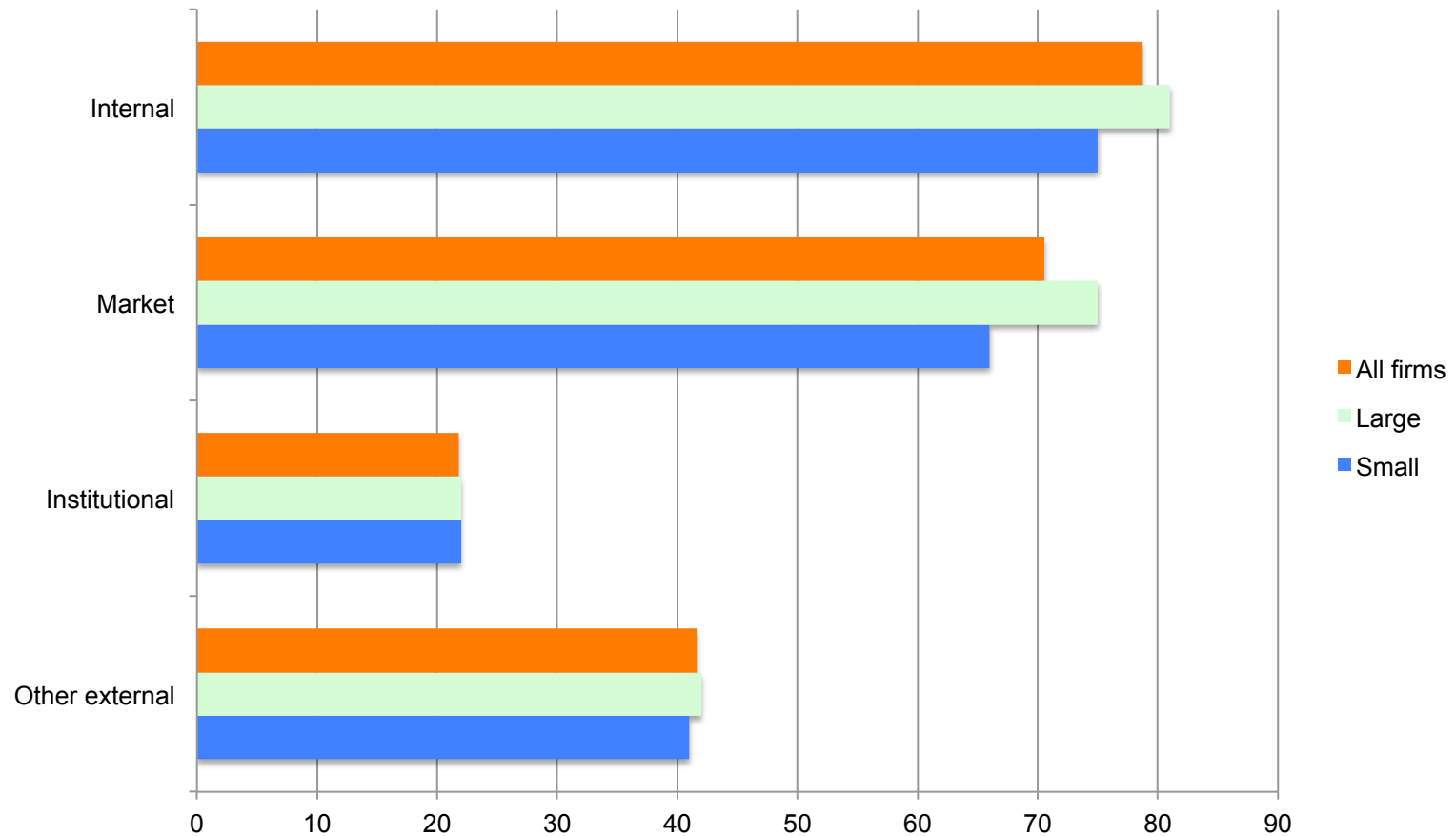


## Firm characteristics and innovation activities

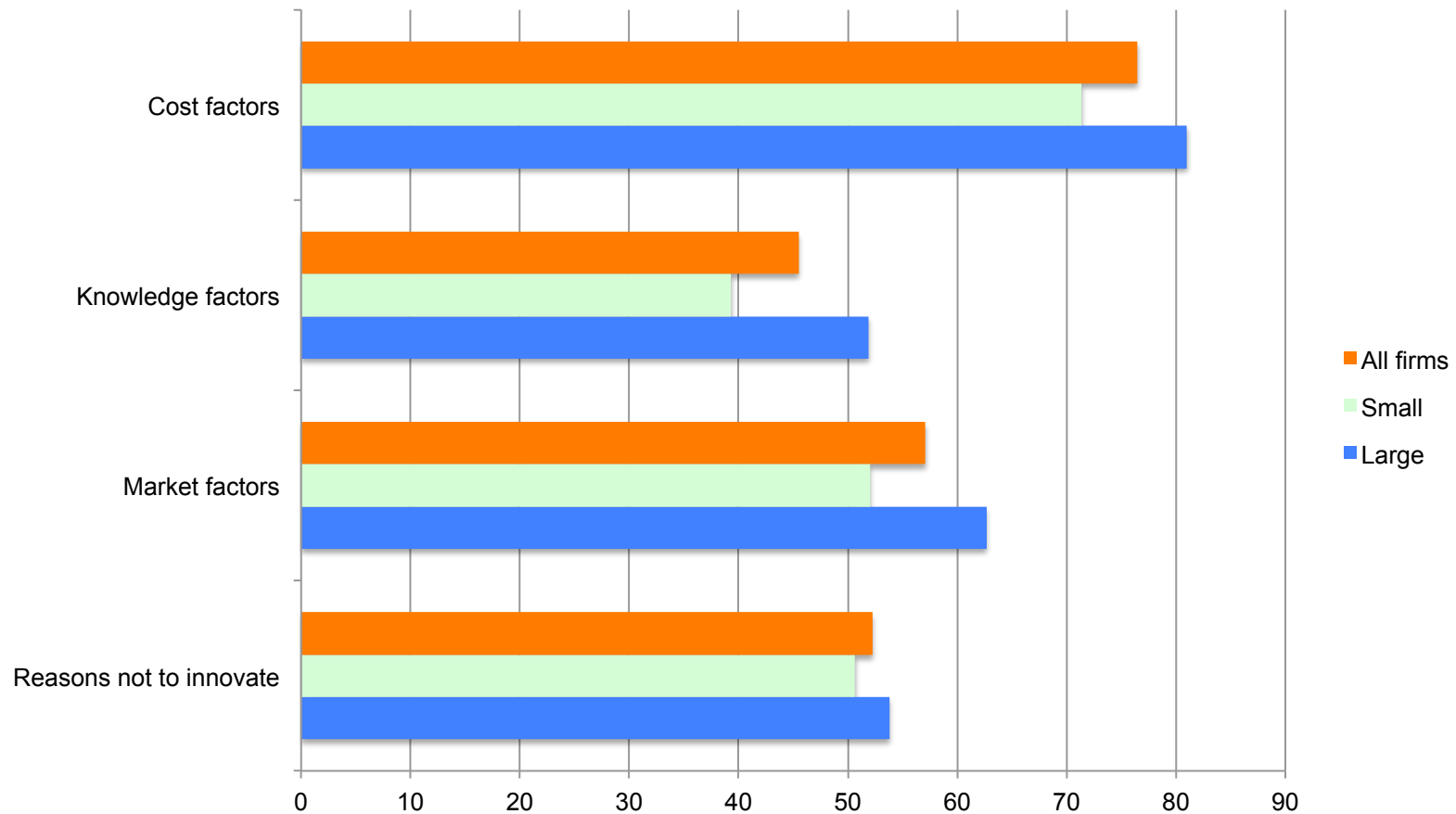
- High correlation among all innovation activities, also with cooperation with other firms and research institutions
- Number of employees is positively correlated with all innovation activities
- Level of education of the firm's manager is also correlated with internal R&D, external R&D, and acquisition of machinery
- Beginning operations as an informal firm does not seem to be an important handicap for undertaking innovation activities



# Internal and market are the most relevant sources of information for innovation



# Main obstacle is cost although other obstacles are important



## Main conclusions and policy implications

- Firm size is correlated with innovation and activities conducive towards innovation. Examine barriers to firm growth
- Exporting is also associated with innovation. Eliminate barriers to trade, work on market integration
- Most important obstacles to innovation: cost, market dominance
- Red tape, bureaucracy discourages innovation and seeking support for innovation activities
- Weak linkages between business sector and academia
- Protection of IPRs essentially by informal means, patenting activities are almost non-existent

