Ministry Of Scientific Research

Egyptian National Innovation Indicators Survey 2009

HIGHLIGHTS

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Under Patronage

Prof. Dr. Hany Helal

Minister of Higher Education and State for Scientific Research

General Supervision

Prof. Dr. Maged Al Sherbiny

Assistant Minister of State for Scientific Research

Department of technical support

Ministry of Scientific Research

Dr. Nora Adel / Manager
Mohamed Ramadan / Technical specialist
Hayam Helmy / Technical specialist
Ahmed Adel / Designer

Study contributers

Ministry of Trade and Industry
Central Agency for Public Mobilization and Statistics
Center for Economic and Financial Research and Studies
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Contents

Introduction

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Innovation has long been recognized as a major driving force in economic growth and social development.

Innovation and competitiveness have a dynamic, mutual relationship because it thrives in a competitive environment and in turn, plays a key role in the achievement of such an environment. Innovation generates economic value, new jobs and improves the entrepreneurial culture. By virtue of its relationship with competitiveness, innovation emerges as a factor in promoting economic growth.

The objective of Egyptian national Innovation indicator Survey 2008 was to assess whether the enterprises working in different fields of economic activities such as manufacturing and services, pay high attention to the notion of innovation and research and development or not. Since innovation could play a major role in developing the products and services of any company, and due to the fact that this process could take place within the management, production, and/ or the marketing processes, and it could be provided from internal or external sources, could take the form of new techniques in production or new training programs to the employees,…etc, it was considered important that the performance of the Egyptian companies should be studied and analyzed.

Innovation

Innovation is a new way of doing something. It refer to implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.

Innovation activities

All scientific, technological, financial, organizational and commercial steps which actually, or are intended to, lead to the implementation of innovations. Some innovation activities are themselves innovative, others are not

novel activities but are necessary for the implementation of innovations. Innovation activities also include R&D that is not directly related to the development of a specific innovation.

R&D and innovation

A second distinction can be made between the concepts of innovation and research and development (R&D). R&D is concerned with the commitment of resources by an enterprise to research and the refinement of ideas aimed at the development of commercially viable products and processes.
The innovation concept is broader than that of R&D. All R&D enterprises are by definition innovative, but all innovators are not automatically R&D performers.

Main type of innovation

Oslo Manual defines four types of innovations that encompass a wide range of changes in enterprises' activities: **Product** innovation, **process** innovation, **organizational** innovation and **marketing** innovation.

1-Product innovations

Introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.
New products are goods and services that differ significantly in their characteristics or intended uses from products previously produced by the firm. The first microprocessors and digital cameras were examples of new products using new technologies.

The development of a new use for a product with only minor changes to its technical specifications is a product innovation. An example is the introduction of a new detergent using an existing chemical composition that was previously used as an intermediary for coating production only. Significant improvements to existing products can occur through changes in materials, components and other characteristics that enhance performance. The introduction of ABS braking, GPS (Global Positioning System) is an example of a product innovation.

2- Process innovation

Implementation of a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.

Process innovations include new or significantly improved methods for the creation and provision of services. They can involve significant changes in the equipment and software used in services-oriented firms or in the procedures or techniques that are employed to deliver

services. Examples are the introduction of GPS tracking devices for transport services, the implementation of a new reservation system in a travel agency, and the development of new techniques for managing projects in a consultancy firm.

3- Marketing innovation

A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.

Marketing innovations are aimed at better addressing customer needs, opening up new markets, or newly positioning a firm's product on the market, with the objective of increasing the firm's sales.

4- Organizational innovation

Implementation of a new organizational method in the firm's business practices, workplace organization or external relations.

Organizational innovations can be intended to increase a firm's performance by reducing administrative costs or transaction costs, improving workplace satisfaction (and thus labor productivity), gaining access to non tradable assets (such as non-codified external knowledge) or reducing costs of supplies.

Methodology and instruments

2

Methodology

In order to conduct this study a random sample of around 3000 enterprises were interviewed, using a specially designed questionnaire form (See appendix), the following part describes the consequent steps of the adopted methodology.

1- Design of the Study

The questionnaire used for the enterprise innovation survey was designed on the basis of the Oslo Manual which describes how to collect and measure the indicators needed to assess national innovation performance in the private sector. Based on a questionnaire adapted from South Africa, the Egyptian questionnaire was translated while maintaining the same codes. The adjustments were done by the team prior to the starting of field work.

The questionnaire was designed to collect data about different characteristics of enterprises from different governorates and cities all over Egypt. The frame of the sample selection was drawn from the Egyptian manufacturing federation according to ISIC and represented all sectors of Egyptian enterprises landscape.

2- Selection of the Sample and Field Work

Enterprises which are located in new manufacturing cities were also included.
These new cities are 6 of October City, El-Oubour City, 10th of Ramadan City, Alexandria (Borg AlArab City). From the Delta Region El-Mahalla ElKobra City that represent the textile industry and Damieta City that represents the furniture industry. From Upper Egypt the sample was drawn from El-Minia ElGedida and Assuit manufacturing new City.

The field work contained the following activities:

• The pre-test stage to test the questionnaire (n= 150) and the design of the sample.

• The selection of the field staff: Data collection personnel were selected from qualified staff of NCSCS, or from new graduates who had prior data collection experience.

• The task team trained these nominees and provided an extra number of candidates to allow for the attrition of disqualified candidates.

• Innovation awareness documents were also prepared.

• Filed reviewers, supervisor and interviewers included females besides males.

After the initial general office training sessions, consequent training sessions were held in small groups.

Pre-test field training was also conducted and the questionnaires were reviewed each day by the research team and common mistakes were discussed in the following morning. Selection of field staff was based on their performance and evaluation results throughout the week.

The data collection process started after the training phase. The field reviewers, by definition, review the questionnaires during the data collection process. Reviewers were also instructed to visit enterprises with researchers when in doubt of the data.

Supervisors were responsible for the stock of blank questionnaires and for the collection of questionnaires after they were reviewed by field reviewers. They were responsible for the distribution of the sample assigned to the team among researchers.

The time estimated for this project was six months for first draft report writing. Three months for preparation to the project and field work. Two weeks for coding and validation. Three weeks for data entry phase, three weeks for data analysis and finally a month for first draft report writing and documentation for all phases of the study.

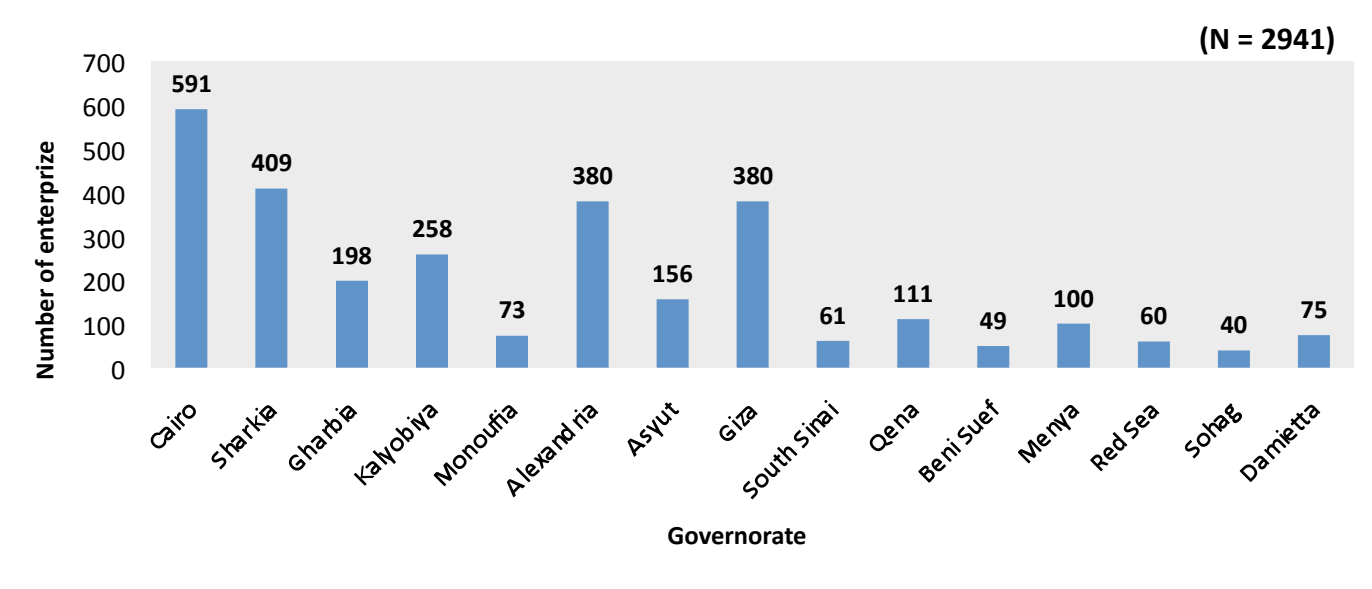
	progress					
Phase	1 month	2 month	3 month	4 month	5 month	6 month
Office preparation						
Questionnaire Design						
Pre-Test						
Field Work						
Office review, coding and validation						
Data Entry and re-interview						
Data Analysis						
Report Writing and documentation						

Enterprises involved in the Survey per Governorate

The following graphs give an overview on the enterprises included in the survey according to location and size. The major part of enterprises is located in the Cairo region (Cairo and Giza). Generally, the selection of the sample in terms of sizes corresponds with the actual distribution of enterprises across Egypt. Response rate of enterprises is 98% from 3000 enterprises (target sample). This means, 2943 enterprises participated in the survey. The sample distribution reflects the real local distribution of all enterprises located in Egypt.

Figure (1)

Number of Enterprises involved in the Innovation Survey per Governorate

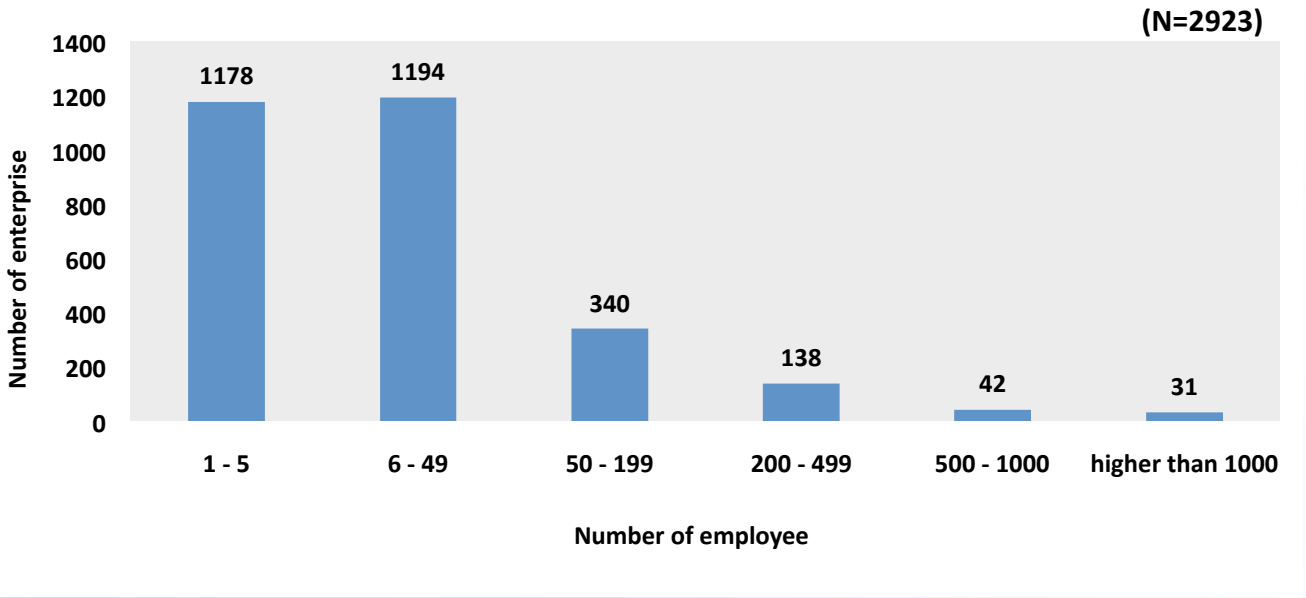


Size of enterprises involved in the Innovation Survey

Concerning the size of enterprises included in the study, the great majority are micro (1-5) and small (6-49) enterprises. This ratio reflects the situation of the Egyptian economy, which is mainly based on the performance of very few big internationally acting companies and depending highly on the economic performance of a very high number of very small companies.

Figure (2)

2007 size of enterprises involved in the Innovation Survey

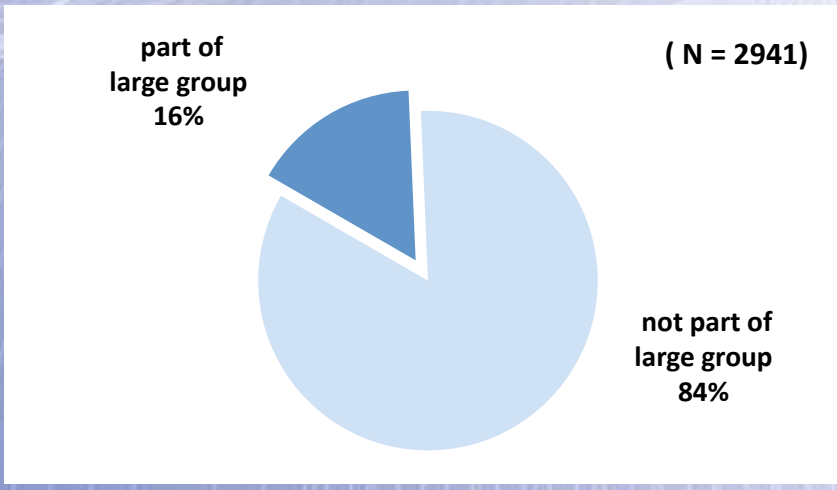


Enterprises which are part of large group

The great majority of Egyptian enterprises aren't part of large groups (about 84%), and the reaming enterprises (About 16%) are part of large group, they consist of two or more legally defined enterprises under common ownership. However each enterprise in the group may serve different markets, as with national or regional subsidiaries, or serve different product markets.

Figure (3)

Proportion of enterprises which are part of large group

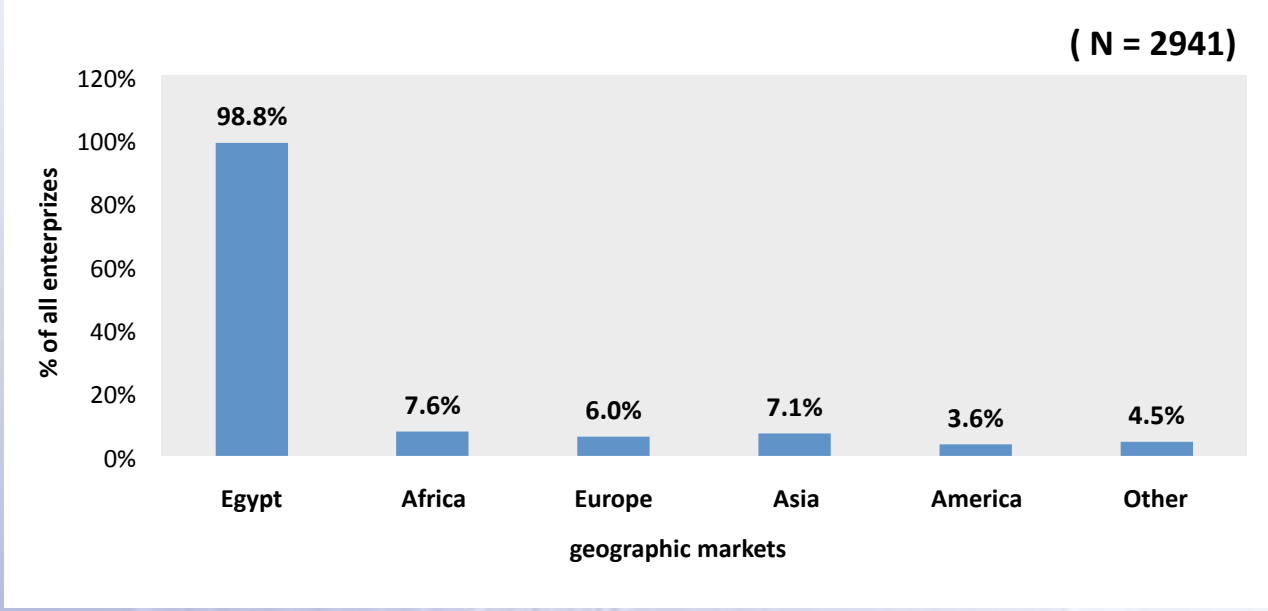


Goods and service sold by enterprises

According to survey, enterprises which sold goods and service in different geographic regions are shown in figure (4). Almost all (98.8%) of innovative and non innovative enterprises sold goods and service inside Egypt .This percentage is extremely high comparing to other geographic market like Africa, Europe, Asia and America were cited by between 7.6 % and 3.6 % of innovative and non-innovative enterprises.

Figure (4)

Goods and service sold by enterprises



Innovation activity

3

The purpose of this section is to provide different types of innovation activity (Product, process, marketing and organizational innovation) that encompass a wide range of changes in enterprises' activities.

1- Product innovation

Egyptian enterprises that introduced product innovation (introduction to market of a new good or service or a significantly improved good or service with respect to its capabilities, such as improved user friendliness, components, software or sub-systems) cited by 12.2%. Breakdown of product innovation by new to the market, new to the firm and unchanged. Majority of product innovative enterprises (81.2%) introduced new goods or services new to the firm. While, product innovative enterprises introduced new goods or services to new market cited by 54.3%, while the unchanged were 2.1%.

Figure (5)
Enterprises that introduced product innovation

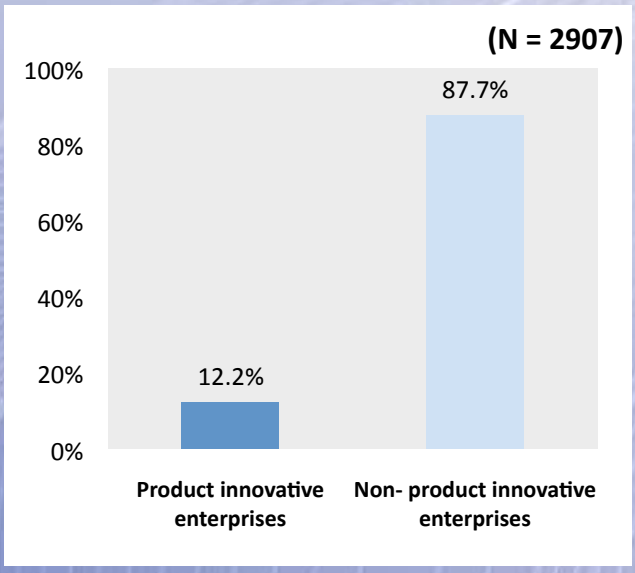
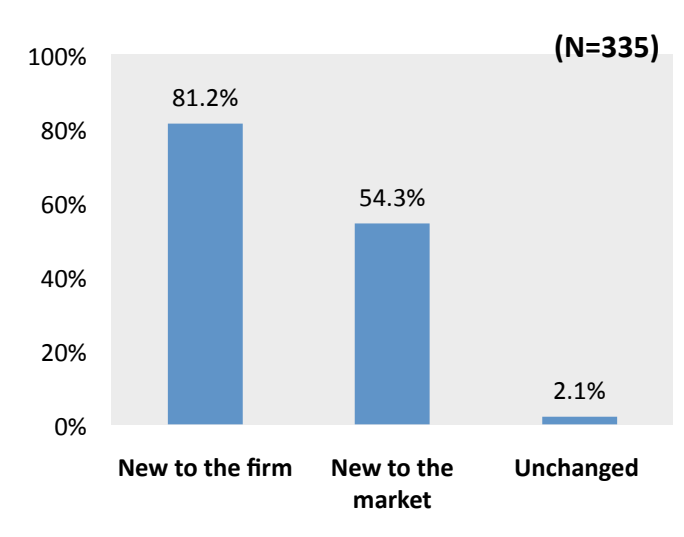


Figure (6)
Breakdown of product innovation

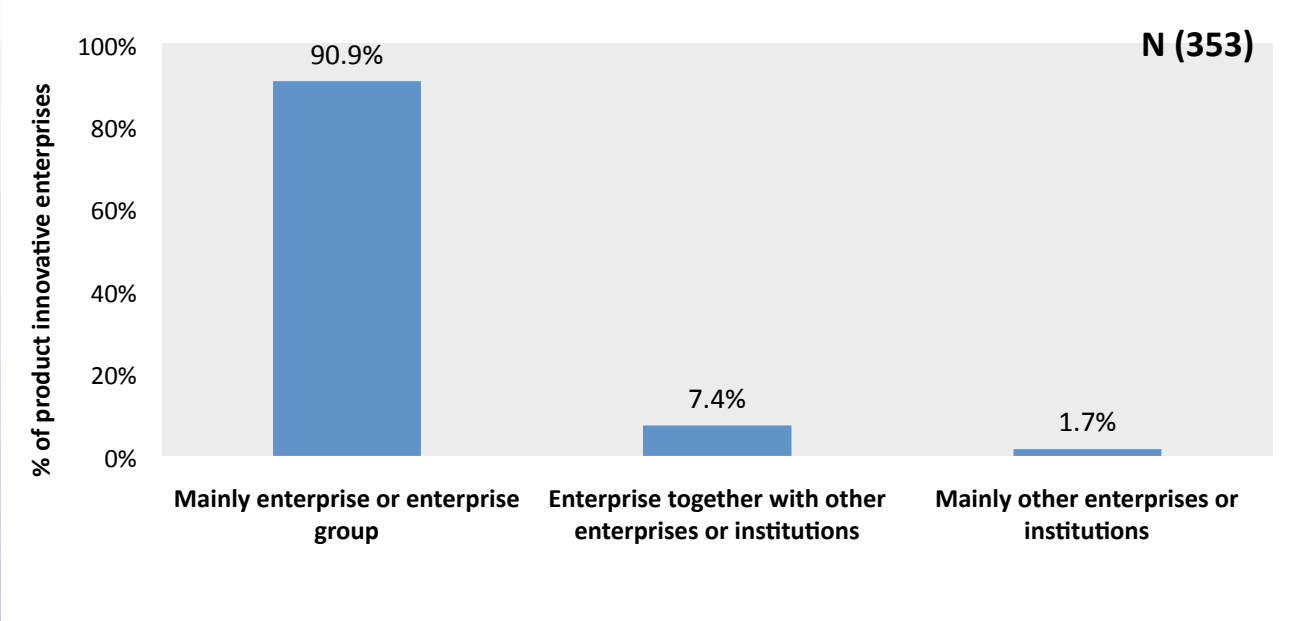


Responsibility for the development of product innovation

The majority of product innovative enterprises depend on themselves for development of innovation product and didn't cooperate with other enterprises as shown in Figure (7), 91% of product innovative enterprises developed by within enterprise themselves and 7.5% developed by cooperation with other enterprises or institutions and the remaining enterprises 1.5% develop it mainly with other enterprises or institutions.

Figure (7)

Responsibility for the development of product innovation

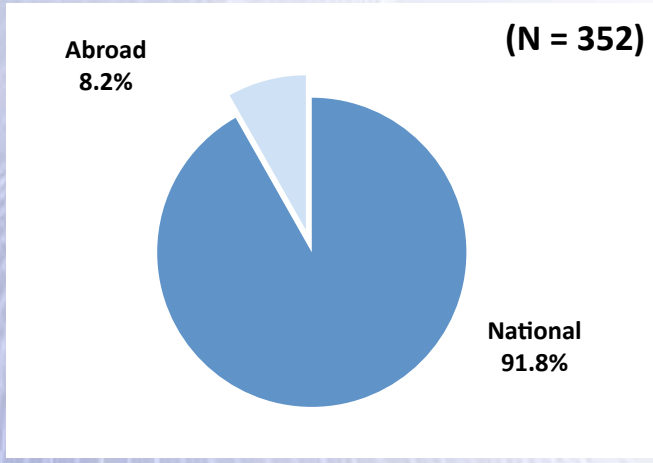


Origin of product innovation

The product innovation originates mainly in Egypt and most of enterprises depend on themselves for introduced product innovations which agree with results of responsibility for the development of product innovation, where 91.8 % of enterprises develop their product innovation nationally and only 8.2% develop it from abroad.

Figure (8)

Origin of product innovation

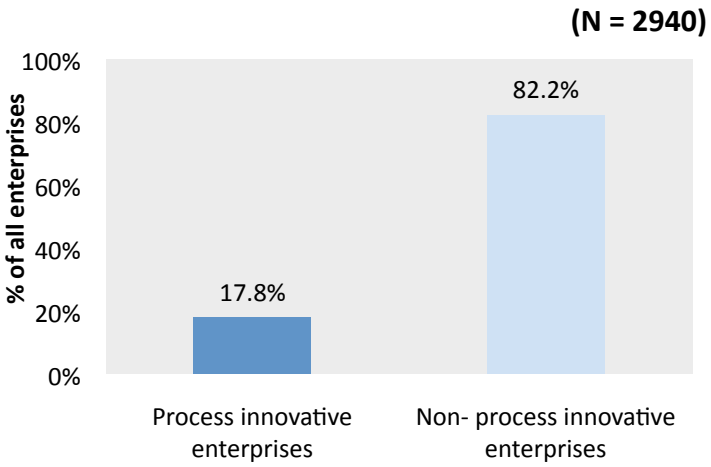


2- Process innovations

The analysis for survey clearly shows 17.8% of all enterprises performed process innovation (use of new or significantly improved methods for the production or supply of goods and services, while 82.2% of enterprises don't perform any process innovation activity.

Figure (9)

Enterprises that introduced process innovation

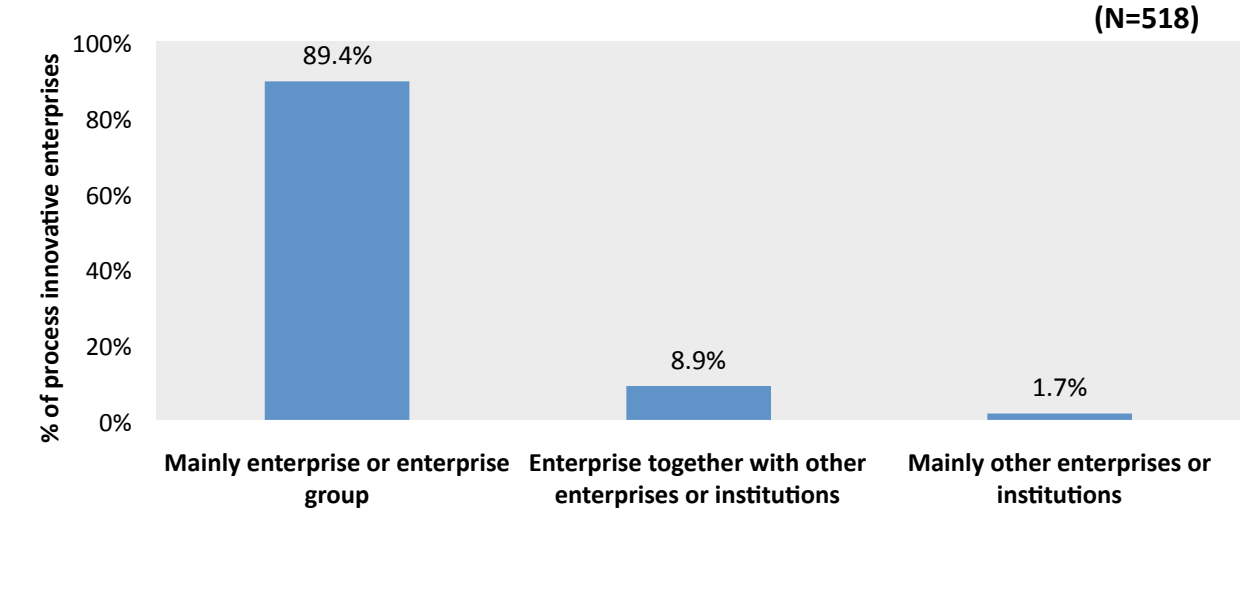


Responsibility for the development of process innovation

The majority of process innovative enterprises (89.4%) depend on themselves in development of process innovations (within the enterprise or the enterprise group), and 8.9 % with other enterprises, while 1.7% of enterprises depend on other enterprises or institutions for development of process innovation.

Figure (10)

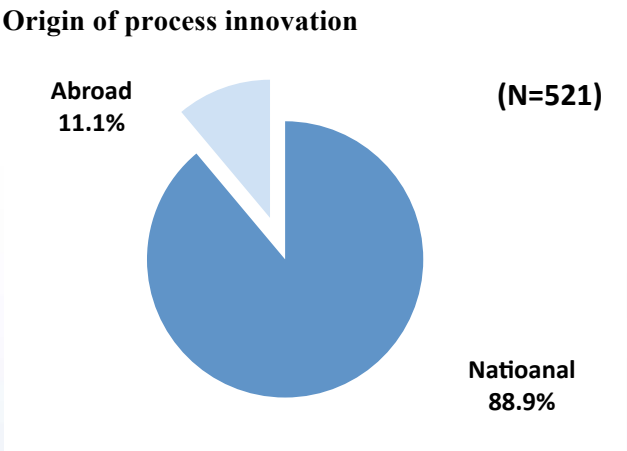
Responsibility for the development of process innovation



Origin of process innovation

88.9 % of process innovation originates inside Egypt and 11.1% from abroad, similar to pervious result obtained in product innovation. Meaning, most of enterprises depend on themselves for introduced innovation and there are lack in cooperation between enterprises and others specially enterprises outside Egypt.

Figure (11)



3- Wider Innovation (organizational and marketing Innovation)

In recognition of the fact that technical innovation (i.e. innovation in products and processes only) may capture only a small proportion of innovation outputs, the survey included questions relating to 'wider' innovation. In part, this appears to have been driven by concerns over the presumed lesser relevance of technical innovation to certain sectors, particularly services. By exploring a wider set of technological change activities (in the broader sense of knowledge of tools and crafts, rather than concerned with physical artefacts).

Wider innovation covers the following activities:

• New or significantly improved knowledge management systems to better use or exchange information, knowledge and skills within your enterprise.

• Major changes to the organization of work within the enterprise, such as changes in the management structure or integrating different departments or activities.

• New or significant changes in the external relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting.

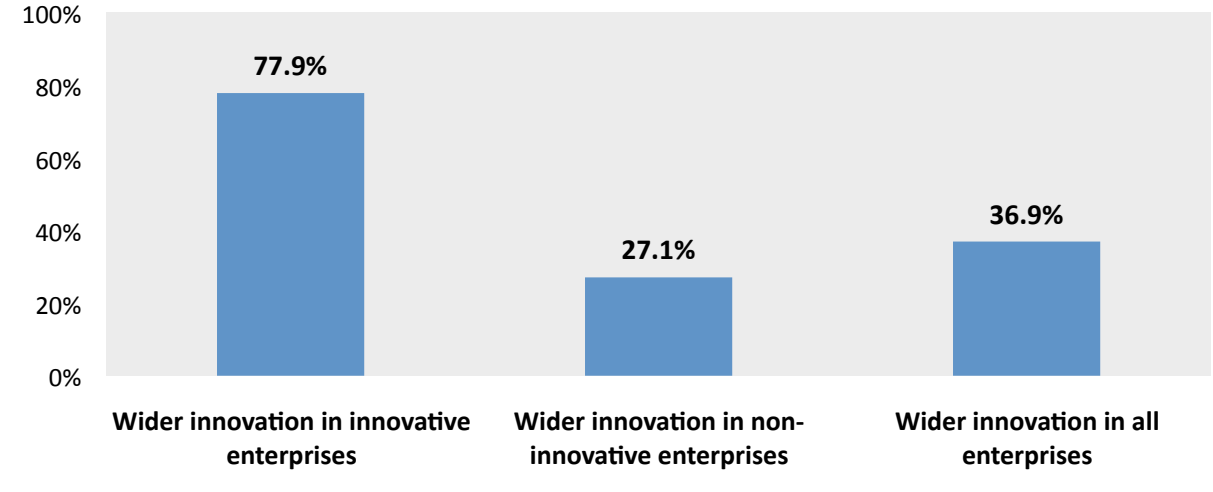
• Significant changes to the design or packaging of a good or service

• New or significantly changed sales or distribution methods, such as internet sales, franchising, direct sales or distribution licenses.

The following figure (12) shows that, around 77.9 % of innovative enterprises have wider innovation while 27.1% of non-innovative enterprises have wider innovation.

Figure (12)

Wider innovation in enterprises

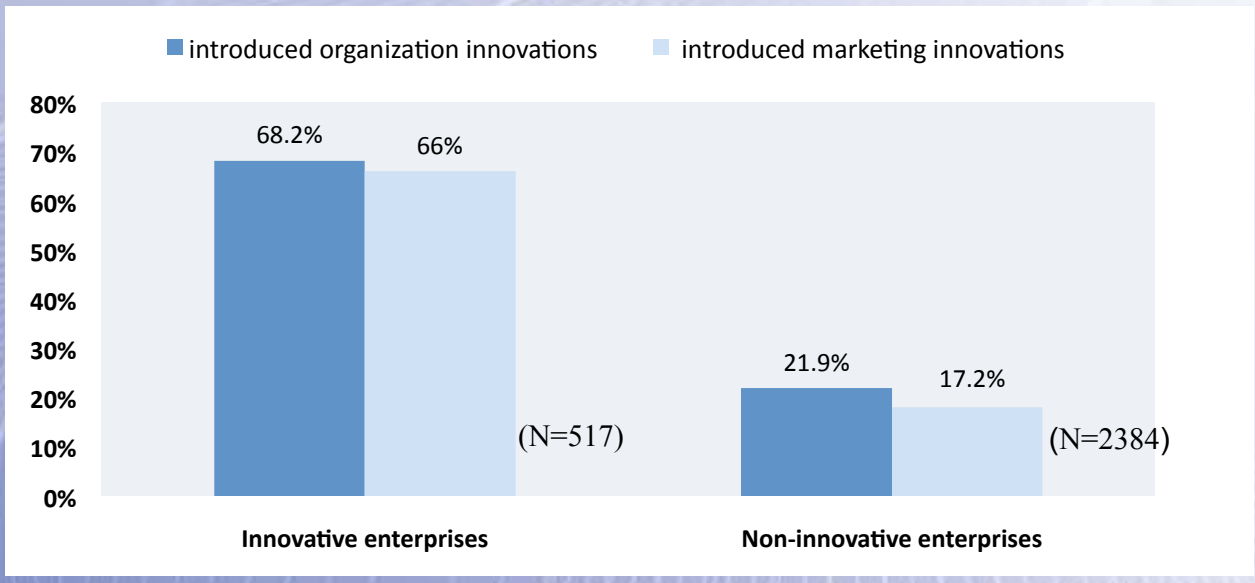


Organizational or marketing Innovation per enterprises

There was a direct relationship between innovative enterprises and marketing and organizational (wider) innovations where the value increased of case in innovative enterprises but was decreased in non-innovative enterprises as shown in figure (13), it shows that 68.2% of innovative enterprises introduced organization innovation and 66 % of innovative enterprises introduced marketing innovation while about 20 % of non-innovative enterprises introduced marketing innovations and organizational innovation

Figure (13)

Enterprises that introduced organizational or marketing Innovation

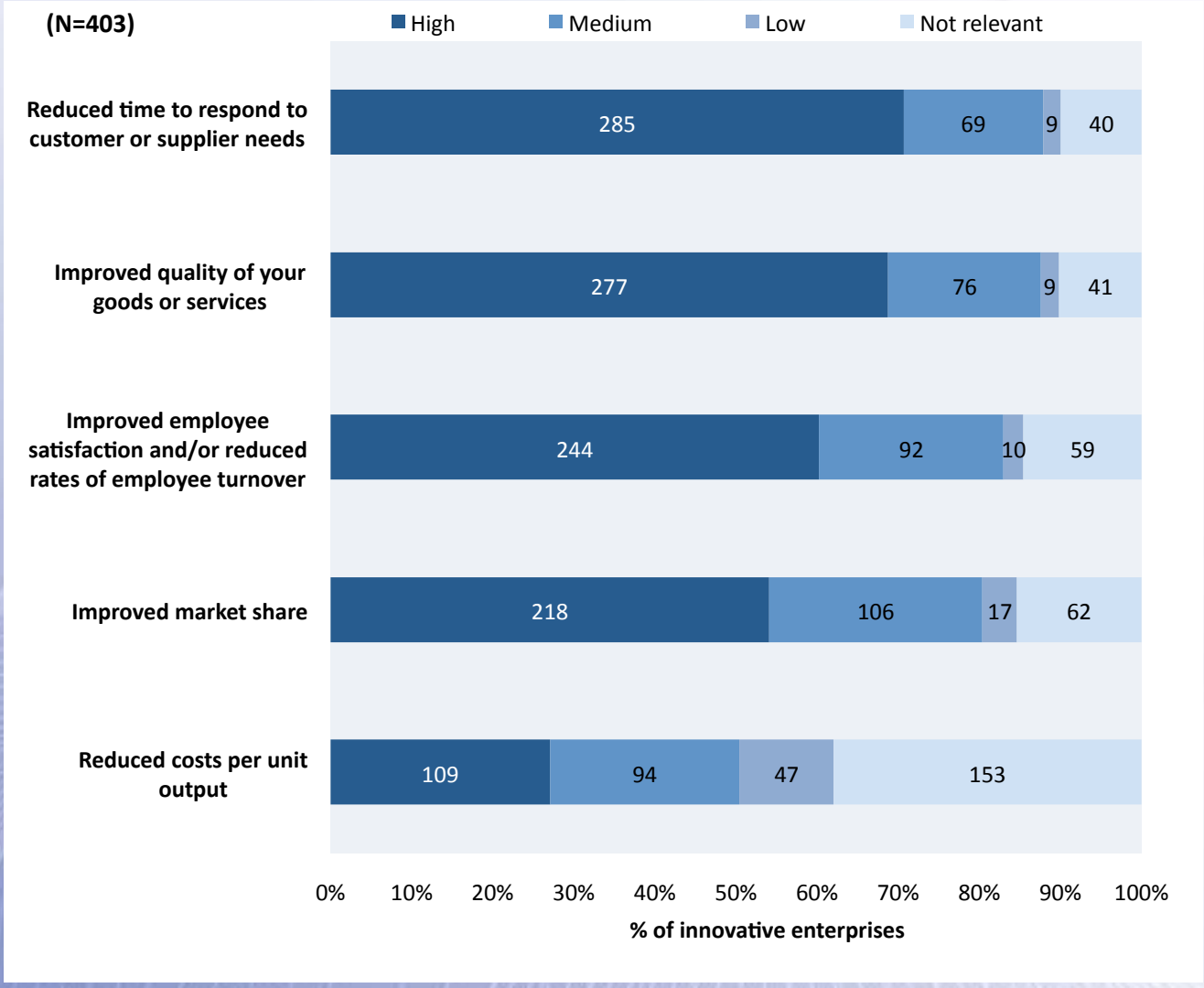


Innovative enterprises that introduced organizational innovation and the importance of results

Figure (14) shows importance of results for innovative enterprises that introduced organizational innovation. The highly important factor appeared to be reduced time to respond to customer or supplier needs reducing which was cited by about 71% of innovative enterprises. The next most important effect was to improved quality of goods or services about 68%, and the other (Improved employee satisfaction, improved market share and reduced costs per unit output) were cited by between about 60% and 27% of innovative enterprises.

Figure (14)

Innovative enterprises that introduced organizational innovation and the importance of results



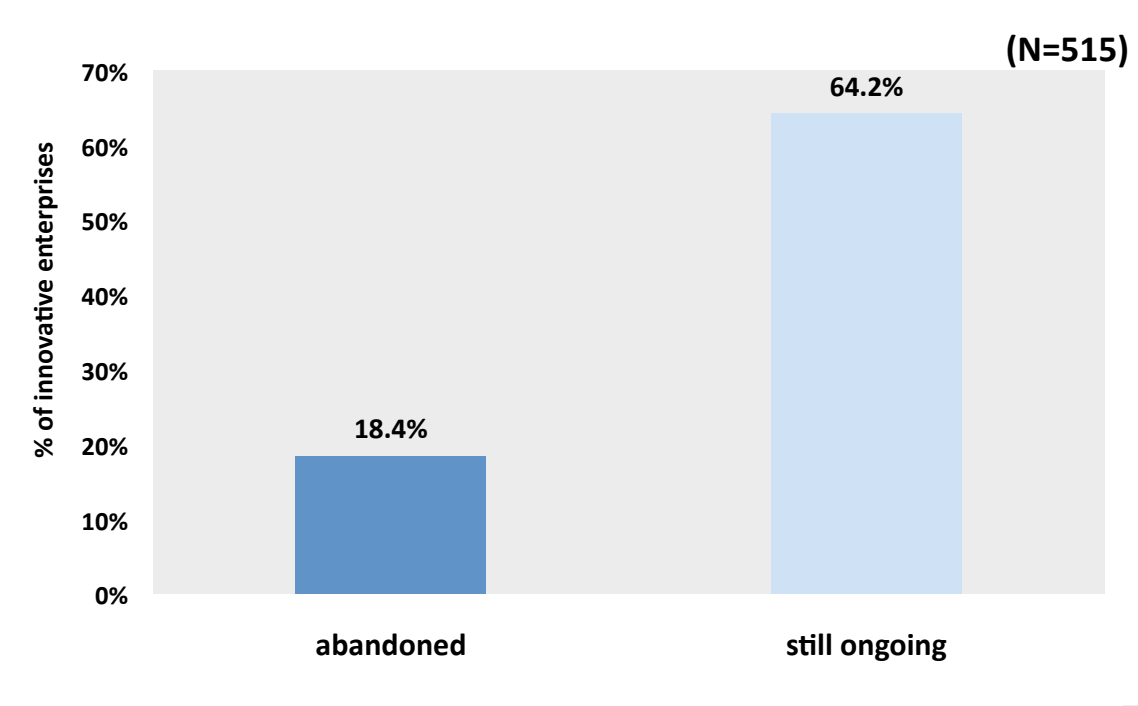
4- Ongoing or abandoned innovation activities

Ongoing or abandoned innovation activities included the acquisition of machinery, equipment, software, licenses, engineering and development work, training, marketing and research and experimental development (R&D)

Figure (15) provides information on the ongoing or abandoned innovation activities in innovative enterprises, there were 18.4% of enterprise have abandoned innovation activities to develop product or process innovations, while enterprise have still ongoing innovation activities to develop product or process innovations was cited 64.2%.

Figure (15)

Ongoing or abandoned innovation activities in innovative enterprises



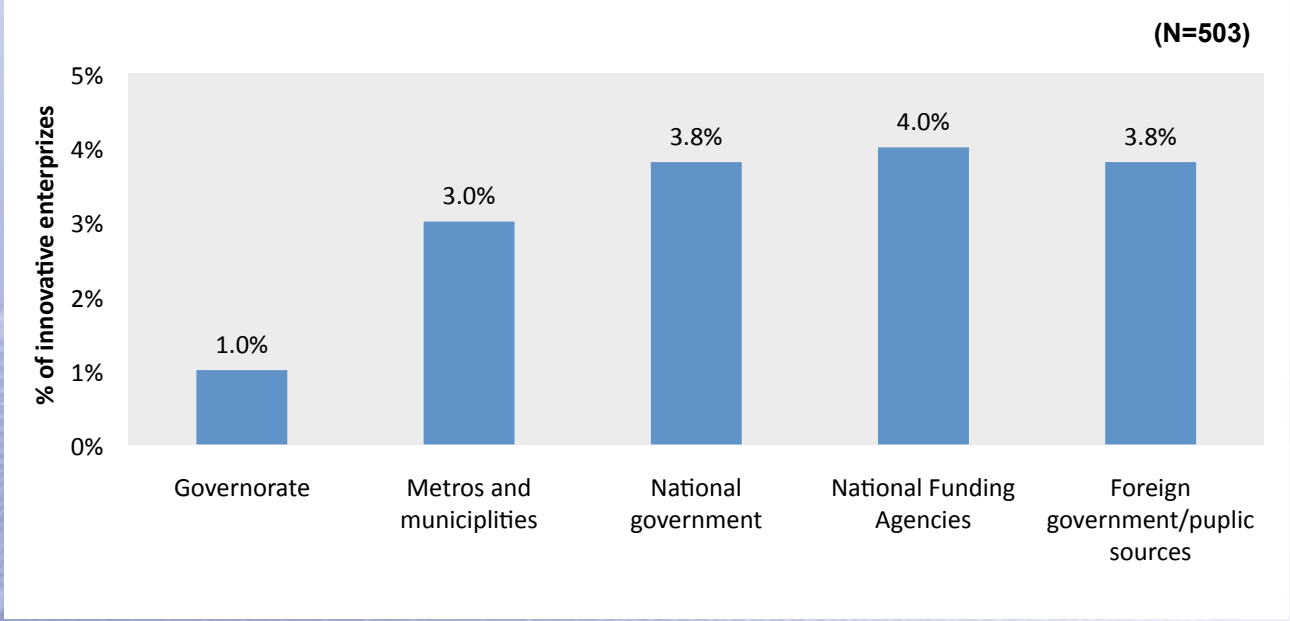
Financial support for innovation activities

4

Financial support for innovation activities

The financial support for innovation activities was quite limited. Figure (16) provides information on enterprises that received financial support for innovative activities. Only 4% of innovation activities received financial support from National funding agencies and 3.8% from national government and foreign government/ public sources. While, 3% from Metros and municipalities and about 1% received financial support from governorate.

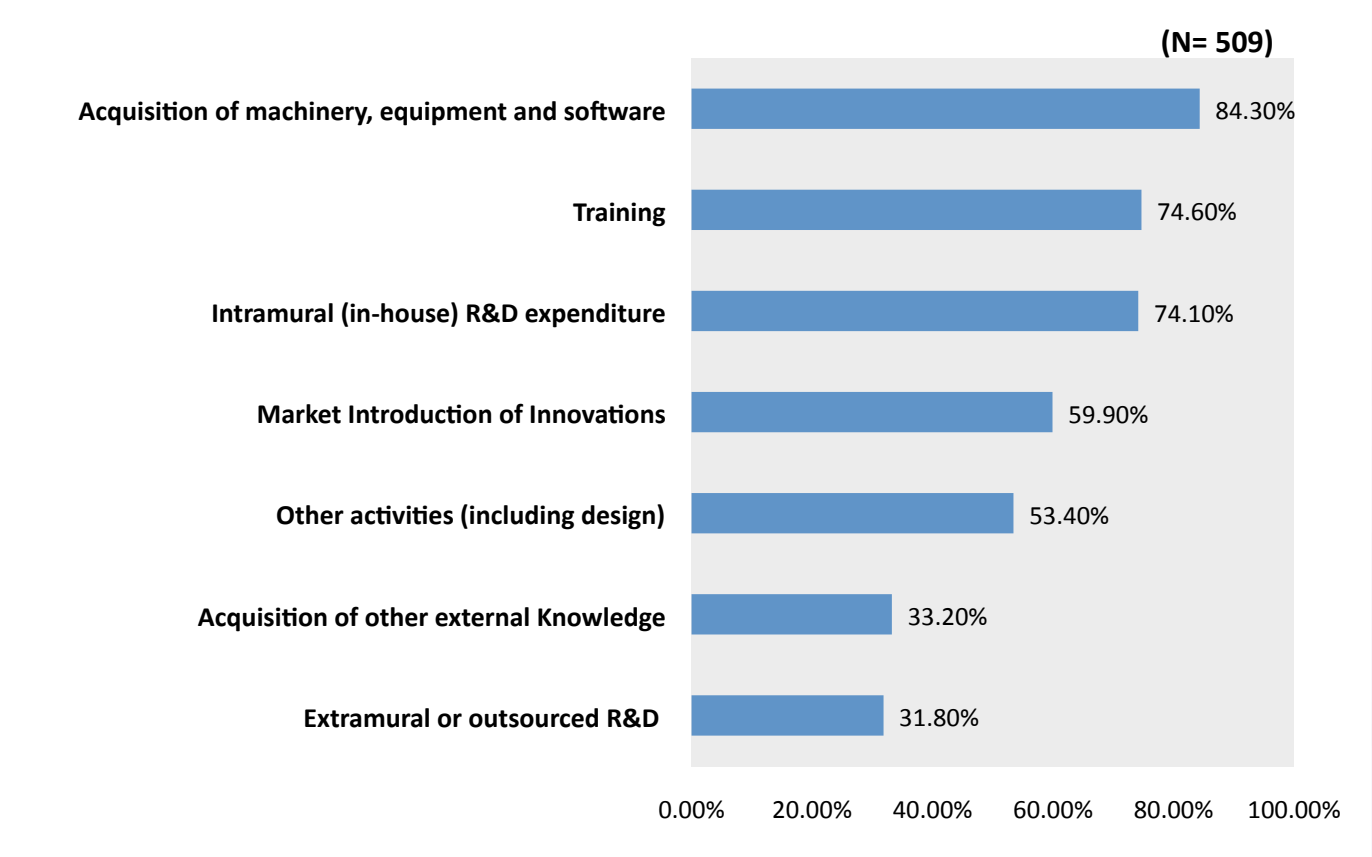
Figure (16)
Financial support for innovation activities



Types of innovation activities

Now asking about the type or the nature of these innovation project shows that the majority of enterprises are active in innovation efforts related to the acquisition of new machinery, equipment or software (see figure 17). The second and third most common types of innovation activities are training and in-house R&D. As expected, only 31.8% (Extramural R&D) and 33.2% (Acquisition of external knowledge) of all innovation active enterprises are cooperating with external partners like other enterprises or R&D institutions when engaging in innovation activities.

Figure (17)
Types of innovation activities



Sources of information

5

There has been considerable recent discussion in the innovation literature about the generation of innovation ideas and the use, and relative importance, of various sources of information. Of particular concern has been the balance between internal and external sources of information, and, amongst external sources, the balance between public and private information sources. With this in mind, figure (18) outlines survey responses to a question relating to the use and perceived importance of a variety of potential sources of information for innovation.

Regarding the sources of information used when planning or implementing an innovation activity, we will take a special look at the cooperation partners from research institutions.

There are three sources of information:
• **Internal:** from within the enterprise itself or from other enterprises within the enterprise group;
• **Market**: from suppliers of equipment, materials, components or software , clients or customers, competitors or other enterprises , consultants, commercial labs or private R&D institutes;
• **Institutional**: from universities and government or public research; or
• **Other**: from conferences, trade fairs, exhibitions, scientific journals and trade/technical publications, professional and industry associations.

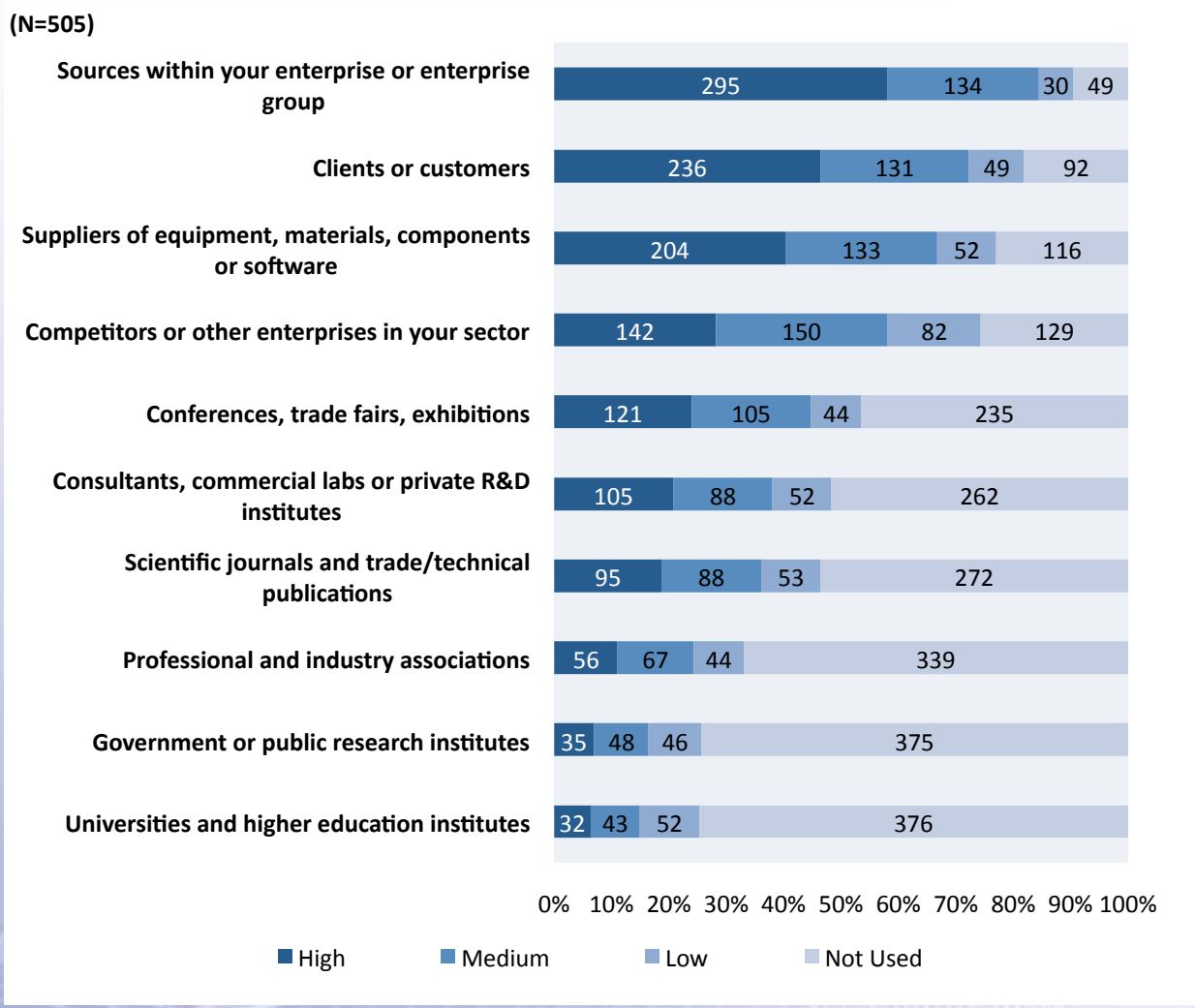
Nearly 58.1% of all innovative enterprises rated the sources of information within the enterprise (or enterprise group) as highly important for innovation activities. The clients and customers represented a major source of information for 46.5% of innovative enterprises, followed by the suppliers (40.4%), the competitors (28.2%) and for institutional sources we can find university and higher education institutions (6.4%).

The most important partners for innovation come from within the enterprise or own enterprise group, meaning that Egyptian enterprises prefer in-house R&D activities. Closely followed by cooperation with clients or customers as well as suppliers which indicate a very good networking between enterprises and a good cooperation within a companies supply chain.

As expected, R&D institutions and universities are the least important partners for an enterprises innovation activities.

Figure (18)

Importance of information resources for innovation



Effects of Innovation

6

Regarding the effects of innovation attempts and activities draws a more differentiated picture. Many enterprises stated very great impacts of innovation activities in terms of successfully entering new market or increasing their market share, increasing product or service quality, improving the flexibility of production processes and services and increasing the general capacity of production processes or services. Innovation had less effect on labor costs and savings in materials or energy.

Enterprises were asked to rank a number of drivers for innovating on a scale from 'not relevant', through 'low', 'medium' or 'high' impact as s shown in figure (19).

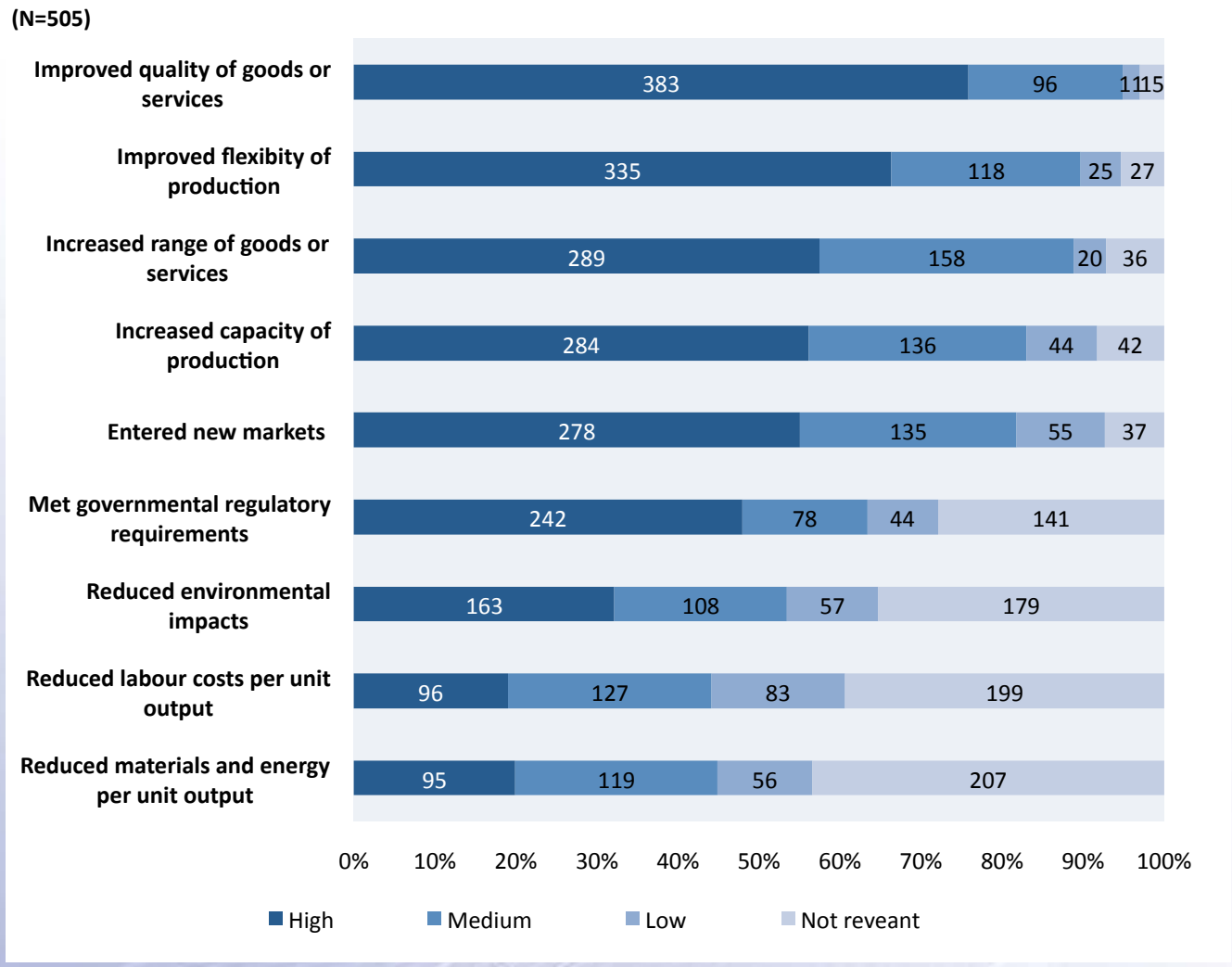
For proportion of innovation active respondents who answered 'high' in each category The most significant impact appeared to be Improved quality of goods or services , which was cited by about (74.1 %) of enterprises with innovation activity. The next most important effect was improved flexibity of production (64.8 %), while Increased range of goods or services, Entered new markets or increased market share, Increased capacity of production, Met governmental regulatory requirements and Reduced environmental impacts ranging from 55.9% to 31.5.

The lowest level of impact (rated as highly important) was reduced labour costs per unit output and reduced materials and energy per unit which was cited by 18.6 % and 18.4% respectively.

Innovation indeed seems to pay off for the major part of innovative companies. Increasing market shares has a direct effect on the financial income of a company and pays off for the investment in the innovation activity on the long run.

Figure (19)

Effects of Innovation



Barriers to Innovation

7

Beyond resource considerations (as indicated by skills and expenditures) the academic literature is increasingly concerned with the extent to which perceived barriers to innovation hinder innovative activity. Here perceptions are more important than any objective measurement of constraints. If firms perceive of a difficulty, they are likely to react to it regardless of its objective basis. To date, much of the debate (often focused upon smaller firms) has been concerned with the existence of financial constraints to innovation. However, more recently there has been an increasing tendency to argue that firms are, in fact, 'know-how' constrained, rather than financially constrained.

That is, access to adequately qualified personnel may be the principal barrier to innovation for most firms. Data from the survey allows us to explore these issues.

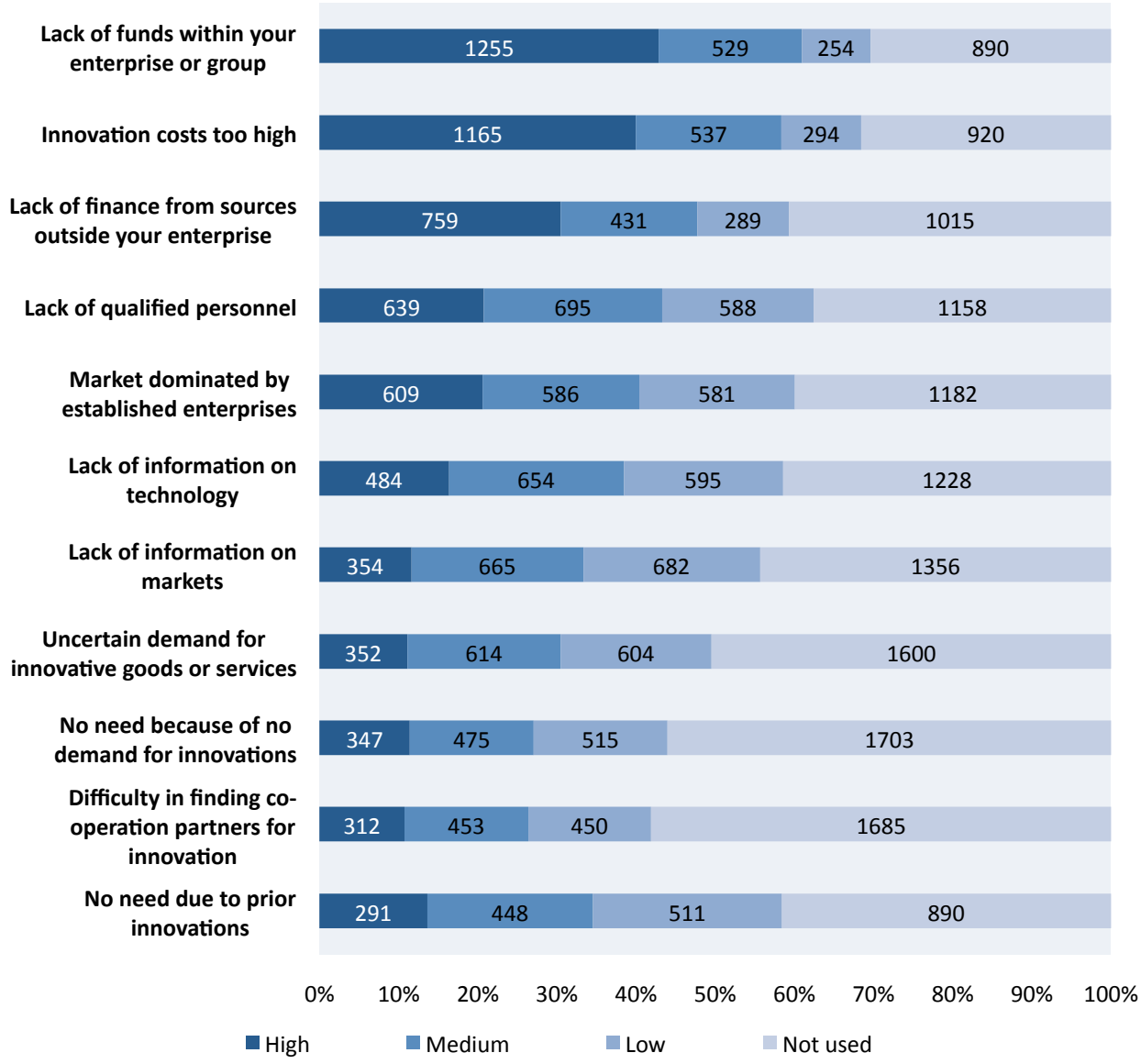
The analysis for Egypt clearly shows, that the most important reason for the decision, not to innovate are still financial reasons. Lack of funding by the own enterprise or the enterprise group as well is one of those reasons, and additionally the innovation costs are considered as too high.

Factors having a very low impact on a negative innovation decision are difficulties in finding partners for innovation or uncertain demand and market situations. An issue which is not yet clearly outlined, but does have a slight impact is the lack of qualified personnel.

Figure (20)

Barriers to Innovation – Answers across all sectors

(N=2928)



Intellectual property rights

8

Intellectual property rights (IPR) are the link between innovation, inventions and other intellectual creations and the market. Applying for a patent, for example, makes an invention public but at the same time gives it protection.

Enterprises that secured a patent in Egypt or applied for at least one outside

Figure (21) provides information on enterprises that secured a patent in Egypt or applied for at least one outside Egypt , there were 5.2% of all enterprises (innovative and non-innovative) secured a patent in Egypt and 3.3 % of all enterprises applied at least one patent outside Egypt.

Enterprises that made use of intellectual property right

Figure (22) shows the shares of these protection methods for innovative Enterprises. The most common protection method is "to register a trademark", Nearly 36.8% of enterprises registered a trademark. And 6.9% of enterprises claimed copyright while18.6 % of enterprises registered industrial designs.

Figure (21)

Enterprises that secured a patent in Egypt or applied for at least one outside

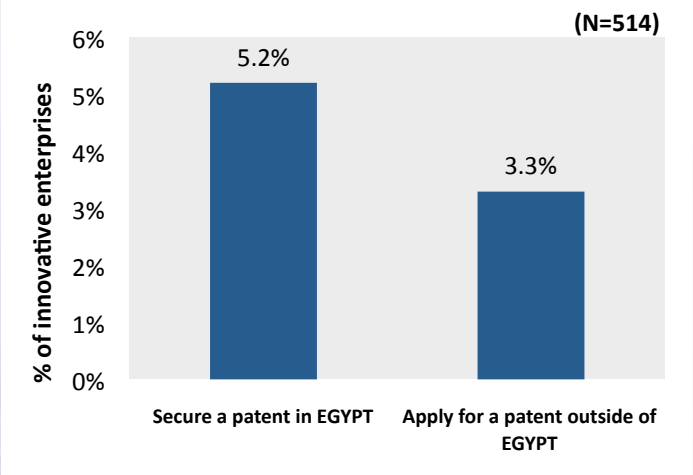
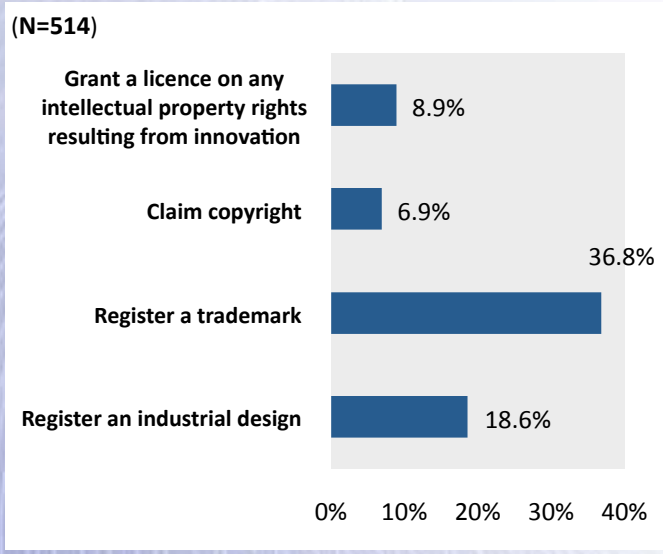


Figure (22)

Enterprises that made use of intellectual property right



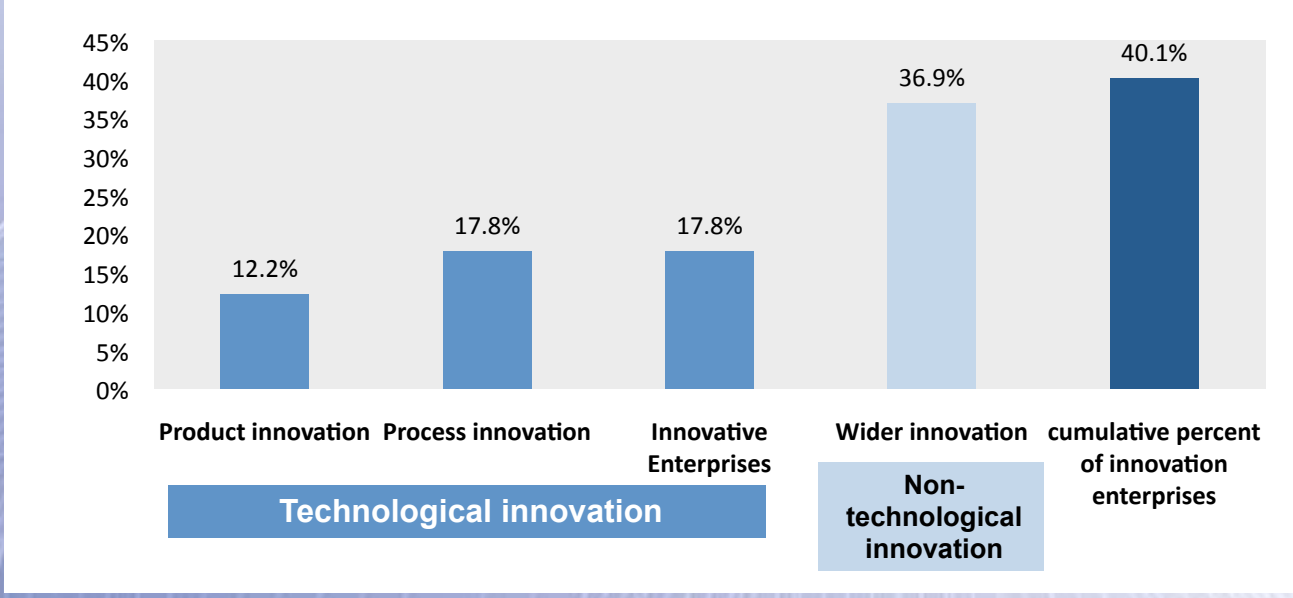
Cumulative findings of innovation indicators

9

Innovation takes place through a wide variety of business practices. The majority of the survey is concerned with innovation through new and improved products and processes and with the investments that develop and implement them.

An analysis of those enterprises, which indicated innovation activities shows that about 17.8% of Egyptian companies are active in either process innovation or product innovation (Technological innovation) and 36.9 % of Egyptian companies are active in wider innovation (Non-technological innovation). If wider innovation activities are integrated into the analysis, the innovation shifts to a total number of 40.1% (figure23).

Figure (23)
Innovation enterprises



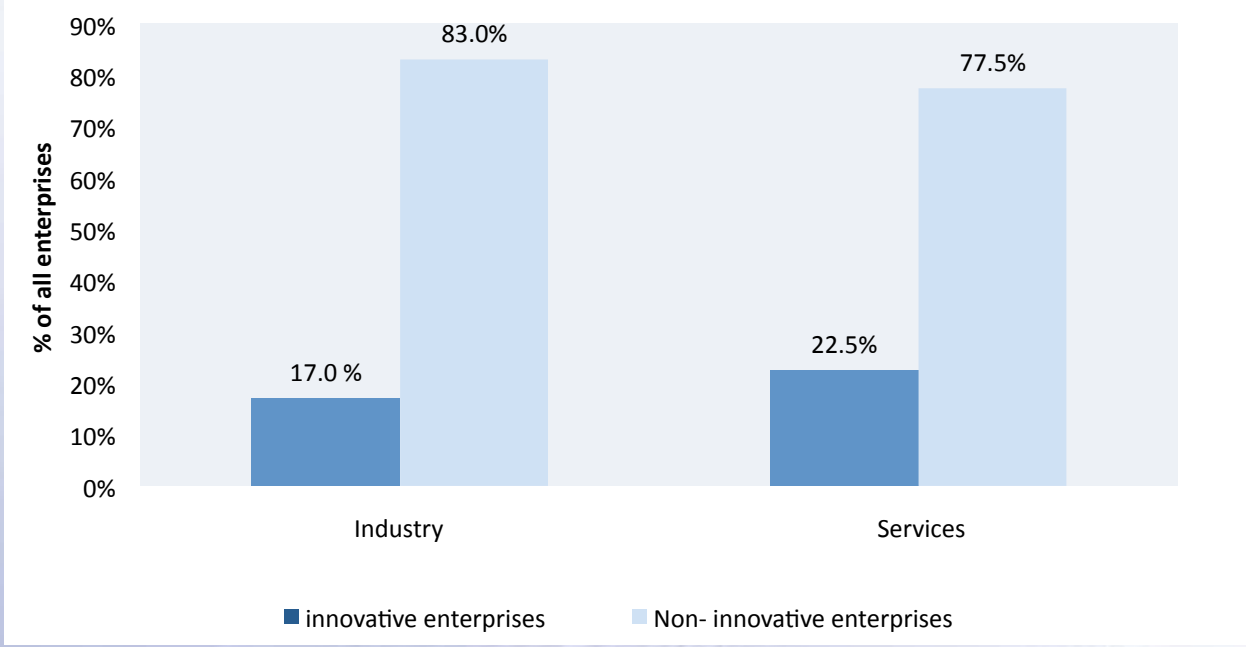
Innovation per Sector

Looking at the differences of innovation activities per sector, the analysis outlines a higher percentage of innovation activities in the service sector.

Almost 22.5% of service companies indicate innovation activities compared to 17.0% in the industry (manufacturing) sector.

Figure (24)

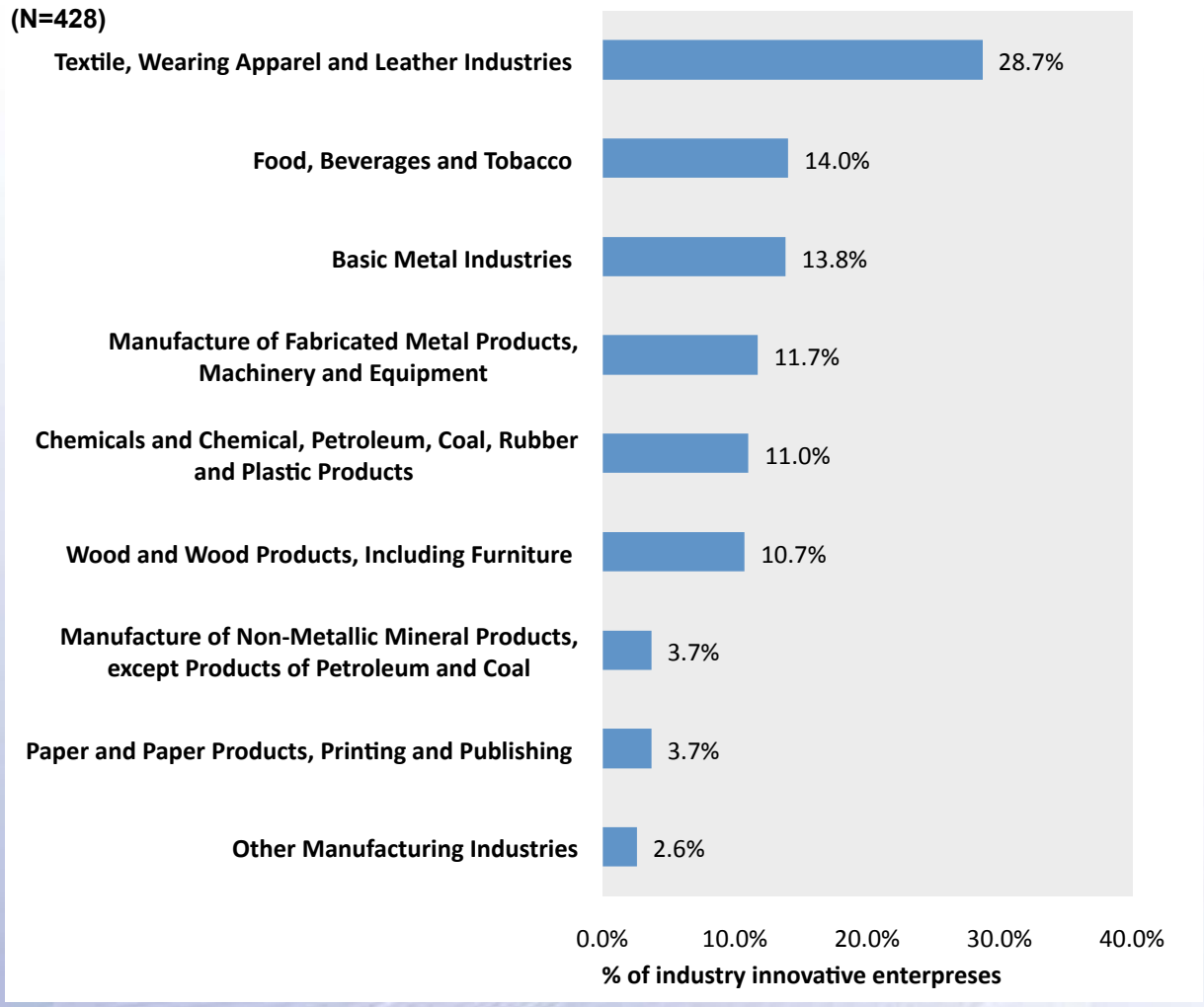
Innovation active enterprises per sector



By breaking the manufacturing sector down at the level of ISIC Rev.2 codes,(Figure 25) over a quarter (28.7%) of all innovative enterprises in industry sectors had innovation activities in manufacturing of Textile, Wearing Apparel and Leather Industries followed by innovation in manufacturing of Food, Beverages and Tobacco (14.0%) and the other manufacturing, the innovation activity were cited by between about 13.8% and 2.6 % of innovative enterprises in industry sector.

Figure (25)

Proportion of innovative enterprises in industry sectors



Innovation per governorate

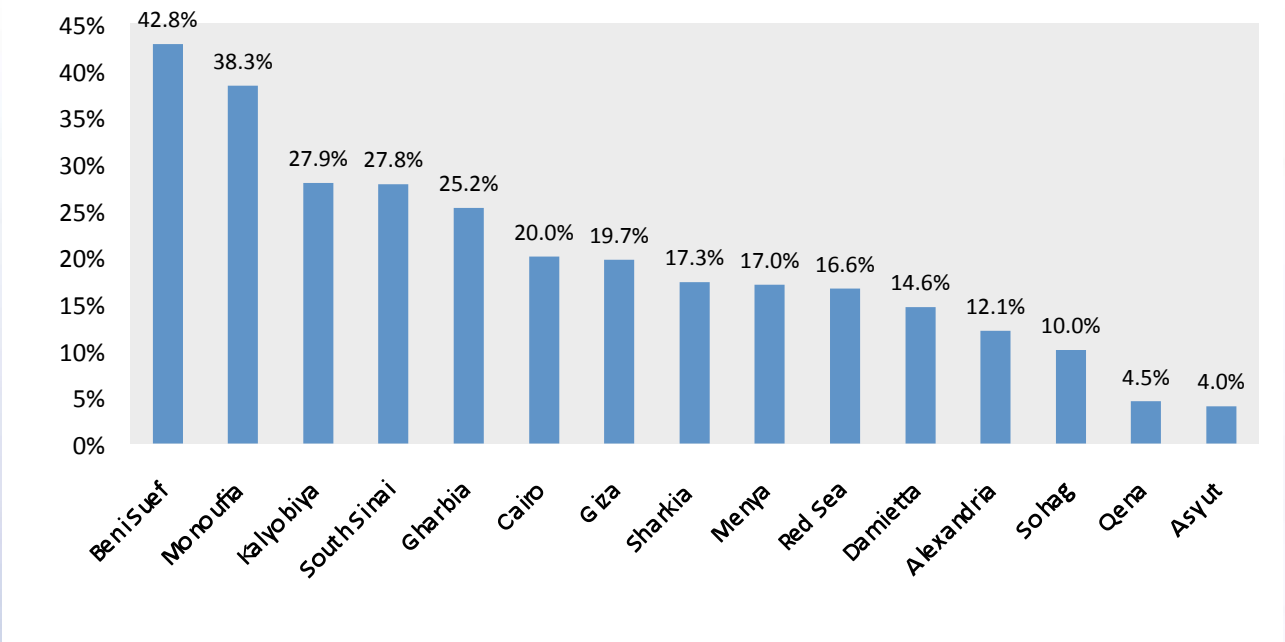
Looking at the different regions in Egypt and their innovation performance, the analysis clearly shows great differences between different regions. The two regions, which can be clearly identified as the innovation-leaders among the Egyptian governorates are Beni Suef (42.8%) and Monoufia (38.3%). Quena and Asyut have a surprisingly low innovation rate with only 4.0%.

The Cairo region with the two governorates of Cairo and Giza, which

made up the greatest part of companies involved in the study overall, is located at the average level in the middle of all innovative regions.

Figure (26)

Ratio of innovation-active enterprises per region



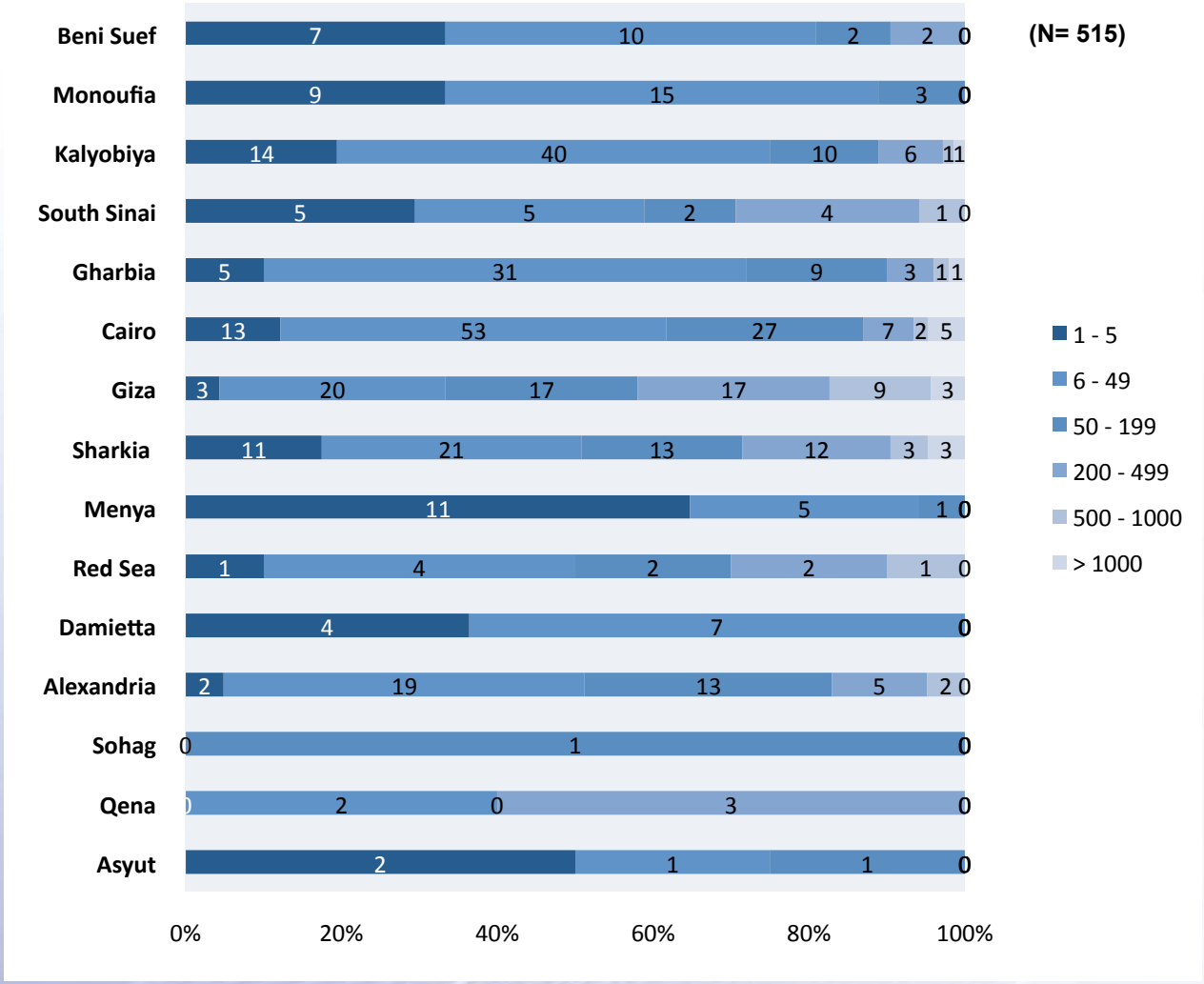
It will be interesting to see, what are the reasons for the different performance of Egyptian governorates in terms of innovation activities. Further analysis will be done in order to take a closer look at the different types of innovation, the sources of information, company sizes as well as factors hampering innovation within regions.

An analysis of the size of innovative companies distributed over the regions is shown in following figure (27). The order of regions equals the one chosen in figure (26), starting with the two most innovative regions at the bottom and going up to the two least innovative regions at the top.

Looking at the two most innovative governorates shows, that a greatest part of the innovation active companies are the micro and small enterprises. Within most regions, the small enterprises between 6 and 49 employees do perform the greatest part of all Innovation activities.

Figure (27)

Innovation-active companies and their size distribution within regions



Executive summary

10

Innovation has long been recognized as a major driving force in economic growth and social development. Innovation and competitiveness have a dynamic, mutual relationship because it thrives in a competitive environment and in turn, plays a key role in the achievement of such an environment. Innovation generates economic value, new jobs and improves the entrepreneurial culture. By virtue of its relationship with competitiveness, innovation emerges as a factor in promoting economic growth.

the objective of Egyptian national Innovation indicator Survey 2008 was to assess whether the enterprises working in different fields of economic activities such as manufacturing and services, pay high attention to the notion of innovation and research and development or not. Since innovation could play a major role in developing the products and services of any company, and due to the fact that this process could take place within the management, production, and/ or the marketing processes, and it could be provided from internal or external sources, could take the form of new techniques in production or new training programs to the employees,…etc, it was considered important that the performance of the Egyptian companies should be studied and analyzed.

In order to conduct this study a random sample of around 3000 enterprises were interviewed, using a specially designed questionnaire form, the questionnaire used for the enterprise innovation survey was designed on the basis of the Oslo Manual which describes how to collect and measure the indicators needed to assess national innovation performance in the private sector. Based on a questionnaire adapted from South Africa, the Egyptian questionnaire was translated while maintaining the same codes. The questionnaire was designed to collect data about different characteristics of enterprises from different governorates and cities all over Egypt. The frame of the sample selection was drawn from the Egyptian manufacturing federation according to ISIC and represented all sectors of Egyptian enterprises landscape.

The response rate of enterprises was 98% from 3000 enterprises (target sample). This means, 2943 enterprises participating in the survey, the sample distribution reflects the real local distribution of all enterprises located in Egypt. Concerning the size of enterprises included in the study, the great majority are micro (1-5) and small (6-49) enterprises. This ratio reflects the situation of the Egyptian economy, which is mainly based on the performance of very few big internationally acting companies and depending highly on the economic performance of a very high number of very small companies.

Out of the Egyptian enterprises, 12.2% introduced product innovation (introduction to market of a new good or service or a significantly improved good or service with respect to its capabilities, such as improved user friendliness, components, software or sub-systems) and 17.8% of all enterprises performed process innovation (use of new or significantly improved methods for the production or supply of goods and services.

The innovation originates mainly in Egypt and most of enterprises depend on themselves for introducing product innovations. The majority of innovative enterprises depend on themselves in development of innovations (within the enterprise or the enterprise group). The most important partners for innovation come from within the enterprise or own enterprise group, meaning that Egyptian enterprises prefer in-house R&D activities. Closely followed by cooperation with clients or customers as well as suppliers which indicate a very good networking between enterprises.

There was a direct relationship between innovative enterprises and marketing and organizational (wider) innovations where the value increased in case of innovative enterprises (77.9 %) but was decreased in non-innovative enterprises (27.1%).

The analysis for Egypt clearly shows, that the most important reason for the decision, not to innovate are still financial reasons. Lack of funding by the own enterprise or the enterprise group as well is one of those reasons, and additionally the innovation costs are considered as too high.

In conclusion, an analysis of those enterprises, which indicated innovation activities shows that about 17.8% of Egyptian companies are active in either process innovation or product innovation (Technological innovation) and 36.9 % of Egyptian companies are active in wider innovation (Non-technological innovation). If wider innovation activities are integrated into the analysis, the innovation shifts to a total number of 40.1%.

Appendix

Survey ID number

Egyptian National Innovation Survey 2008

Manufacturing, IT and Services

In line with the European Union (EU) Fourth Community Innovation Survey (CIS 4), this survey is being undertaken in all EU and numerous other countries in 2008

Ministry of Scientific Research

Ministry Of Trade and Industry

Central Agency for Public Mobilization and Statistics

CEFRS

UNESCO

European Union

PLEASE NOTE

In order to be able to compare enterprises with and without innovation activities, we request ALL enterprises to respond to ALL questions, unless otherwise instructed.

Please change address label if necessary

About this survey: This survey collects information about product and process innovation as well as organisational and marketing innovation during the three-year period 2005 to 2007 inclusive.

Scope: The statistical unit for the survey is the enterprise as defined by CAPMAS. An **enterprise** refers to a business, company or firm and can range from a very small concern with only one or two employees to a much larger and more formal business or firm.

Authority: The Ministry of scientific Research (MOSR), as a component of the National Statistics System, commissions the CEFRS to perform this survey.

Confidentiality: All information gathered by this survey will be held in strictest confidence. Under no circumstances will the CEFRS, MOSR or CAPMAS, release or disclose any information on or identifiable with, individual firms or business units.

If you have any problems in completing this form and/or meeting the due date, please do not hesitate to contact the Survey Call Centre Operators listed below for assistance:

Name of Operator	Sector of responsibility	Telephone	E-mail

Governate

City

Address

Person completing this questionnaire:

Name:

Job title:

Phone:

E-mail:

1. General information about the enterprise, business, company or firm

1. Short description of your main business activity:

1.1 **Is your enterprise part of a larger group?**
A group consists of two or more legally defined enterprises under common ownership. Each enterprise in the group may serve different markets, as with national or regional subsidiaries, or serve different product markets. The head office is also part of an enterprise group.

1-Yes ☐ 2-No ☐

In which country is the head office of your group located?

If your enterprise is part of an enterprise group, please answer all further questions only for your enterprise in EGYPT. Do not include results for subsidiaries or parent enterprises outside of EGYPT.

1.2 In which geographic markets did your enterprise sell goods or services during the three years 2005 to 2007?

a. Egypt ☐
b. Rest of Africa ☐
c. Europe ☐
d. United States ☐
e. Asia ☐
f. Other countries ☐

1.3 **What was your enterprise's total number of employees in 2005 and 2007?**
Annual average number of employees, both full-time and part-time. If not available, give the number of employees at the end of each year.

a. 2005 ☐☐☐☐☐☐
b. 2007 ☐☐☐☐☐☐

1.3.1 **Approximately what percentage of your total employees had a university or technician degree or diploma in 2007?**

☐☐☐ %

1.4 **What was your enterprise's approximate total turnover for 2005 and 2007?**
Turnover is defined as the market sales of goods and services (include all taxes).
Please give turnover in Thousands ('000s) of L.E

a. 2005 ☐☐☐☐☐☐☐☐☐ 000
b. 2007 ☐☐☐☐☐☐☐☐☐ 000

2. Product (goods or services) innovation

A product innovation is the introduction to market of a new good or service or a significantly improved good or service with respect to its capabilities, such as improved user-friendliness, components, software or sub-systems. The innovation (new or improved) must be new to your enterprise, but it does not need to be new to your industry sector or market. It does not matter if the innovation was originally developed by your enterprise or by other enterprises.

Please note: The latest terminology classifies "products" as consisting of both "goods" and "services". For example a firm in the financial services sector may talk of a "new financial product". The provision of innovative services is of increasing importance in competitive economies and the survey aims to cover both manufacturing and services orientated firms.

2.1 During the three years 2005 to 2007, did your enterprise introduce:

a. → New or significantly improved goods.
Exclude the simple resale of new goods purchased from other enterprises and minor changes that only alter the appearance of the product.

b. → New or significantly improved services.

1- Yes ☐ 2- No ☐

1- Yes ☐ 2- No ☐

↳ If no to **both** questions: please go to question **3.1**

2.2 By whom were these product (goods and services) innovations developed?

1. → Mainly your enterprise or enterprise group ☐
2. → Your enterprise together with other enterprises or institutions ☐
3. → Mainly other enterprises or institutions ☐

Select the single most appropriate option only

2.2.1 Did these innovations originate mainly in Egypt or abroad?

1-Egypt ☐ 2-Abroad ☐

2.3 Were any of your goods and service innovations during the three years 2005 to 2007 new to your market or new to your firm?:

a. → New to your market?
Your enterprise introduced a new or significantly improved good or service onto your market before your competitors (it may have already been available in other markets).

1-Yes ☐ 2- No ☐

b. → Only new to your firm?
Your enterprise introduced a new or significantly improved good or service that was already available from your competitors in your market.

1-Yes ☐ 2- No ☐

2.4 Using the definitions above, please estimate the percentage of your total turnover in 2007:

2007 TURNOVER DISTRIBUTION

a. → Goods and service innovations introduced during 2005 to 2007 that were **new to your market** ☐☐☐ %

b. → Goods and service innovations introduced during 2005 to 2007 that were only **new to your firm** ☐☐☐ %

c. → Goods and services that were unchanged or only marginally modified during 2005 to 2007
Include the resale of new goods or services purchased from other enterprises. ☐☐☐ %

1 0 0 %

3. Process innovation

Process innovation is the use of new or significantly improved methods for the production or supply of goods and services. The innovation (new or improved) must be new to your enterprise, but it does not need to be new to your industry sector or market. It does not matter if the innovation was originally developed by your enterprise or by other enterprises. Exclude purely organisational innovations such as changes in firm structure or management practice – these are covered in question 10.

3.1 During the three years 2005 to 2007, did your enterprise introduce any:

	1-Yes	2-No
a. → New or significantly improved methods of manufacturing or producing goods or services?	☐	☐
b. → New or significantly improved logistics, delivery or distribution methods for your inputs, goods or service?	☐	☐
c. → New or significantly improved supporting activities for your processes, such as maintenance and operating systems for purchasing, accounting or computing?	☐	☐

↳ If no to **all** questions, please go to section **4**

3.2 By whom were these process innovations developed?

1. → Mainly your enterprise or enterprse group ☐
2. → Your enterprise together with other enterprises or institutions ☐
3. → Mainly other enterprises or institutions ☐

Select the single most appropriate option only

	1-Egypt	2-Abroad
3.2.1 Did these innovations originate mainly in Egypt or abroad?	☐	☐

4. Ongoing or abandoned innovation activities

Innovation activities include the acquisition of machinery, equipment, software, licenses, engineering and development work, training, marketing and research and experimental development (R&D) when they are specifically undertaken to develop and/or implement a product or process innovation.

4.1 Did your enterprise have any innovation activities to develop product or process innovations that were abandoned during 2005 to 2007 or still ongoing by the end of 2007?

	1-Yes	2-No
Abandoned	☐	☐
Still ongoing	☐	☐

↳ If your enterprise also had no product or process innovations or innovation activity during 2005 to 2007 (no to **ALL** options in questions 2.1, 3.1, and 4.1), please go to question 8.2.
Otherwise, please proceed to question **5.1**

5. Innovation activities and expenditures

5.1 During the three years 2005 to 2007 , did your enterprise engage in the following innovation activities?

	1-Yes	2-No
A. Intramural (in-house) Research and Experimental Development (R&D) Creative work undertaken on a systematic basis within your enterprise to increase the stock of knowledge and its use to devise new and improved products and processes (including software development)		
B. Extramural or outsourced R&D Same activities as above, but purchased by your enterprise and performed by other companies (including other enterprises within your group) or by public or private research organisations		
C. Acquisition of machinery, equipment and software Acquisition of advanced machinery, equipment and computer hardware or software to produce new or significantly improved products and processes		
D. Acquisition of other external knowledge Purchase or licensing of patents and non-patented inventions, know-how, and other types of knowledge from other enterprises or organisations		
E. Training Internal or external training for your personnel specifically for the development and/or introduction of new or significantly improved products and processes		
F. Market introduction of innovations Activities for the market introduction of your new or significantly improved goods and services, including market research and launch advertising		
G. Other activities (including design) Procedures and technical preparations, including design, to implement new or significantly improved products and processes that are not covered elsewhere		

5.2 Please estimate the amount of expenditure in 2007 only for the first four innovation activities mentioned in 5.1 (A to D).

Include personnel and related costs.

Please provide expenditure in thousands of L.E e.g. Five hundred thousand L.E entered as 500 in the box provided: 5 0 0 000 – L.E 500 000.

Please enter 0 in the category box if your enterprise had no expenditures in 2008.

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Please report for 2007 only

A.	Intramural (in-house) R&D in 2007. *Include labour costs, capital expenditures on buildings and equipment specifically for R&D.*	000
B.	Acquisition of R&D. *Extramural or outsourced R&D.*	000
C.	Acquisition of machinery, equipment and software. *Exclude expenditures on equipment for R&D.*	000
D.	Acquisition of other external knowledge.	000
	Total of these four innovation expenditure categories (A+B+C+D)	000

5.3 During the three years 2005 to 2007, did your enterprise receive any public financial support for innovation activities from the following levels of government?

Include financial support via tax credits or deductions, grants, subsidised loans, and loan guarantees.

Exclude research and other innovation activities conducted entirely for the public sector under contract.

		1-Yes	2-No
a. →	Metros and municipalities		
b. →	Governorate		
c. →	National government		
d. →	National funding agencies (such as ASRT, STDF, MOSR, IMC)		
e. →	Foreign government/ public sources (e.g. European Commission)		

6. Sources of information and co-operation for innovation activities

6.1 During the three years 2005 to 2007, how important to your enterprise's innovation activities were each of the following information sources?

Please identify information sources that provided information for new innovation projects or contributed to the completion of existing innovation projects.

INFORMATION SOURCE			DEGREE OF IMPORTANCE *Tick 'not used' if no information was obtained from a source.*			
			High	Medium	Low	Not used
Internal sources	a.	Sources within your enterprise or enterprise group	1- ☐	2- ☐	3- ☐	4- ☐
External sources						
Market resources	b.	Suppliers of equipment, materials, components or software	1- ☐	2- ☐	3- ☐	4- ☐
	c.	Clients or customers	☐	☐	☐	☐
	d.	Competitors or other enterprises in your sector	☐	☐	☐	☐
	e.	Consultants, commercial labs or private R&D institutes	☐	☐	☐	☐
Institutional sources	f.	Universities and Technician	☐	☐	☐	☐
	g.	Government or public research institutes	☐	☐	☐	☐
Other sources	h.	Conferences, trade fairs, exhibitions	☐	☐	☐	☐
	i.	Scientific journals and trade/technical publications	☐	☐	☐	☐
	j.	Professional and industry associations	☐	☐	☐	☐

6.2 During the three years 2005 to 2007, did your enterprise co-operate on any of your innovation activities with other enterprises or institutions?

Innovation co-operation is active participation with other enterprises or non-commercial institutions on innovation activities. Both partners do not need to benefit commercially.

Exclude pure contracting out of work with no active co-operation.

1- Yes ☐

2 No ☐

→ If no, please go to question **7.1**

6.3 Please indicate the type of co-operation partner and their location. *Tick all that apply.*

TYPE OF CO-OPERATION PARTNER	Egypt	Rest of Africa	Europe	USA	Asia	Other countries
A. Other enterprises within your enterprise group	1 ☐	2 ☐	3 ☐	4 ☐	5 ☐	6 ☐
B. Suppliers of equipment, materials, components or software	☐	☐	☐	☐	☐	☐
C. Clients or customers	☐	☐	☐	☐	☐	☐
D. Competitors or other enterprises in your sector	☐	☐	☐	☐	☐	☐
E. Consultants, commercial labs or private R&D institutes	☐	☐	☐	☐	☐	☐
F. Universities or technician	☐	☐	☐	☐	☐	☐
G. Government or public research institutes (e.g. NRC)	☐	☐	☐	☐	☐	☐

6.4 Which type of co-operation partner was the most valuable for your enterprise's innovation activities? ☐
Give corresponding letter from 6.3. For example, customers = C

7. Effects of innovation during 2005 - 2007

7.1 How successful were each of the following types of outcomes for your products (goods or services) and process innovations introduced during the three years 2005 to 2007 ? *Tick "Not relevant" if there were no innovation outcomes.*

			LEVEL OF SUCCESS OF OUTCOMES			
			High	Medium	Low	Not relevant
Product outcomes	a.	Increased range of goods or services	1 ☐	2 ☐	3 ☐	4 ☐
	b.	Entered new markets or increased market share	☐	☐	☐	☐
	c.	Improved quality of goods or services	☐	☐	☐	☐
Process outcomes	d.	Improved flexibity of production or service provision	☐	☐	☐	☐
	e.	Increased capacity of production or service provision	☐	☐	☐	☐
	f.	Reduced labour costs per unit output	☐	☐	☐	☐
	g.	Reduced materials and energy per unit output	☐	☐	☐	☐
Other outcomes	h.	Reduced environmental impacts or improved health and safety	☐	☐	☐	☐
	i.	Met governmental regulatory requirements	☐	☐	☐	☐

8. Factors hampering innovation activities

8.1 During the three years 2005 to 2007, were any of your innovation activities or projects:

	1-Yes	2-No
a. → Abandoned in the concept stage	☐	☐
b. → Abandoned after the activity or project was begun	☐	☐
c. → Seriously delayed	☐	☐

QUESTIONS 8.2, 9 and 10 TO BE ANSWERED BY ALL ENTERPRISES:

8.2 During the three years 2005 to 2007, how significant were the following factors in hampering your innovation activities or projects or influencing a decision not to innovate? *Please also indicate particular factors that were not experienced.*

		DEGREE OF SUCCESS			
		High	Medium	Low	Factor not experienced
Cost factors	a. Lack of funds within your enterprise or group	1 ☐	2 ☐	3 ☐	4 ☐
	b. Lack of finance from sources outside your enterprise	☐	☐	☐	☐
	c. Innovation costs too high	☐	☐	☐	☐
Knowledge factors	d. Lack of qualified personnel	☐	☐	☐	☐
	e. Lack of information on technology	☐	☐	☐	☐
	f. Lack of information on markets	☐	☐	☐	☐
	g. Difficulty in finding co-operation partners for innovation	☐	☐	☐	☐
Market factors	h. Market dominated by established enterprises	☐	☐	☐	☐
	i. Uncertain demand for innovative goods or services	☐	☐	☐	☐
Reasons not to innovate	j. No need due to prior innovations	☐	☐	☐	☐
	k. No need because of no demand for innovations	☐	☐	☐	☐

9. Intellectual property rights

9.1 During the three years 2005 to 2007, did your enterprise:

		1-Yes	2-No
a. →	Secure a patent in Egypt ?		
b. →	Apply for a patent outside of Egypt ?		
c. →	Register an industrial design?		
d. →	Register a trademark?		
e. →	Claim copyright?		
f. →	Grant a licence on any intellectual property rights resulting from innovation?		

10. Organisational and marketing innovations

An organisational innovation is the implementation of new or significant changes in firm structure or management methods that are intended to improve your firm's use of knowledge, the quality of your goods and services, or the efficiency of work flows.

A marketing innovation is the implementation of new or significantly improved designs or sales methods to increase the appeal of your goods and services or to enter new markets.

10.1 During the three years 2005 to 2007, did your enterprise introduce:

		1-Yes	2-No
	Organisational innovations		
a. →	New or significantly improved knowledge management systems to better use or exchange information, knowledge and skills within your enterprise *Exclude routine upgrades*		
b. →	Major changes to the organisation of work within your enterprise, such as changes in the management structure or integrating different departments or activities		
c. →	New or significant changes in your external relations with other firms or public institutions, such as through alliances, partnerships, outsourcing or sub-contracting		
	Marketing innovations		
a. →	Significant changes to the design or packaging of a good or service *Exclude routine/seasonal changes such as clothing fashions*		
b. →	New or significantly changed sales or distribution methods, such as internet sales, franchising, direct sales or distribution licenses.		

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Tel : +(202)27921282 Fax : +(202)27921280

E-mail : info@msr.sci.eg

HIGHLIGHTS