National Statistical Office

BUSINESS

INNOVATION SURVEY (BIS) REPORT 2023-2024

JUNE 2026

Foreword

The National Commission for Science and Technology (NCST) and National Statistical Office are pleased to present the first ever National Business Innovation Survey Report. At a time when Malawi and other low-income countries are striving to transition into middle-income status, innovation has become central to attaining competitiveness, productivity, and inclusive development. The knowledge economy is no longer optional, but essential for structural transformation of our economy.

Anchored in Malawi 2063, particularly Aspiration number 2 which calls for a vibrant knowledge-based economy, this report provides concise and credible evidence on the state of business innovation in Malawi. This report presents empirical insights into innovation within a structural context often characterized by informality, limited research and development investment, low levels of intellectual property commercialization, constrained access to finance, and fragmented institutional support systems. By documenting innovation practices, patterns, and constraints across sectors and regions, it deepens our understanding of how enterprises innovate within resource-constrained environments. Importantly, it highlights both the resilience and ingenuity of Malawian firms and the systemic bottlenecks that must be addressed to unlock their full potential.

This Report should not be viewed as a static publication, but as a practical instrument for policy action enabling policy makers to refine industrial and innovation strategies, guiding development partners in aligning technical and financial assistance with national priorities. The evidence is also useful for supporting researchers in advancing empirical and theoretical work on innovation systems and assisting business leaders in strengthening collaboration and competitiveness. The National Business Innovation Survey Report marks an important step in strengthening innovation as a driver of inclusive growth, job creation, and economic diversification. I commend all who contributed to this work and encourage its broad use in shaping Malawi's development trajectory.

PHILLIP NYONI

Director General
NATIONAL COMMISSION FOR SCIENCE AND TECHNOLOGY

Preface

The National Statistical Office (NSO) presents its inaugural report of the National Business Innovation Survey, conducted in collaboration with the National Commission for Science and Technology (NCST), with support from the Government of Malawi and the African Union Development Agency (AUDA-NEPAD). This enterprise-level survey was designed to gather comprehensive data regarding the innovation activities undertaken by businesses in Malawi to enhance service delivery, drive productivity, and improve profitability. The survey was carried out between February and April 2025, covering a period of two years, 2023 and 2024.

The primary objective of the survey was to establish baseline information that would facilitate the monitoring of progress in enterprise innovation activities and offer valuable insights into the state of innovation within Malawi's business sector. This marks a significant step in the country's commitment to fostering scientifically and technologically driven economic growth and development.

Data were collected across various modules, including leadership profiles; innovation activities; support for innovation; research and development; expenditures on innovation; public financial support; sources of ideas or information for innovation; cooperative arrangements; public-sector contracts; intellectual property rights and licensing; digitalization for innovation activities; and barriers to innovation.

I wish to acknowledge the significant contributions made by staff members at both the National Statistical Office and the National Commission for Science and Technology, whose efforts were instrumental to the success of this survey. I extend my appreciation to the Director of Agriculture and Economic Statistics at NSO, Mr. Hector Kankuwe, and his team: Mr. Simeon Yosefe, Mr. Bright Mvula, Mr. Twikaleghe Mwalwanda, Mr. Philip Mphakwa Simkonda, Mr. Isaac Mkandawire Mwale, and Mr. Steve Pakundikana.

I also recognize the Acting Director of Planning at NCST, Mr. Kondwani Gondwe, and his team: Mr. Isaac Chingota, Mr Lyson Kampira, Mr Chilambira Chitembeya, Mr Esau Chisale, Ms Vitumbiko Kumwenda, Ms Yalonda Mwanza, Mr Yohane Chimbalanga and Mr Thomas Kaluvi. Sincere gratitude is extended to the field teams and Chief Executive Officers (CEOs) of participating enterprises for their dedication and support during the survey's implementation. Special thanks are due to all respondents who generously contributed their time to complete the survey.

Finally, I would like to express my appreciation to the African Union Development Agency (AUDA-NEPAD) for providing both financial and technical assistance vital to the successful execution of the Business Innovation Survey 2023-2024.

SHELTON KANYANDA
COMMISSIONER OF STATISTICS

Executive Summary

The Business Innovation Survey 2023-2024 aimed to collect information on innovation by business enterprises. This data is used to quantify innovation performance in business enterprises. The information collected is also helpful to the Government and other organisations to develop a better understanding of business enterprises' capability to innovate and measure the extent of innovation performance in Malawi.

This is the first Business Innovation Survey to be conducted in Malawi and the report provides baseline data. Specifically, the survey covered innovation, activities to support innovation, public financial support for innovation activities, source of ideas or information for innovation, co-operate arrangements for innovation, innovation with environment benefits, public-sector contracts and innovation, intellectual property rights and licensing, uptake of digitalisation for innovation activities and non-innovators.

The following are key findings:

i. Top management of enterprises were largely dominated by Chief Executive Officers (30.6 percent) followed by Heads of Operations (19.7 percent) and Heads of Finance (17.1 percent).
ii. About 75 percent of enterprises in Malawi identified innovation as a key priority.
iii. Medium-scale businesses demonstrated the highest commitment to innovation, with 78.6 percent prioritizing it, compared to 76.0 percent of large-scale businesses and 74.5 percent of small-scale businesses.
iv. About 57 percent of enterprises indicated that they innovated between 2023 and 2024 while around 43 percent did not innovate.
v. Among enterprises that innovated, the largest share implemented product innovation only, accounting for 14.7 percent. This was followed by enterprises that introduced all three types of innovation—product, market, and process—at 9.9 percent.
vi. Around 60 percent of large-scale businesses innovated by introducing new goods or services, improving operational processes, entering new markets, or significantly enhancing existing products and services. This was followed by 58.9 percent in medium-scale enterprises and 56.2 percent in small-scale enterprises.
vii. At sector level, Information and Communication recorded the highest innovation rates, with 97.3 percent of enterprises engaging in innovation activities. This is followed by Mining and Quarrying sector at 84.2 percent, and Manufacturing at 74.1 percent.
viii. Out of all non-innovators, 87.5 percent showed no inclination to innovate while 12.5 percent demonstrated potential for innovation.
ix. About 66 percent of enterprises engaged in at least one form of R&D activity (intramural and or extramural) while trying to innovate.
x. About 2 percent of enterprises reported having abandoned innovation activities that did not result in innovation. By innovation status, 4.7 percent of non-innovators reported abandoning such activities, while none of the innovators reported any abandoned innovation activities.
xi. About 27 percent of the enterprises suspended ongoing innovation activities between 2023 and 2024.

xii. More than half (63.7 percent) of the enterprises were innovation-active, while 36.3 percent were not innovation-active. Of the innovation-active enterprises, 89.6 percent were innovators, while 10.4 had innovation activities that did not result in product or process innovations (had abandoned and/or ongoing innovation activities only)

xiii. About 13 percent of the enterprises reported having received public financial support for innovation activities either from Central Government, District councils, Foreign Governments, Government funding agencies or Foundations.

xiv. Small-scale businesses were the main beneficiaries of public financial support (14.8 percent).

xv. The reasons given for not receiving financial support for innovation activities were lack of information about sources of funding (58.4 percent), complicated processes for the firms to follow or complicated in terms of bureaucratic arrangements (22.5 percent), rejected applications (16.2 percent) or facing time constraints to apply for support (7.5 percent).

xvi. About 30 percent of firms reported that those who provide innovation ideas receive a financial reward, 21 percent just reported to issue a form of award without specifying what form the award is. About 16.2 percent reported that they provided a salary increase presumably to employees with innovative ideas, 14.2 percent of providers of innovation ideas receive promotion and 7.6 percent receive other forms of reward (not specified).

xvii. The highest proportion of enterprises (at least 70 percent) indicated that they innovated in order to improve productivity, increase revenue and to increase responsiveness to the customers. The least proportion of enterprises (20 percent) indicated that they were involved in innovation because they wanted to reduce energy consumption.

xviii. Among innovative enterprises, 2.7 percent used trademarks as their main form of intellectual property (IP) protection.

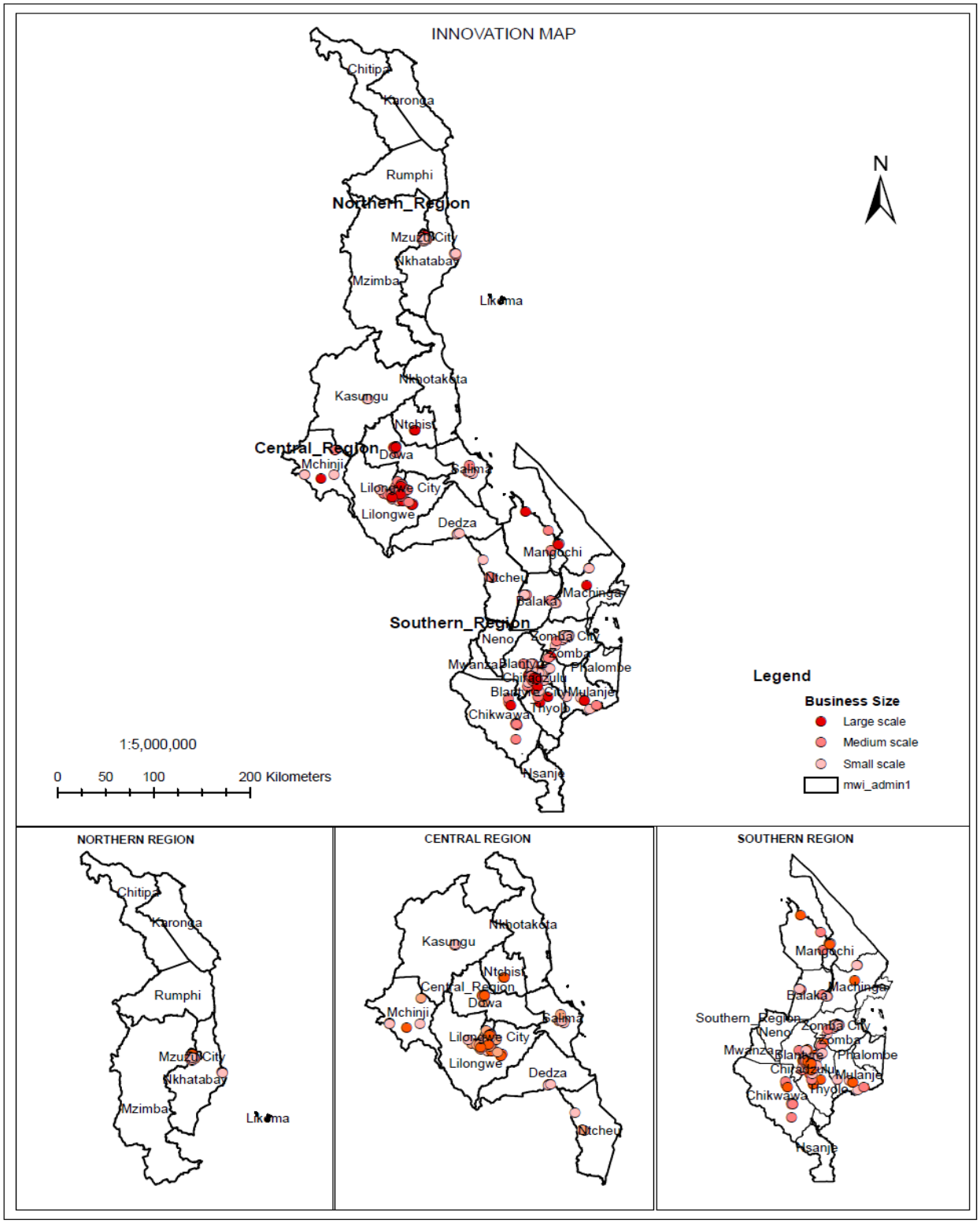
xix. An analysis by type of public-sector organization with which enterprises entered into contracts shows that more enterprises were contracted with domestic public organizations (23.5 percent) than foreign public organizations (15.5 percent).

xx. Overall, 81.8 percent of innovative enterprises at the national level reported using information and communication technology as part of the innovation supporting activities.

xxi. For all enterprises that did not innovate, about 50 percent reported that they had no compelling reasons to innovate, while 49.6 percent indicated that they had considered innovating but found the barriers too large.

xxii. The majority of enterprises indicated that innovation costs were too high (74.0 percent), followed by lack of funds within the enterprise or group (64.9 percent), difficulties in obtaining government subsidies for innovation (54.8 percent), and difficulties in obtaining government grants for innovation (54.4 percent). The least cited barrier was the ease of imitation of innovation at 8.9 percent.

Map of Malawi Showing Business Enterprise Innovation by Size



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Acronyms

BIS	Business Innovation Survey
CAPI	Computer Assisted Personal Interviewing
GDP	Gross Domestic Product
ICT	Information and Communication Technology
IPR	Intellectual Property Rights
ISIC	International Standard Industrial Classification of All Economic Activities
MACRA	Malawi Communications Regulatory Authority
MIP-1	Malawi 2063 First 10-Year Implementation Plan
NCST	National Commission for Science and Technology
NIS	National Innovation System
NSO	National Statistical Office
NSS	National Statistical System
OECD	Organization for Economic Co-operation and Development
PPS	Probability Proportional to Size
R&D	Research and Development
SBR	Statistical Business Register
STI	Science, Technology and Innovation
TEVETA	Technical, Entrepreneurial and Vocational Education and Training Authority

Definitions of Terms

Business Innovation	New or improved product or business process (or combination thereof) that differs significantly from the firm's previous products or business processes and that has been introduced on the market or brought into use by the firm.
Enterprise	The smallest combination of legal units with autonomy in respect of financial and investment decision-making, as well as authority and responsibility for allocating resources for the production of goods and services. The term enterprise may refer to a corporation, a quasi-corporation, a non-profit institution or an unincorporated enterprise.
Extramural R&D	Any Research and Development (R&D) performed outside of the statistical unit about which information is being reported.
Goods	Physical, produced objects for which a demand exists, over which ownership rights can be established and whose ownership can be transferred from one institutional unit to another by engaging in transactions on markets
Innovation	A new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and has been made available to potential users (product) or brought into use by the unit (process)
Innovation Activities	All developmental, financial and commercial activities undertaken by a firm that are intended to result in an innovation for the firm.
Innovation Expenditure	Economic cost of innovation activities undertaken by a firm or group of firms. Expenditure can be intramural (activities carried out in-house) or extramural (carried out by third parties on behalf of the firm).
Innovative Firm	Reports one or more innovations within the observation period. This applies equally to a firm that is individually or jointly responsible for an innovation.
Innovation-Active Firm	Is engaged at some time during the observation period in one or more activities to develop or implement new or improved products or business processes for an intended use. These also include non-innovators that, during the reference period, had one or more ongoing, suspended, abandoned or completed innovation activities that did not result in an innovation during the observation period

Intellectual Property	Creations of the mind such as inventions; literary and artistic works; and symbols, names and images used in commerce.
Intellectual Property Rights	Legal rights over intellectual property.
Intramural R&D	All R&D activities performed within a statistical unit (enterprise), irrespective of whether the R&D is financed by the enterprise itself or by external organizations.
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.
Non-Innovative Firm	A firm that does not report an innovation within the observation period. A non-innovative firm can still be innovation-active if it had one or more ongoing, suspended, abandoned or completed innovation activities that did not result in an innovation during the observation period.
Process Innovation	A new or improved business process for one or more business functions that differs significantly from the firm's previous business processes and that has been brought into use by the firm.
Product	A good or service (including knowledge-capturing products as well as combinations of goods and services) that results from a process of production.
Product Innovation	A new or improved good or service that differs significantly from the firm's previous goods or services and that has been introduced on the market.
Services	Results of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets. They cannot be traded separately from their production. Services can also include some knowledge capturing products.
Technology	The state of knowledge on how to convert resources into outputs. This includes the practical use and application to business processes or products of technical methods, systems, devices, skills and practices.

Chapter One
Introduction

1.1 Background

Innovation has become a defining feature of modern economic growth, technological progress, and national competitiveness. Across the world, countries are experiencing rapid digital transformation driven by advances in artificial intelligence, digital communication, additive and advanced manufacturing, and other emerging technologies. These shifts are reshaping sectors such as agriculture, finance, health, education, transport, mining, and trade. For Malawi to remain competitive and achieve its long-term aspirations—particularly the goal of becoming an upper-middle-income economy by 2063—it is essential to understand and strengthen the innovation performance of firms operating within the country.

Recognizing this urgency, the National Commission for Science and Technology (NCST), in collaboration with the National Statistical Office (NSO), undertook Malawi's first-ever Business Innovation Survey (BIS) in 2025 collecting data for 2023 and 2024. The survey represents a milestone in the country's commitment to building a robust National Innovation System capable of generating new goods, services, and processes that create jobs, enhance productivity and stimulate economic development. At the highest level of governance, it has been noted that Malawi needs new solutions (products, processes and systems) across all sectors, and it can also be noted that innovation must become a continuous, strategic activity rather than an isolated or occasional effort.

1.2 Rationale for a Business Innovation Survey

In an increasingly knowledge-driven global economy, countries that nurture innovation among their enterprises are better positioned to improve productivity, diversify economic activities, and compete globally. For Malawi, a systematic understanding of the innovation landscape has been missing. Little is known about:

- Whether Malawian firms are innovating and if yes, at what rate?
- The types of innovations they introduce.
- The extent to which innovations improve processes, goods or services.
- The challenges firms face when attempting to innovate.
- How innovation contributes to employment and technological upgrading.

The BIS provides the first nationally representative dataset to fill these knowledge gaps. By assessing both innovating and non-innovating firms, the survey will help government and stakeholders in the business sector to:

- Identify barriers to innovation.
- Formulate evidence-based policy responses.
- Promote research, development, and innovation activities.
- Support firms in adopting new technologies.
- Strengthen Malawi's overall innovation ecosystem.

It is important to understand why some enterprises innovate and others do not as it helps to design policy interventions that can stimulate productivity, at firm level, and economic growth.

1.3 Legal and Institutional Mandate

The NSO plays a central role in this initiative. Guided by the National Statistics Act (2013), NSO is mandated to:

- Raise public awareness of the importance of statistical information
- Collect, process, analyze, and disseminate quality data in a coordinated and timely manner
- Promote best practices and international standards in statistical production and management

In this survey, NSO ensures that the data are produced according to international methodological standards and that they contribute to the broader National Statistical System (NSS). Together with NCST, NSO aims to build a Community of Practice and National Focal Point for Research and Innovation Statistics, serving as the national observatory for tracking research intensity and innovation across various sectors. This institutional collaboration will ensure that results from the survey should provide longitudinal insights for policymakers, researchers, and industry leaders.

1.4 Scope and Coverage of the Survey

The BIS targeted enterprises across Malawi's economy, including small, medium, and large enterprises involved in Agriculture, Forestry and Fishing, Mining and Quarrying, Manufacturing, Construction, Electricity and Water, among other sectors. The sample survey is drawn from the Statistical Business Register (SBR), which is the sampling frame for economic surveys and consists of 23,498 enterprises, representing key industries in the country based on the International Standard Industrial Classification of All Economic Activities (ISIC) codes.

Business enterprises were categorized into three groups: small, medium, and large. Large-scale enterprises were defined as those with an annual turnover greater than MK500 million, medium-scale enterprises as those with a turnover of MK50 million plus up to MK500 million, and small-scale enterprises as those with a turnover of up to MK50 million. In addition to size, enterprises were classified according to ISIC sections or Sectors. In the survey, some sections or Sectors were merged, combining Electricity and Water and grouping four smaller ISIC sections or Sectors under "Other Services." Arts, Entertainment and Recreation (R, 90–93), Public Administration and Defense; Compulsory Social Security (O, 84), Administrative and Support Service Activities (N, 77–82), and Real Estate Activities (L, 68) sectors were grouped under Sector S (94–96): Other service activities (Table 2.2.1).

Data collection was conducted using both paper-based and electronic questionnaires to give flexibility to respondents who could not fill in an electronic questionnaire, hence boosting the response rate.

The survey investigates innovation in its broadest sense, including:

- Product innovation: introducing goods or services new to the firm or the market
- Process innovation: implementing new or significantly improved production or delivery methods
- Technological adoption: integrating digital or cutting-edge technologies
- Organizational or marketing innovations: changes that improve efficiency, competitiveness or reach enterprises that have not innovated are equally important.
- Understanding their constraints—such as financial limitations, skills gaps, lack of technology, or weak research linkages—provides critical input for policy design.

1.5 Importance of Research and Innovation in Malawi

Research and innovation form the backbone of a resilient and competitive national innovation system. Countries that invest in constant learning, problem-solving, and technological modernization are better positioned to create new sectors, improve service delivery, and generate employment opportunities. In Malawi, the survey has helped quantify:

- The development of new and significantly improved goods and services
- Levels of technological adoption
- Contributions of innovation to job creation and economic diversification

1.6 National Significance of the Survey

This national survey focused exclusively on enterprises operating in Malawi. However, its significance is far-reaching. The insights derived from this study will:

- Provide baseline data for monitoring innovation trends over time
- Inform the implementation of MIP-1 pillars related to industrialization and innovation
- Strengthen evidence-based policymaking in science, technology, and innovation
- Support the development of targeted programmes to enhance firm competitiveness
- Position Malawi to participate more effectively in regional and global value chains
- Generate data that will help stakeholders assess whether Malawi is keeping pace with global innovation trends and where additional support is required to accelerate technological transformation.

The first-ever BIS for Malawi provides a baseline, making a strategic step toward unlocking its innovation potential and accelerating progress towards inclusive, knowledge-based economic development meeting the aspirations of Malawi 2063.

Chapter Two
Methodology

2.1 Introduction

This chapter presents the methodology used in conducting the survey which focused exclusively on business enterprises commonly referred to as the Business Innovation Survey (BIS). Data was collected for the years 2023 and 2024, following the OSLO Manual 2018: Guidelines for Collecting and Reporting Innovation Data (OECD, 2018). The survey design assumes business enterprises are undertaking the two modes of innovation, i.e. Science-mode of innovation which is based on the advancement made in science and technology. Secondly, the Learning by Doing, Using and Interacting (DUI) mode of innovation. In this case, learning is typically based on the company's own experiences, feedback received from customers on the use of the company's goods and services, or other ideas received from different partners in the company's business or innovation networks.

2.2 Sampling

A total sample of 666 enterprises was selected from a sampling frame of 23,498 enterprises. The survey used a two-stage proportionate stratified sampling design. In the first stage, the sample was allocated across 14 ISIC Sections /Sectors as defined in table 2.2.1 using probability proportional to size based on the number of enterprises in each sector. In the second stage, enterprises within each sector were stratified by size class (small, medium and large enterprises), and distribution was carried out proportionally within each category. This ensured adequate representation of small, medium, and large enterprises across all economic activities. The resulting distribution reflects the structure of the business population and supports domain-level estimation for both industry sectors and enterprise size class.

Considering that business enterprise surveys are often affected by refusals, business closures, and enterprises unwilling to participate, a replacement batch of enterprises was drawn for each ISIC Sector and enterprise sizes stratification structure. This approach ensured the representativeness of the original sample.

The survey collected questionnaires from 562 enterprises. Following data cleaning and validation procedures, the final sample had 548 enterprises, representing a response rate of 82.3 percent relative to the original sample of 666 enterprises. The response rate of 82.3 percent included replaced enterprises. The survey results were generalized to the target population of 23,498 enterprises by applying the weights of the 42 sample strata based on ISIC codes and three size classes.

To facilitate field operations, minor adjustments were made to the proportional allocation by slightly reducing the share assigned to small enterprises, which are more numerous and comparatively harder to locate. Sampling weights were subsequently applied to correct for these adjustments and restore the representativeness of the sample across all ISIC sectors and enterprise size classes.

Table 2.2.1: Distribution of Enterprises by Sector and Size

ISIC Sections/ Sector	Section / Sector Description	Size			
		Large	Medium	Small	Total
Total		**1,577**	**4,373**	**17,548**	**23,498**
A	Agriculture, forestry and fishing	62	116	1,438	1,616
B	Mining and quarrying	6	20	27	53
C	Manufacturing	232	298	744	1,274
D & E	Electricity and Water	12	12	46	70
F	Construction	104	801	1,292	2,197
G	Wholesale and retail trade; repair of motor vehicles and motorcycles	740	1,579	7,340	9,659
H	Transportation and storage	96	153	847	1,096
I	Accommodation and food service activities	45	260	1,785	2,090
J	Information and communication	34	52	365	451
K	Financial and insurance activities	80	78	152	310
M	Professional, scientific and technical activities	23	168	784	975
P	Education	38	513	1,323	1,874
Q	Human health and social work activities	27	68	197	292
S	Other Services	78	255	1,208	1,541

Source: *NSO Statistical Business Register (2022)*

2.3 Data Collection Process

BIS data was primarily collected using the Computer Assisted Personal Interviewing (CAPI) method, with all enumerators equipped with tablets. Enumerators administered the CAPI survey and provided guidance to respondents, addressing any challenges encountered during data collection. In all cases, informed consent was obtained from respondents prior to participation.

The KOBO Collect tool was deployed to facilitate data collection, which included a combination of face-to-face interviews, online surveys via KOBO Collect, and in some cases, paper questionnaires to accommodate respondents' preferences.

The data collection was conducted from February to April 2025, covering business enterprises' innovation activities implemented between 2023 and 2024. The metadata can be provided on request and approval by NSO in line with the Laws of Malawi and the Acts binding this type of survey.

Chapter Three
Results

3.1 Introduction

According to the most recent edition of OSLO Manual 2018, the blue-print for measuring scientific, technological and innovative activities, a general definition of innovation is provided as follows:

> *"a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)"*

Related to the general definition, business innovation definition endeavors to add more clarity. It refers to a new or improved product or business process (or combination thereof) that differs significantly from the firm's previous products or business processes and that has been introduced on the market or brought into use by the firm (OECD, 2018).

This study aimed to determine whether innovation is considered a priority among enterprises, assess the existence of formal innovation strategies, evaluate the extent to which enterprises allocate budgets for innovation-related activities, and assess if enterprises innovated as per definition.

3.2 Characterization of Innovation

3.2.1 Leadership Profile of Businesses

The results show that top management of enterprises was largely dominated by Chief Executive Officers (30.6 percent), followed by Heads of Operations (19.7 percent) and Heads of Finance (17.1 percent). On the other hand, other positions including Heads of Technical Service, Human Resource, and Deputy Chief Executive Officers, each accounted for less than 10 percent of the top management.

An analysis by sex shows that 78.2 percent of top management officers were males compared to 21.8 percent for females. Further analysis by age group shows that about 33 percent of the top management were aged between 35 and 44 years, followed by those aged 25–34 years and 45–54 years at 23.3 percent and 22.9 percent, respectively.

In terms of educational qualifications, most top management officers had post-secondary school education (28.8 percent). This was followed by Degrees in Humanities and Arts (22.1 percent) and Social Sciences (15.9 percent). On the other hand, Degrees in Engineering, Natural Sciences, Medical & Health Sciences, and Agricultural & Veterinary Sciences were less common.

Regarding number of years that top managers worked with the enterprise, a large proportion of top management officers had worked with their enterprises for less than 5 years (39.5 percent). This was followed by those that had been with the enterprise for 6–10 years (24.9 percent), while those with longer tenures (11 years and above) were less than 20 percent (Table 3.2.1).

Comparing innovative and non-innovative enterprises across characteristics of top management (such as age, experience and gender), the survey results show that the two groups differ in terms of age, sex, educational attainment, and years of experience of top management.

Innovative enterprises have more managers with tertiary-level education, particularly in humanities, social sciences, and engineering-related fields, compared to non-innovative enterprises, which are more often led by managers without university-level qualifications. In addition, innovative firms tend to be led by relatively younger managers (Table 3.2.1).

Table 3.2.1: Leadership Profile of Business Enterprises, Percentage of Individuals

Characteristics of top management	Overall Sample	Innovative Enterprises	Non-Innovative Enterprises
Top Management Composition			
Chief Executive Officer	30.6	28.9	33.4
Head of Operations	19.7	20.5	18.3
Head of Finance	17.1	16.9	17.3
Other	9.9	10.5	8.9
Head of Technical Service	9.3	9.3	9.2
Head of Human Resource	6.9	8.0	5.1
Deputy Chief Executive Officer	6.6	6.0	7.8
Sex of top Management			
Male	78.2	75.2	83.2
Female	21.8	24.8	16.8
Age of top Management			
35-44 years	33.0	34.9	29.9
25-34 years	23.3	26.9	17.2
45-54 year	22.9	21.1	26.0
55-64 year	13.2	11.5	16.0
65 years and above	5.2	3.5	8.0
Under 25 years	2.4	2.1	2.9
Education Qualifications of top Management			
Post-Secondary School Qualification	28.8	25.0	35.2
Degree in Humanities and Arts	22.1	26.8	14.3
Degree in Social Sciences	15.9	17.9	12.8
Secondary School qualification or lower	12.6	9.4	17.9
Degree in Engineering and Technology	11.2	12.1	9.9
Degree in Natural Sciences	4.7	3.7	6.2
Degree in Medical & Health Sciences	2.9	2.9	2.9
Degree in Agricultural & Veterinary sciences	1.8	2.3	0.9

Years of Experience top Management			
Under 5 years	39.5	41.0	37.1
6-10 years	24.9	25.2	24.3
11-15 years	18.7	17.8	20.0
16-20 years	8.6	8.4	9.0
21-25 years	4.3	4.6	3.7
31 years and above	2.5	1.6	4.0
26-30 years	1.5	1.3	1.9

Source: *NSO, Business Innovation Survey 2023-2024*

As an extension to Table 3.2.1, the difference in the average age of the top management between the innovative and non-innovative firms is shown in Figures 3.2.1 and Figure 3.2.2.

Figure 3.2.1: Age of Top Management, Percentage of Individuals,

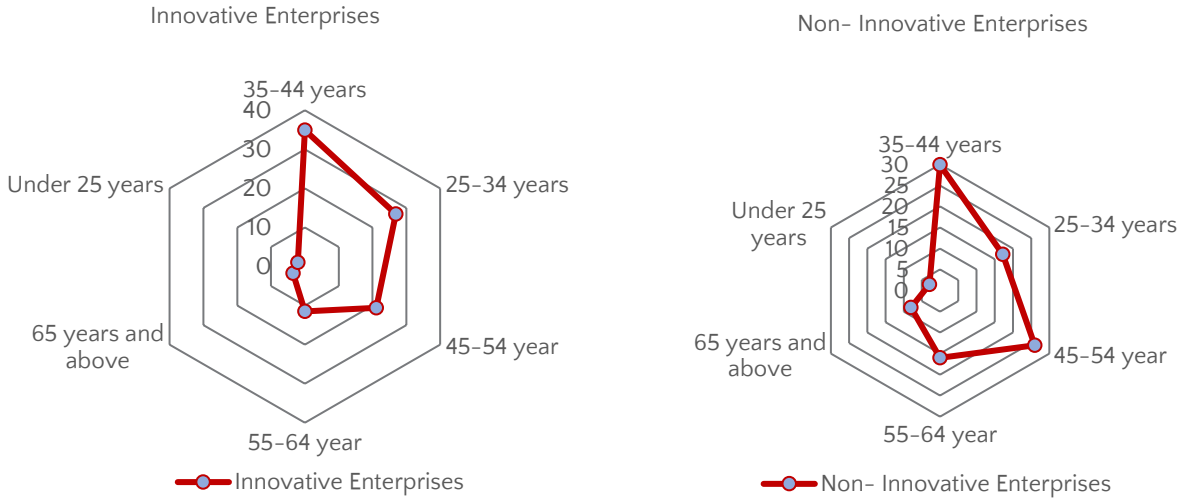
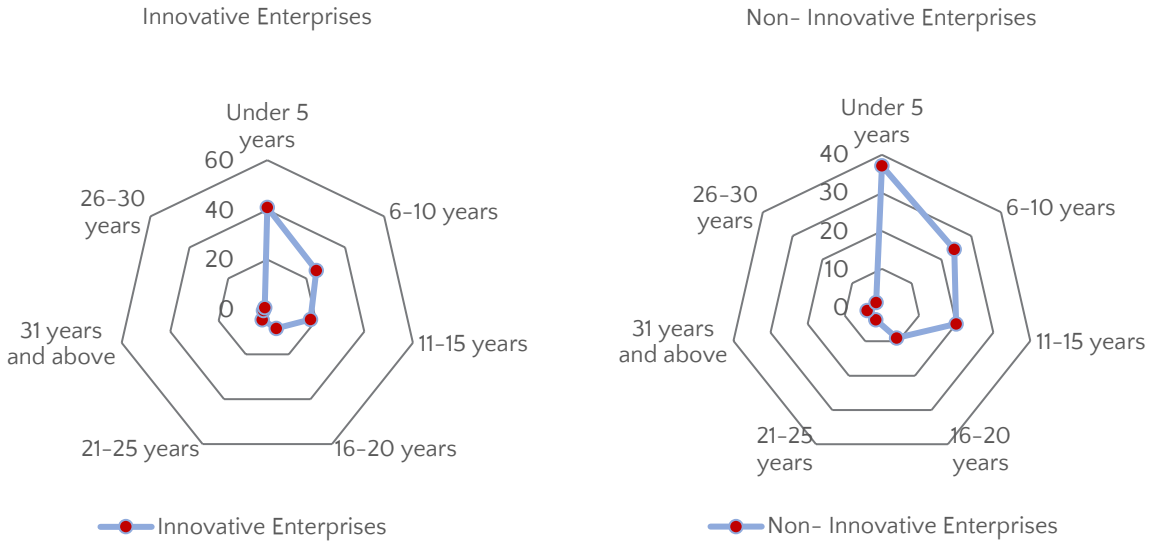


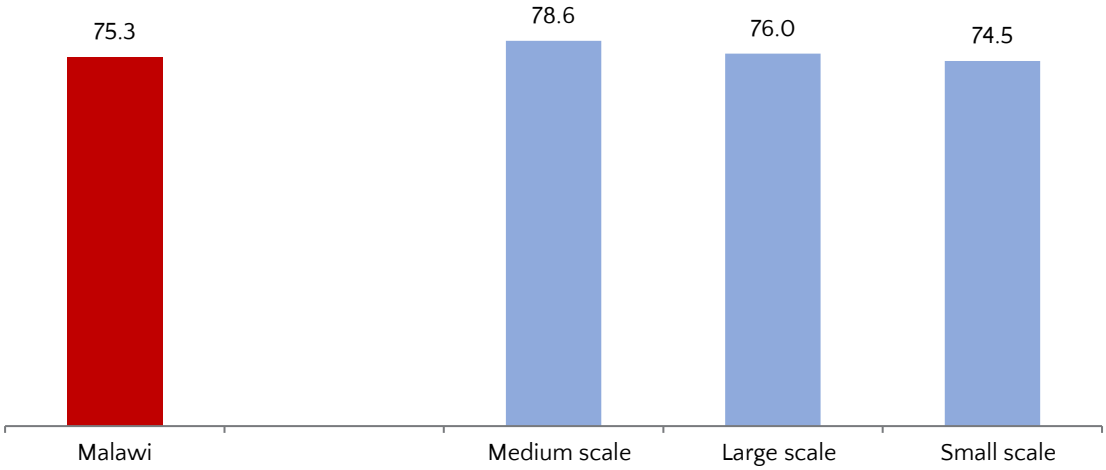
Figure 3.2.2: Years of Experience of Top Management, Percentage of Individuals



Source: *NSO, Business Innovation Survey 2023-2024*

Between 2023 and 2024, about 75 percent of enterprises in Malawi made innovation a top priority in their business strategies. Most Medium-scale businesses demonstrated the highest commitment to innovation, with 78.6 percent prioritizing it, compared to 76.0 percent of large-scale businesses and 74.5 percent of small-scale businesses (Figure 3.2.3).

Figure 3.2.3: Percentage of Enterprises that prioritized innovation by Size of Enterprises

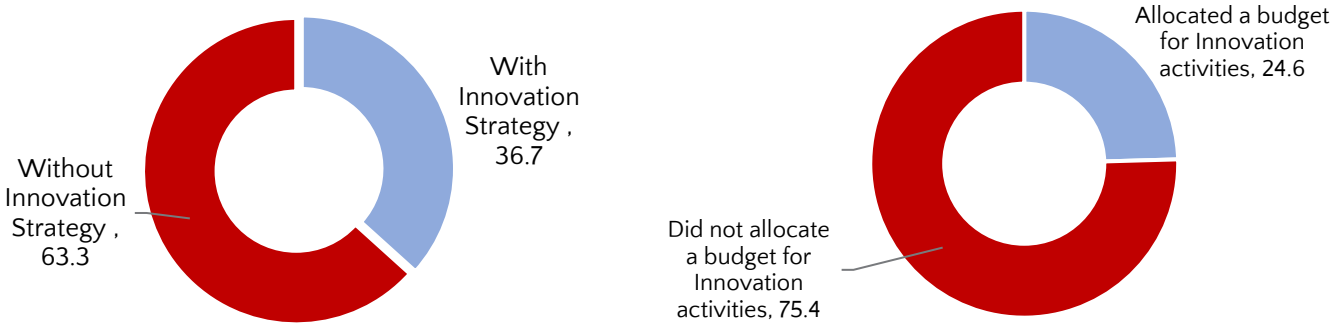


Source: *NSO, Business Innovation Survey 2023-2024*

Linked to the interest by business firms in prioritizing innovation is the idea of who or which firms reported having innovation strategies as innovation is a strategic business issue. Innovation is regarded as being part of the set of investment decisions to create capacity for product development or to improve efficiency in a business (OECD, 2005, p. 30).

Figure 3.2.4 shows the number of businesses that reported having strategies. Overall, 36.7 percent of business enterprises in Malawi were found to have an innovation strategy in place, and 24.6 percent of enterprises allocated a budget specifically for innovation activities.

Figure 3.2.4: Percentage of Enterprises that had reported having an Innovation Strategy and allocated Budget to Innovation Activities



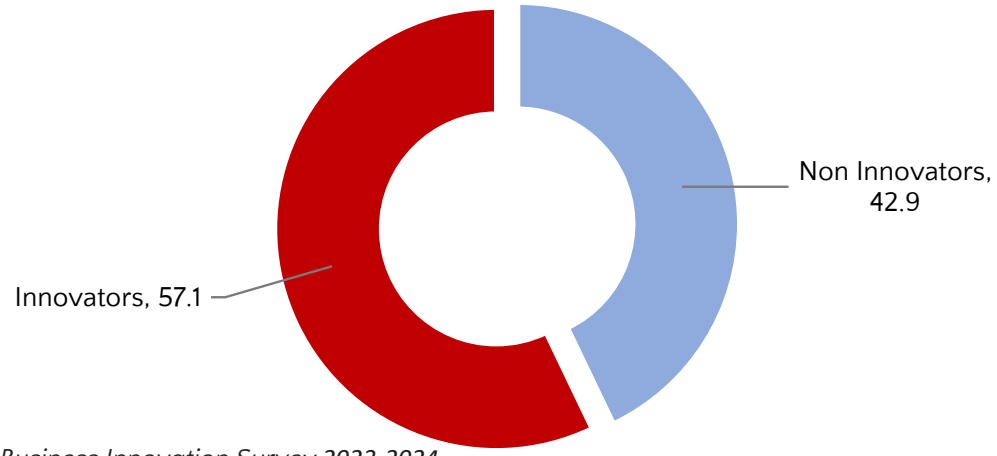
Source: *NSO, Business Innovation Survey 2023-2024*

3.2.2 Business Enterprises that Innovated Between 2023 and 2024

Enterprises were surveyed to assess whether, during the reference years of 2023 and 2024, they introduced new goods, services, or operational processes, entered new markets, or made significant improvements to their existing goods, services, or operational processes.

The Business Innovation Survey main area of interest was to know who is innovating and who is not. About 57.1 percent of enterprises indicated that they innovated between 2023 and 2024 while 42.9 percent did not innovate (Figure 3.2.5).

Figure 3.2.5: Percentage Distribution of the Status of Innovation by Enterprises

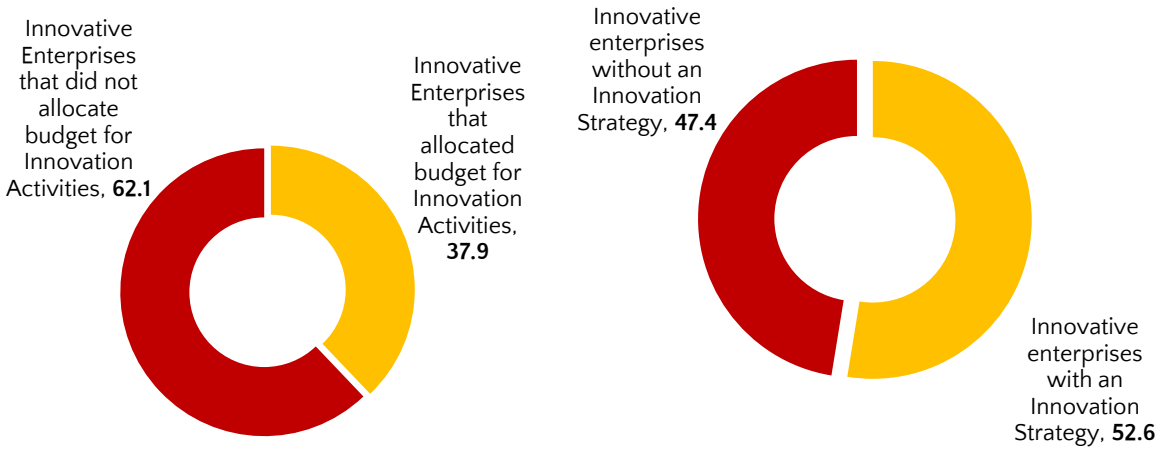


Source: *NSO, Business Innovation Survey 2023-2024*

Among enterprises that innovate in Malawi, 52.6 percent of the business enterprises had an innovation strategy, while 47.4 percent did not. This suggests that for nearly half of innovative firms, innovation is undertaken on an ad hoc basis and without formal strategic guidance.

Furthermore, only 37.9 percent of innovative enterprises allocated a specific budget for innovation activities, indicating that most of the business enterprises (62.1 percent) carry out innovation without setting aside financial resources specifically for innovation (Figure 3.2.6).

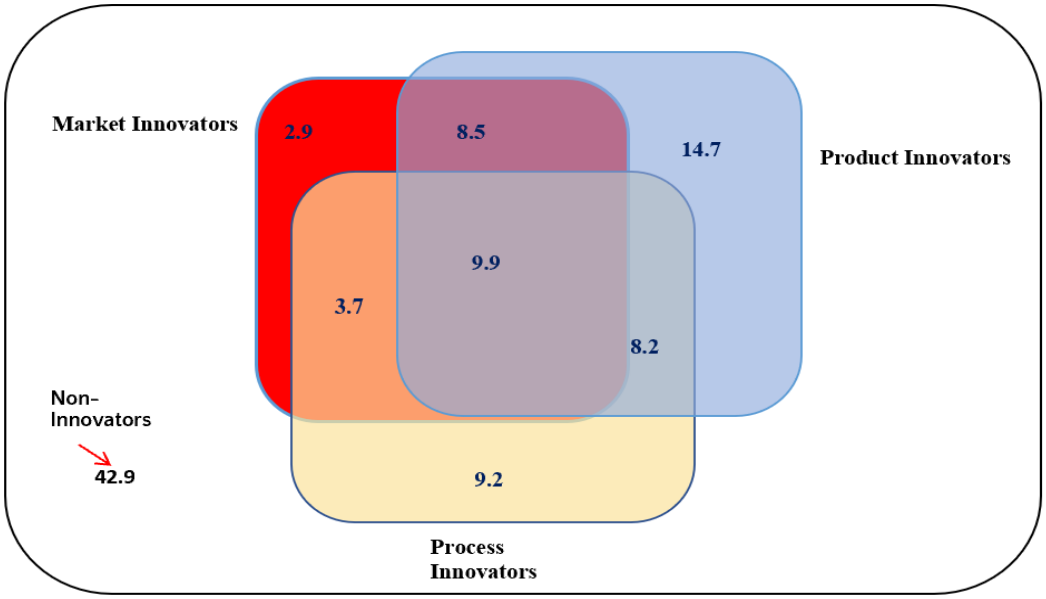
Figure 3.2.6: Percentage of Innovative Enterprises that had reported having an Innovation Strategy and allocated Budget to Innovation Activities



Source: *NSO, Business Innovation Survey 2023-2024*

Among enterprises that innovated in Malawi, the largest share implemented product innovation only, accounting for 14.7 percent. This was followed by enterprises that introduced all three types of innovation—product, market, and process (9.9 percent), and businesses that implemented process innovation only (9.2 percent). The least, 2.9 percent, implemented market innovation only (Figure 3.2.7).

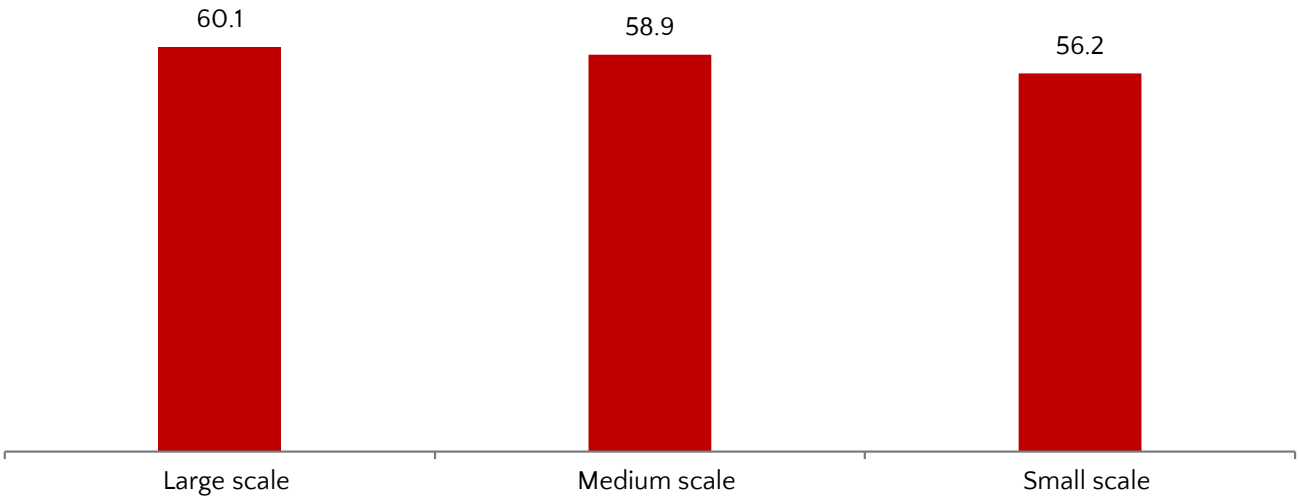
Figure 3.2.7: Percentage Distribution of Enterprises by Status of Innovation and Innovation Type



Source: *NSO, Business Innovation Survey 2023-2024*

An analysis by enterprise size showed that 60.1 percent of large-scale businesses engaged in innovation by introducing new goods or services, improving operational processes, entering new markets, or significantly enhancing existing goods and services. This was followed by 58.9 percent of medium-scale enterprises, and the least were small-scale enterprises at 56.2 percent (Figure 3.2.8).

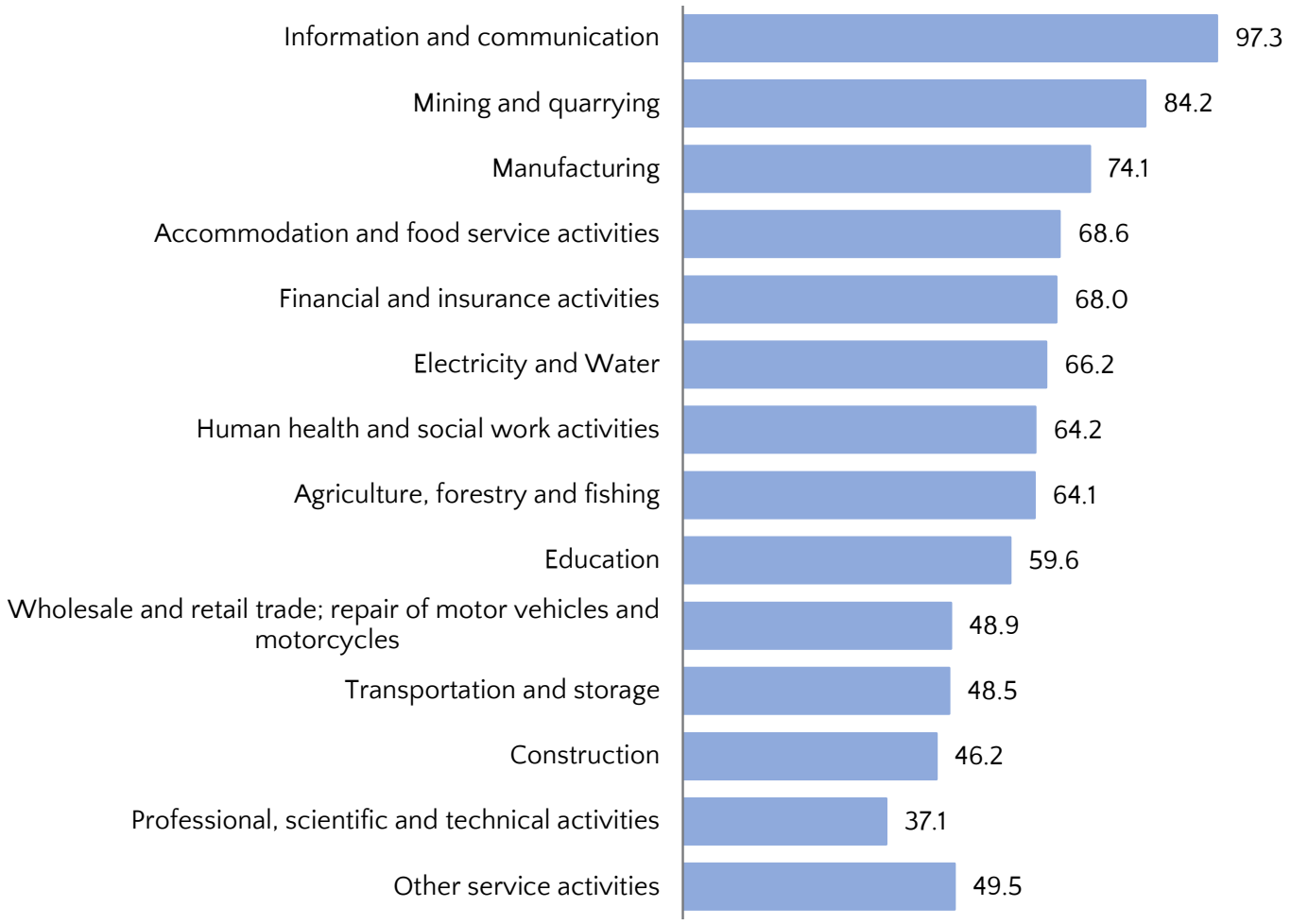
Figure 3.2.8: Percentage of Enterprises that Innovated by Size of Enterprise



Source: *NSO, Business Innovation Survey 2023-2024*

A sectoral analysis indicates that enterprises within Information and Communication showed the highest innovation rates between 2023 and 2024, with 97.3 percent of enterprises engaging in innovation activities. This was followed by mining and quarrying at 84.3 percent. The least innovation rates were observed in enterprises engaged in Professional, Scientific, and Technical Activities, at 37.1 percent (Figure 3.2.9)

Figure 3.2.9: Percentage of Business Enterprises that Innovated by Sector



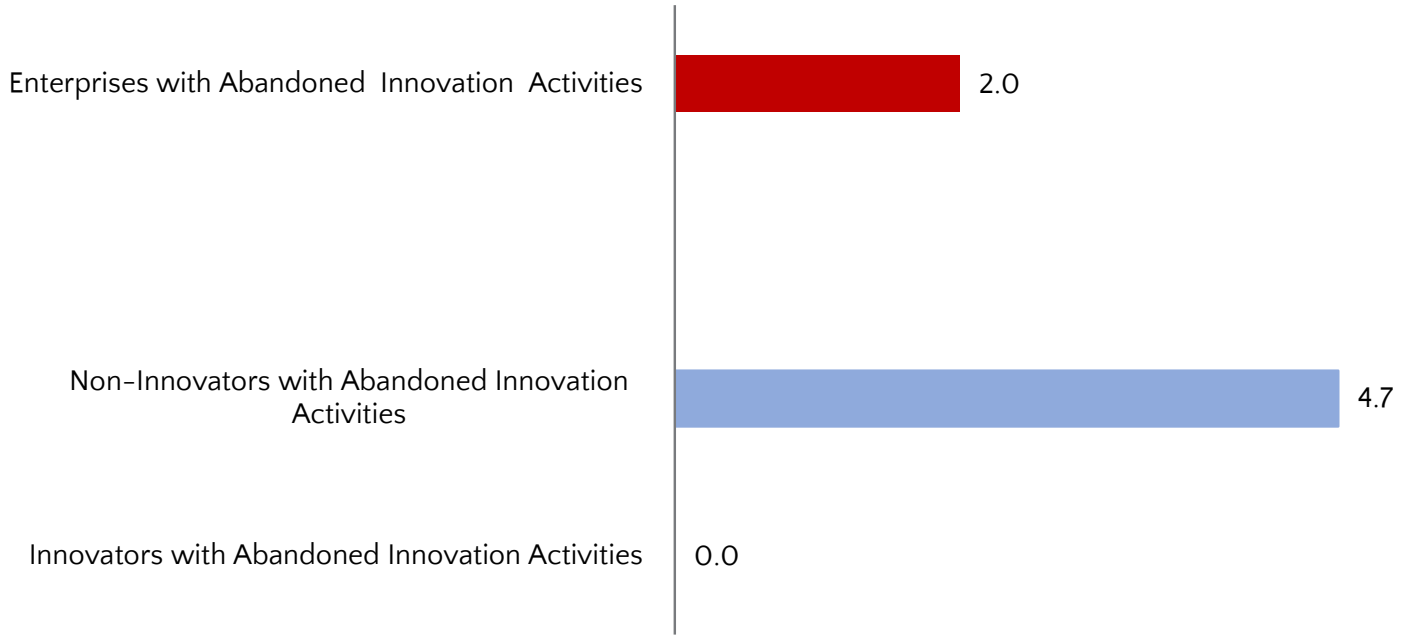
Source: *NSO, Business Innovation Survey 2023-2024*

3.2.3 Business Enterprises that were Innovation -Active Between 2023 and 2024

The survey also established the percentage of innovation-active and non-innovation-active business enterprises. Innovation-active business enterprises were defined as businesses that, between 2023 and 2024, innovated or did not innovate but during the reference period had one or more ongoing, suspended, abandoned or completed innovation activities that did not result in innovation.

Overall, about 2 percent of enterprises reported having abandoned innovation activities that did not result in innovation between 2023 and 2024. By innovation status, 4.7 percent of non-innovators reported abandoning such activities, while none of the innovators reported any abandoned innovation activities (Figure 3.2.10).

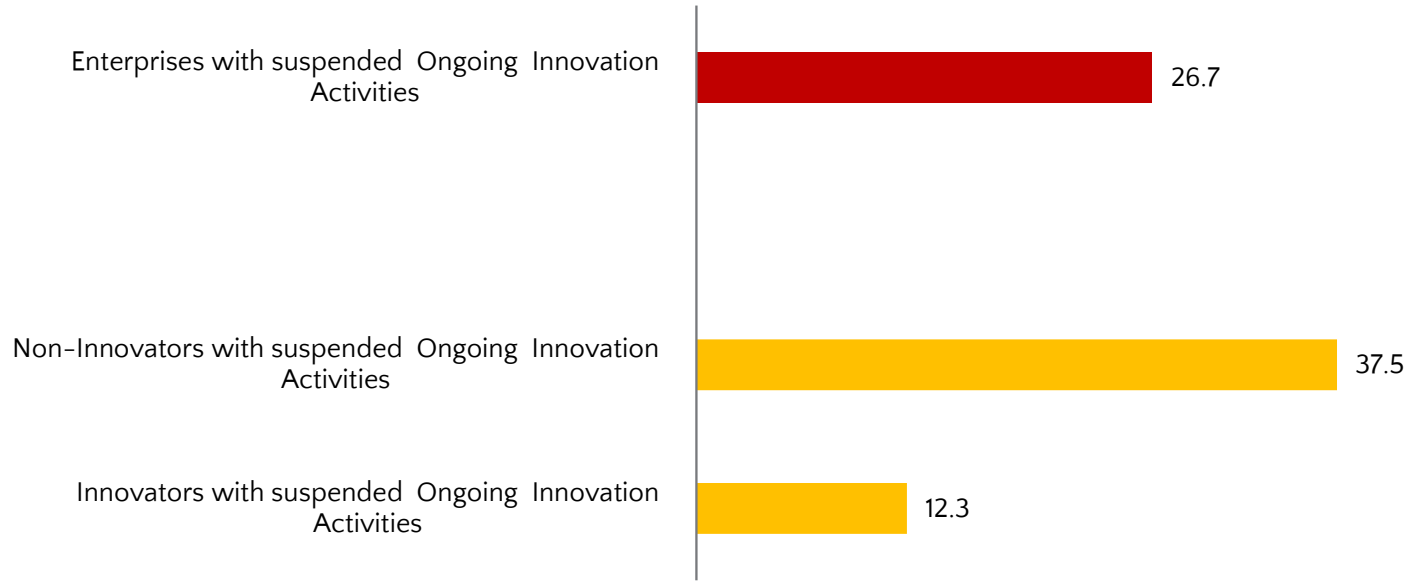
Figure 3.2.10: Proportion of Enterprises that Abandoned Innovation activities that did not result in Innovation by Status of Innovation



Source: *NSO, Business Innovation Survey 2023-2024*

The survey results also established that 26.7 percent of enterprises suspended ongoing innovation activities between 2023 and 2024. By innovation status, 37.5 percent of non-innovators reported suspending such activities, compared with 12.3 percent of innovators (Figure 3.2.11).

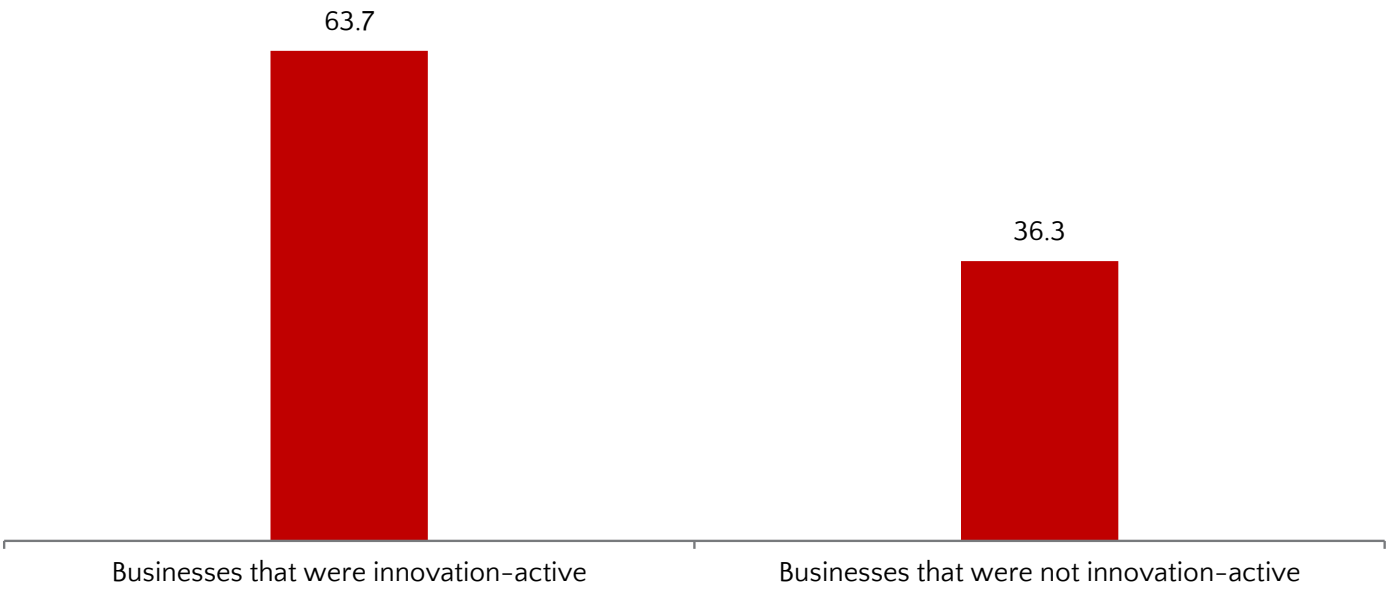
Figure 3.2.11: Proportion of Enterprises with Suspended Ongoing Innovation activities that did not result in Innovation by Status of Innovation,



Source: *NSO, Business Innovation Survey 2023-2024*

Between 2023 and 2024, more than half (63.7 percent) of the enterprises were innovation-active, while 36.3 percent were not (Figure 3.2.12).

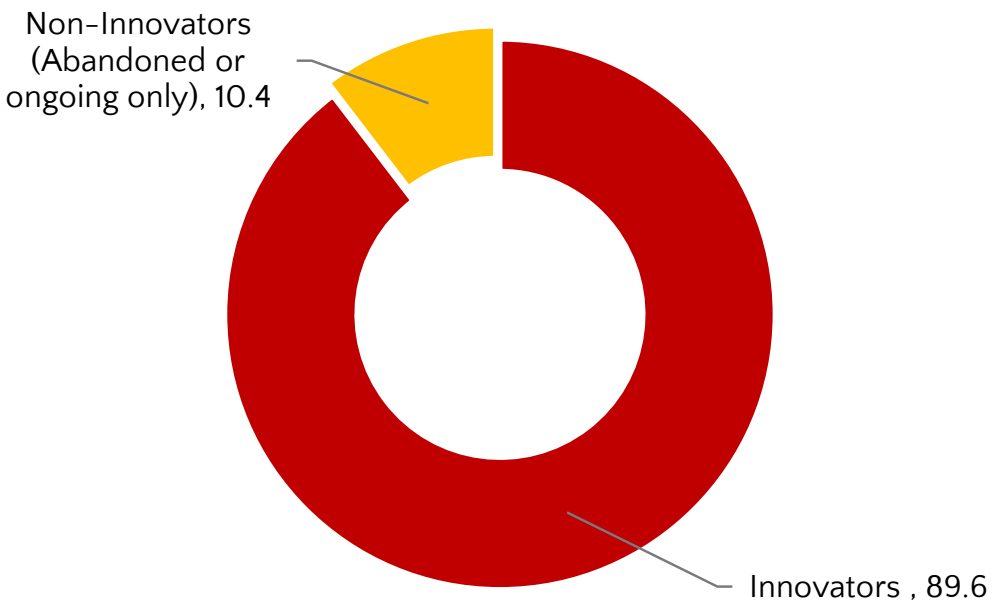
Figure 3.2.12: Percentage of Business Enterprises that were Innovation-Active



Source: *NSO, Business Innovation Survey 2023-2024*

Of the innovation-active enterprises, 89.6 percent were innovators, while 10.4 percent were non-innovators with abandoned and/or ongoing innovation activities only (Figure 3.2.13).

Figure 3.2.13: Percentage of Business Enterprises that were Innovation-Active by Status of Innovation

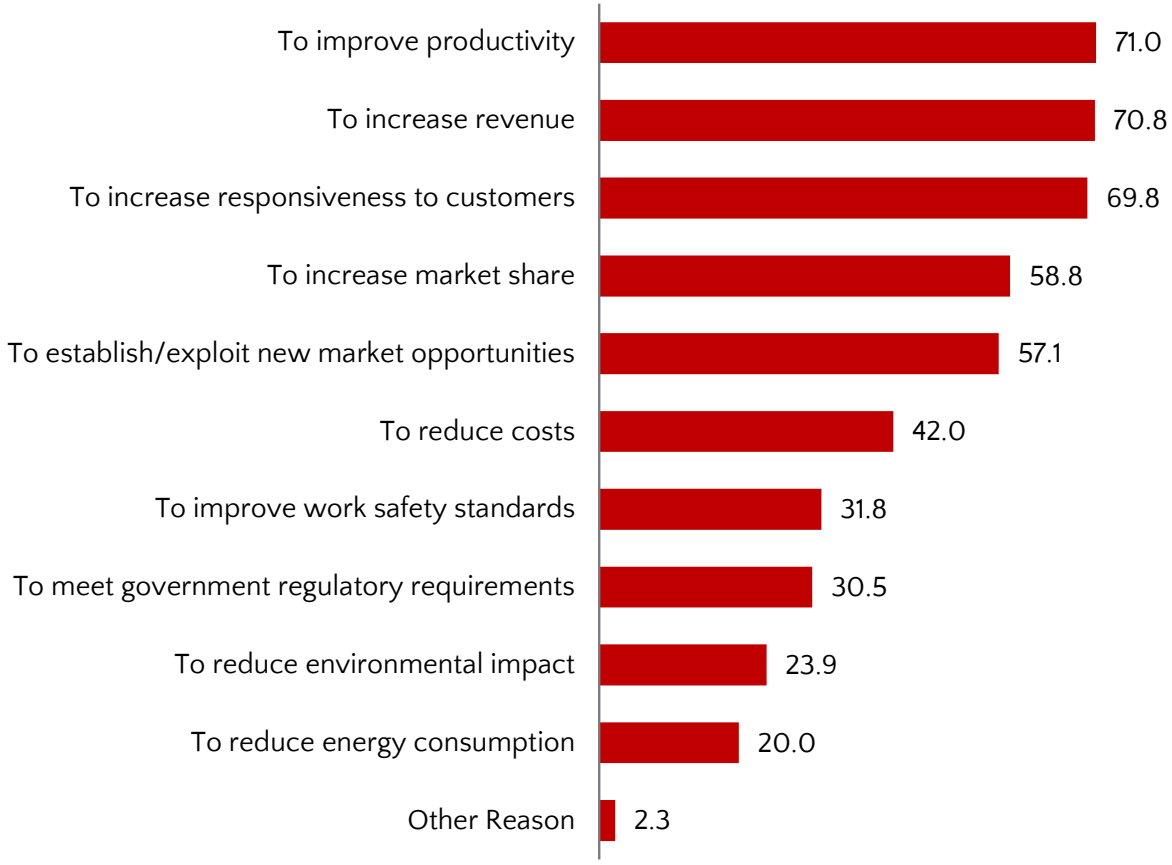


Source: *NSO, Business Innovation Survey 2023-2024*

3.3 Reasons and Objectives of Innovation Between 2023 and 2024

The survey asked business enterprises to indicate the reasons that motivated them to get involved in innovation. The highest proportion of enterprises (at least 70 percent) indicated that they innovated to improve productivity, increase revenue and to increase responsiveness to the customers. The least proportion of enterprises (20 percent) indicated that they were involved in innovation because they wanted to reduce energy consumption (Figure 3.3.1).

Figure 3.3.1: Main Motivations for Undertaking Innovation Activities, Percentage of Enterprises



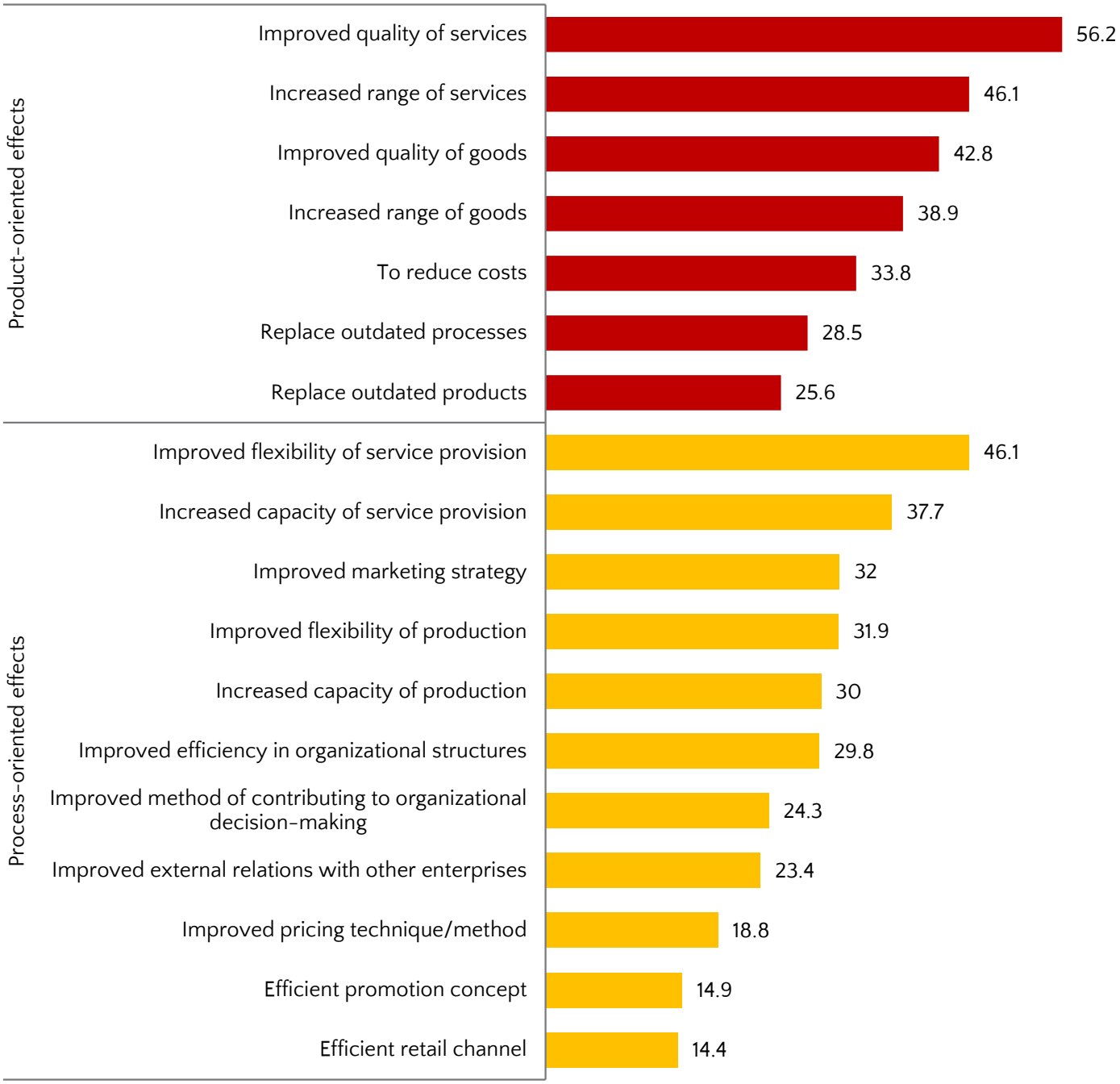
Source: *NSO, Business Innovation Survey 2023-2024*

Enterprises were further asked to provide information on the degree of importance of the list of objectives given for their business innovation. These objectives were categorized as high, medium, low, or not relevant. The responses were grouped into two sets: the first focused on product-oriented effects, while the second focused on process-oriented effects. The results presented below are for high-priority objectives only.

For product-oriented effects, more than half of the enterprises (56.2 percent) adopted innovations to improve the quality of services. This was followed by enterprises that considered increasing the range of services as their highest-priority objective at 46.1 percent. The least high priority objective among product-oriented objectives was the replacement of outdated products, cited by 25.6 percent of enterprises.

For process-oriented effects, the highest priority objectives that most enterprises (46.1 percent) considered were to improve flexibility of service provision. This was followed by increased capacity of service provision at 37.7 percent. The least high-priority objective for process-oriented effects was to develop efficient retail channels at 14.4 percent (Figure 3.3.2).

Figure 3.3.2: Percentage of Enterprises with High-Priority Objectives for Undertaking Innovation Activities



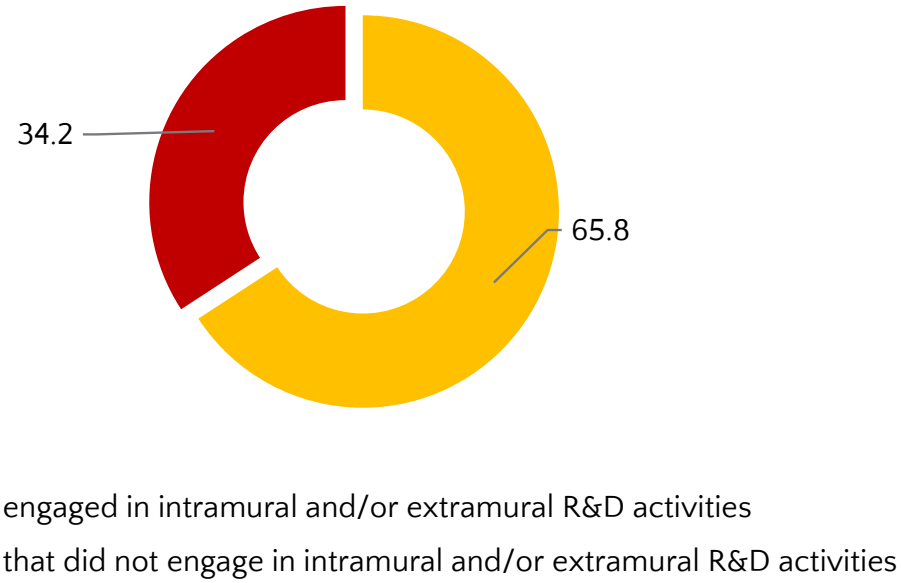
Source: *NSO, Business Innovation Survey 2023-2024*

3.4 Activities Supporting Innovation

Activities that support innovation are diverse and they include Intramural (in-house) and Extramural R&D among others. The former refers to creative work undertaking on a systematic basis within the enterprise to increase the stock of knowledge and use it to devise new applications. This comprises all R&D conducted by the enterprise, including basic research. Whereas the latter refers to activities similar to intramural R&D but purchased from public or private research organisations or from other enterprises, including other enterprises within the group (OECD, 2005, p. 97).

The survey established that 59.1 percent of business enterprises engaged in intramural R&D activities while trying to innovate, while 16.3 percent engaged in extramural R&D activities. Overall, 65.8 percent of enterprises engaged in at least one form of R&D activity (intramural and/or extramural) during their innovation activities (Figure 3.4.1).

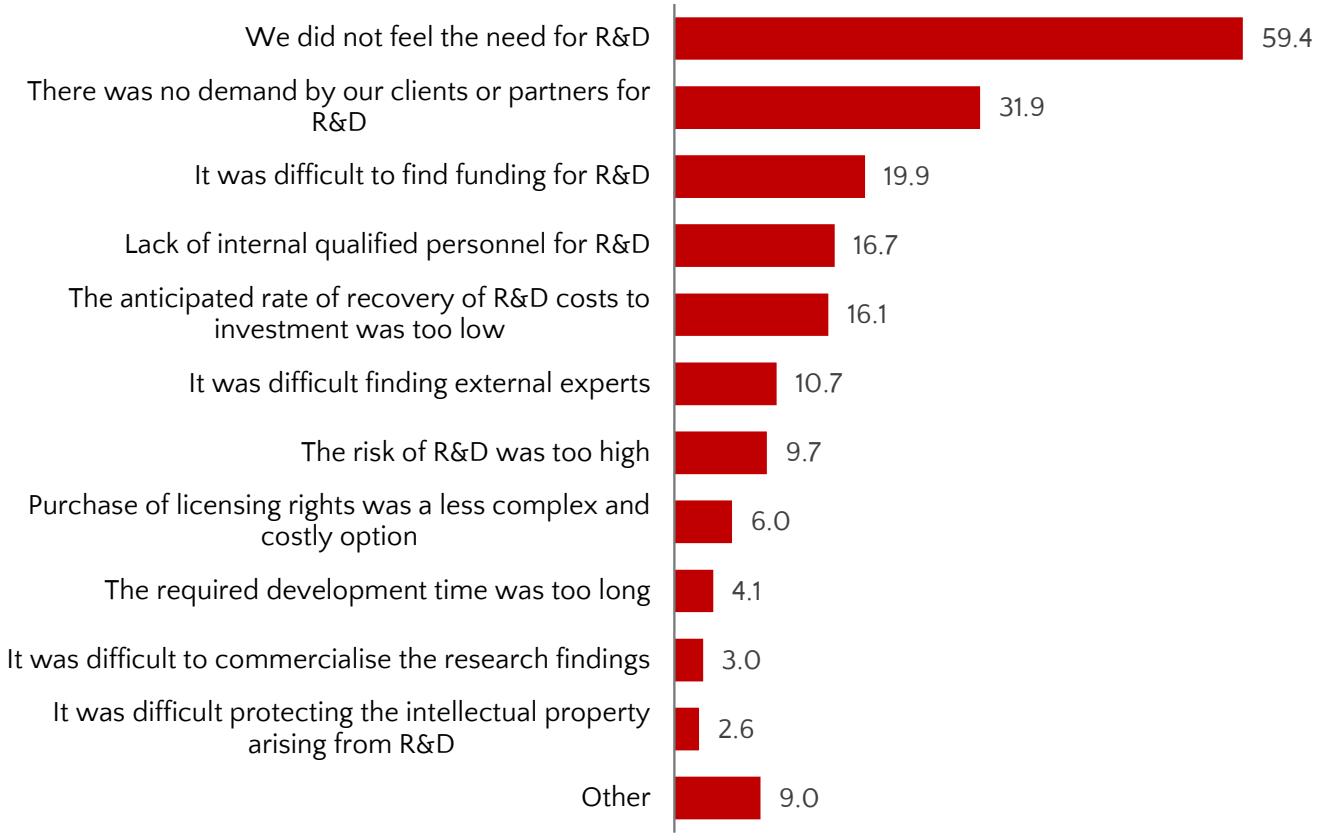
Figure 3.4.1: Percentage of Enterprises Engaged in Intramural and /or Extramural R&D Activities While Trying to Innovate



Source: *NSO, Business Innovation Survey 2023-2024*

The main reason reported by enterprises for not conducting Intramural and Extramural R&D activities was that enterprises did not feel the need for R&D at 59.4 percent. This was followed by those which reported that there was no demand by clients or partners for R&D at 31.9 percent. The least reported reason was that it was difficult to protect the Intellectual property arising from R&D (Figure 3.4.2).

Figure 3.4.2: Proportions of Enterprises that did not Conduct Intramural and Extramural R&D Activities by Reasons



Source: *NSO, Business Innovation Survey 2023-2024*

3.5 Public Financial Support for Innovation Activities

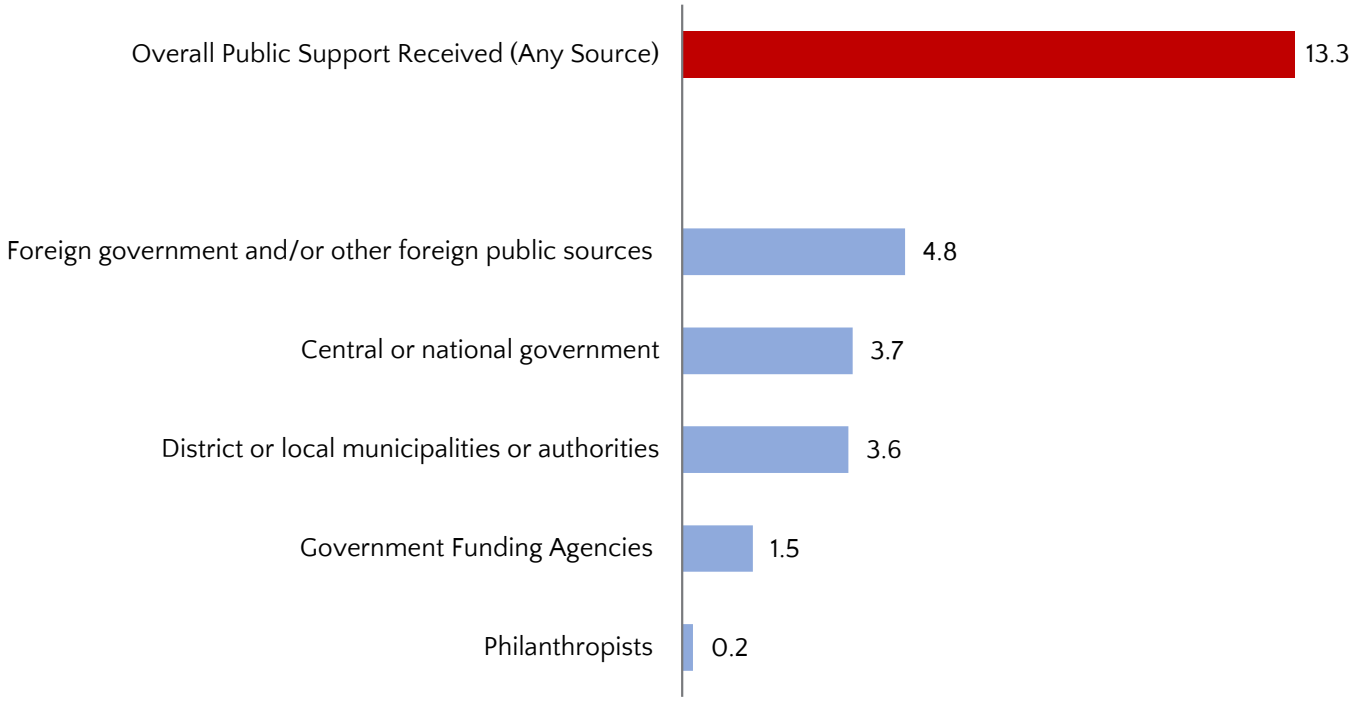
Public financial support programmes are interpreted as direct or indirect transfers of resources to business enterprises. These programmes provide support in form of finance or maybe in-kind. These forms of support may come directly from government authorities or indirectly, for example subsidies to product purchases (OECD, 2018, p. 156). Firms can benefit from public support that targets business activities (for instance expenditures on research and experimental development (R&D) or the acquisition of new machinery that can support innovation activities). Innovation-related activities and outcomes are common targets of government support. In Malawi, innovation activities are supported by way of grants e.g. through Technology and Innovation Grants under the Science and Technology Fund operated by the NCST, Innovation support by Malawi Communications Regulatory Authority (MACRA) and Community Innovation Programme by Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA) are just but a few of the schemes of Government.

3.5.1 Public Finance Support

Overall, 13.3 percent of the enterprises reported having received public financial support for innovation activities either from Central Government, District councils, Foreign Governments, Government funding agencies or Foundations.

An analysis by level of government shows that the largest proportion of enterprises' public financial support was from foreign governments or other foreign public sources at 4.8 percent. This was followed by support from the Central or National government at 3.7 percent. The least common source of public financial support was philanthropic foundations at 0.2 percent (Figure 3.5.1).

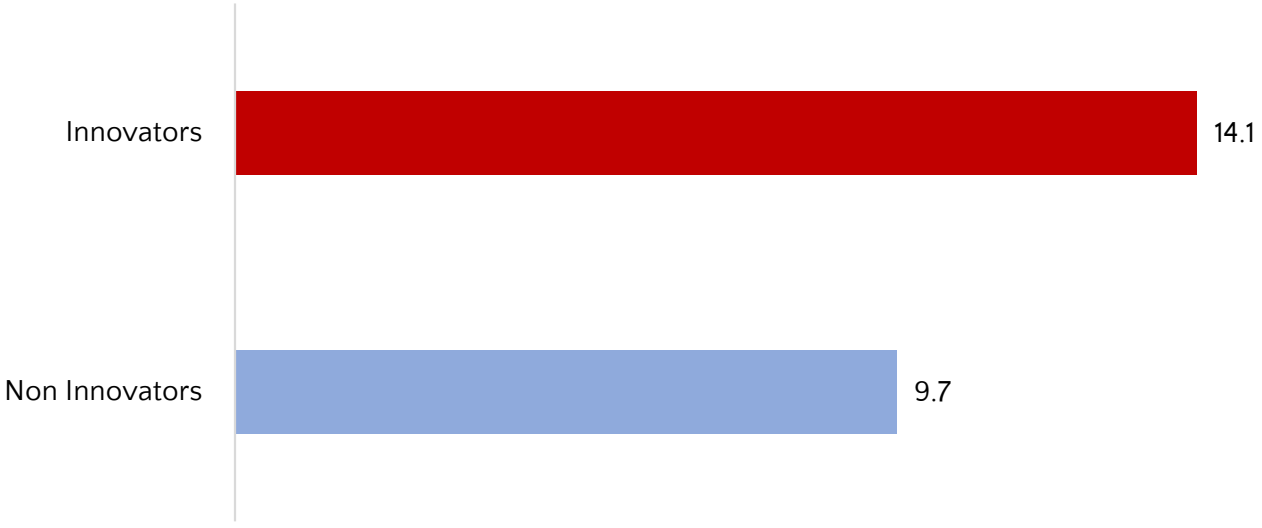
Figure 3.5.1: Percentage of Enterprises that received Public Financial Support by Levels of Governments



Source: *NSO, Business Innovation Survey 2023-2024*

The survey results further show that enterprises that innovated in Malawi between 2023 and 2024 benefited more from the public financial support (14.1 percent of the enterprises) to carry out innovation related activities than non -innovators, about 10 percent (Figure 3.5.2).

Figure 3.5.2: Percentage of Enterprises that received Public Financial Support by Status of Innovation

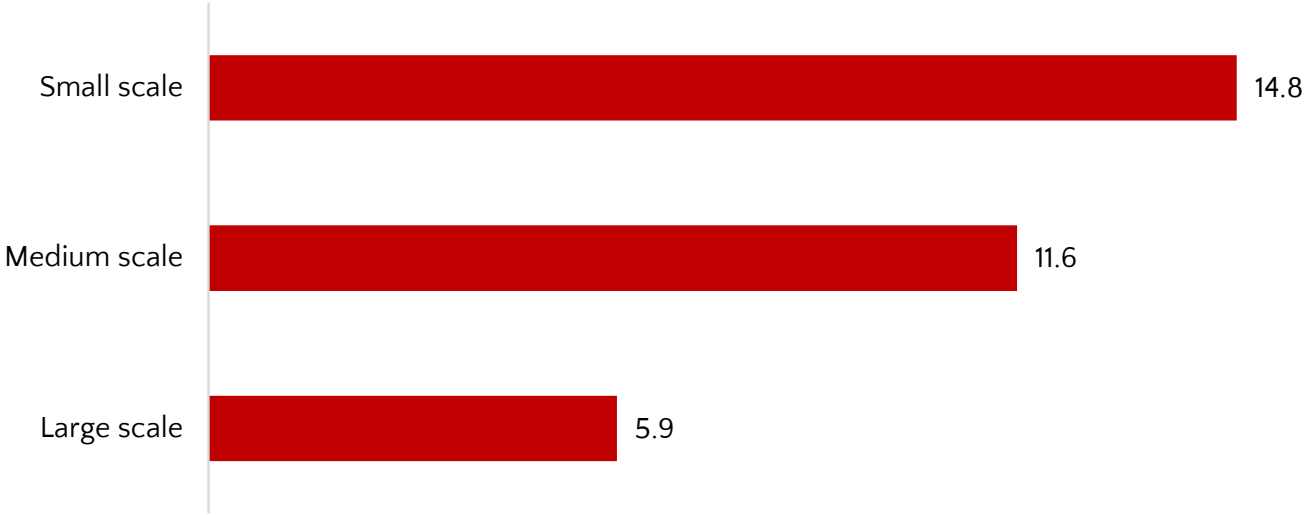


Source: *NSO, Business Innovation Survey 2023-2024*

An analysis by size of enterprises shows that small-scale businesses were the main beneficiaries of public financial support, with 14.8 percent receiving support either from the Central government, District councils, Foreign governments, Government funding agencies, or philanthropic foundations.

This was followed by medium-scale businesses at 11.6 percent, while large-scale businesses were the least beneficiaries at 5.9 percent (Figure 3.5.3).

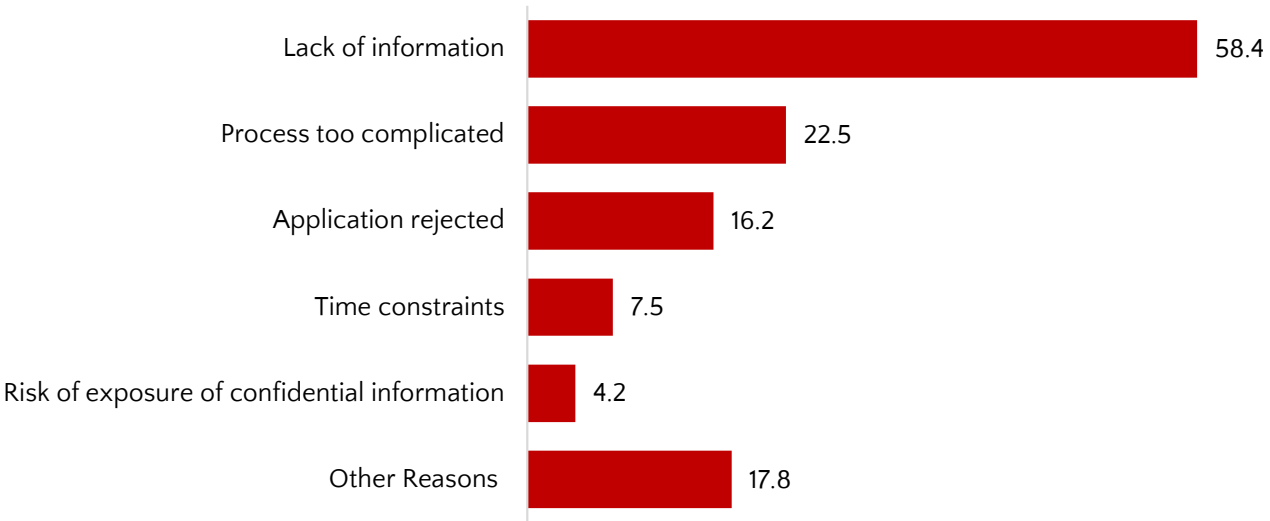
Figure 3.5.3: *Percentage of Enterprises that received Public Financial Support by Size of Enterprises*



Source: *NSO, Business Innovation Survey 2023-2024*

The survey established that more than half of the enterprises (about 58 percent) cited lack of information as the main reason for not accessing public financial support. This was followed by enterprises that reported the complexity of the application process as a barrier (22.5 percent). The least proportion of enterprises (4.2 percent) were concerned about the risk of exposure of confidential information (Figure 3.5.4)

Figure 3.5.4: Proportions of Enterprises that Did not Access Public Financial Support for Innovation Activities by Reasons



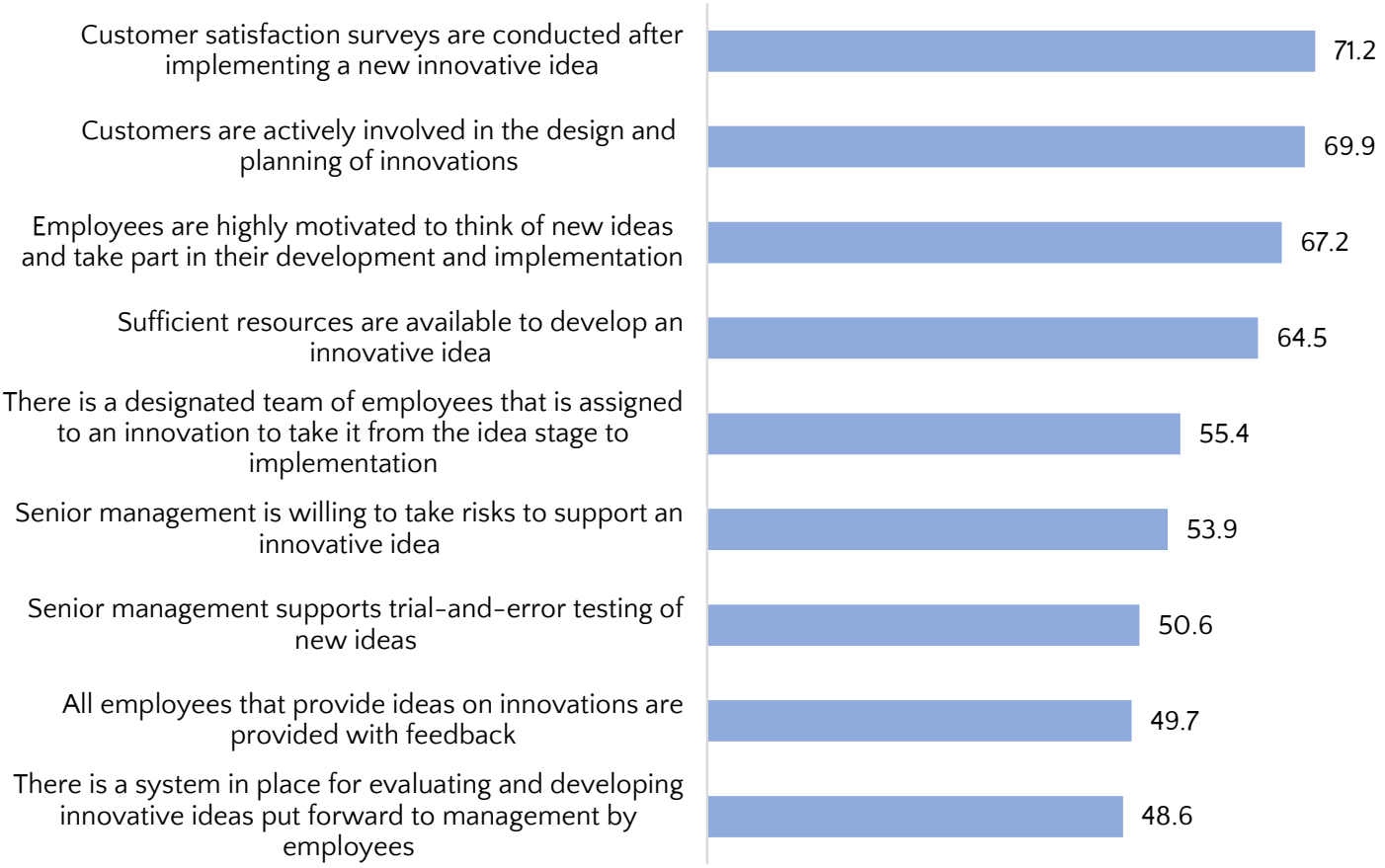
Source: *NSO, Business Innovation Survey 2023-2024*

3.6 Innovation Idea Management

The survey collected data on how enterprises make use of the generated ideas and how the ideas are managed by various enterprises. Such data was necessary to create a link between idea generation and utilization of the ideas by management.

The findings indicate considerable variation in enterprises' assessments of the adequacy of their innovation idea management systems. Customer satisfaction surveys conducted after implementing a new idea (71.2 percent) was identified as a primary idea management system, followed by actively involving customers in design and planning of innovations(69.9 percent) , and the extent to which employees are motivated to think of new ideas and participate in their development and implementation at 67.2 percent (Figure 3.6.1).

Figure 3.6.1: Proportion of Enterprises by Degree of Adequacy of Innovation Idea Management



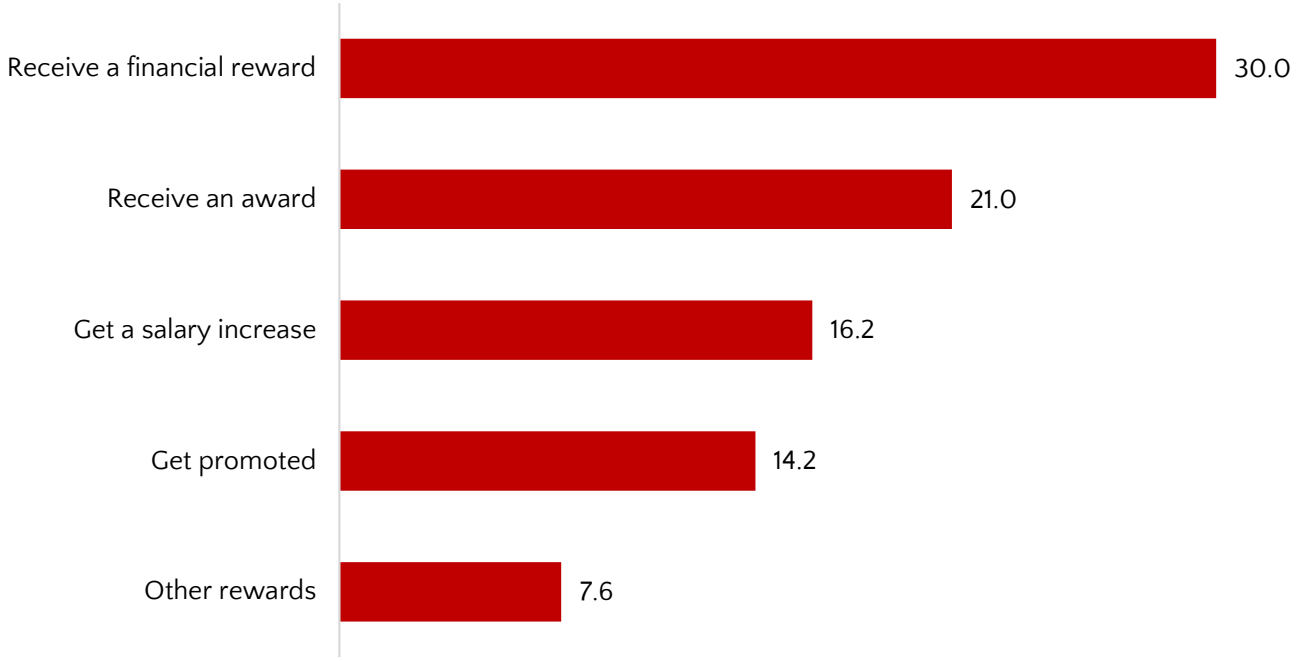
Source: *NSO, Business Innovation Survey 2023-2024*

The other area of investigation was "how rewards were implemented by business enterprises". The survey also assessed whether businesses rewarded individuals who came up with innovative ideas through financial incentives, higher salaries, or promotions.

According to the results, 30.0 percent of enterprises indicated that those presenting innovative ideas received a financial reward, while 21.0 percent offered some other non-financial form of recognition.

Approximately 16 percent reported granting salary increases, likely to employees with creative ideas, and 14.2 percent promoted those who contributed innovation ideas (Figure 3.6.2).

Figure 3.6.2: Proportion of Enterprises that Rewarded Employees that Originated Innovation Ideas



Source: *NSO, Business Innovation Survey 2023-2024*

3.7 Collaborative Arrangements for Innovation

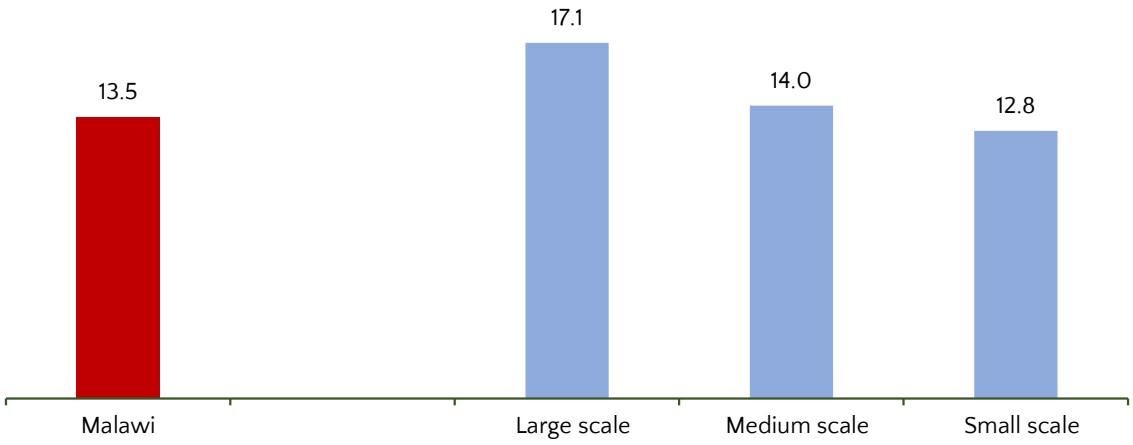
In business setup, collaborative arrangements for innovation are formal, legally binding contracts between two or more enterprises that establish strategic ventures such as joint marketing, research and development, technology integration, or co-product distribution initiatives. The goal is to achieve objectives that may not be possible individually. By pooling resources and expertise, businesses can make these objectives attainable.

In this survey, the aim was to establish whether businesses created collaborative partnerships to pursue innovative initiatives. Additionally, any agreements in which innovation development tasks were outsourced were excluded.

3.7.1 Enterprises that Made Collaborative Arrangements

The results indicate that during the reference years 2023 and 2024, approximately 14 percent of enterprises in Malawi reported having collaborative arrangements for innovation. Large-scale enterprises recorded the highest proportion of such arrangements at 17.1 percent, Medium-scale enterprises followed with 14.0 percent while Small-scale enterprises reported the lowest proportion at 12.8 percent (Figure 3.7.1).

Figure 3.7.1: Percentage of Enterprises that made Corporative Arrangements by Size of Enterprise

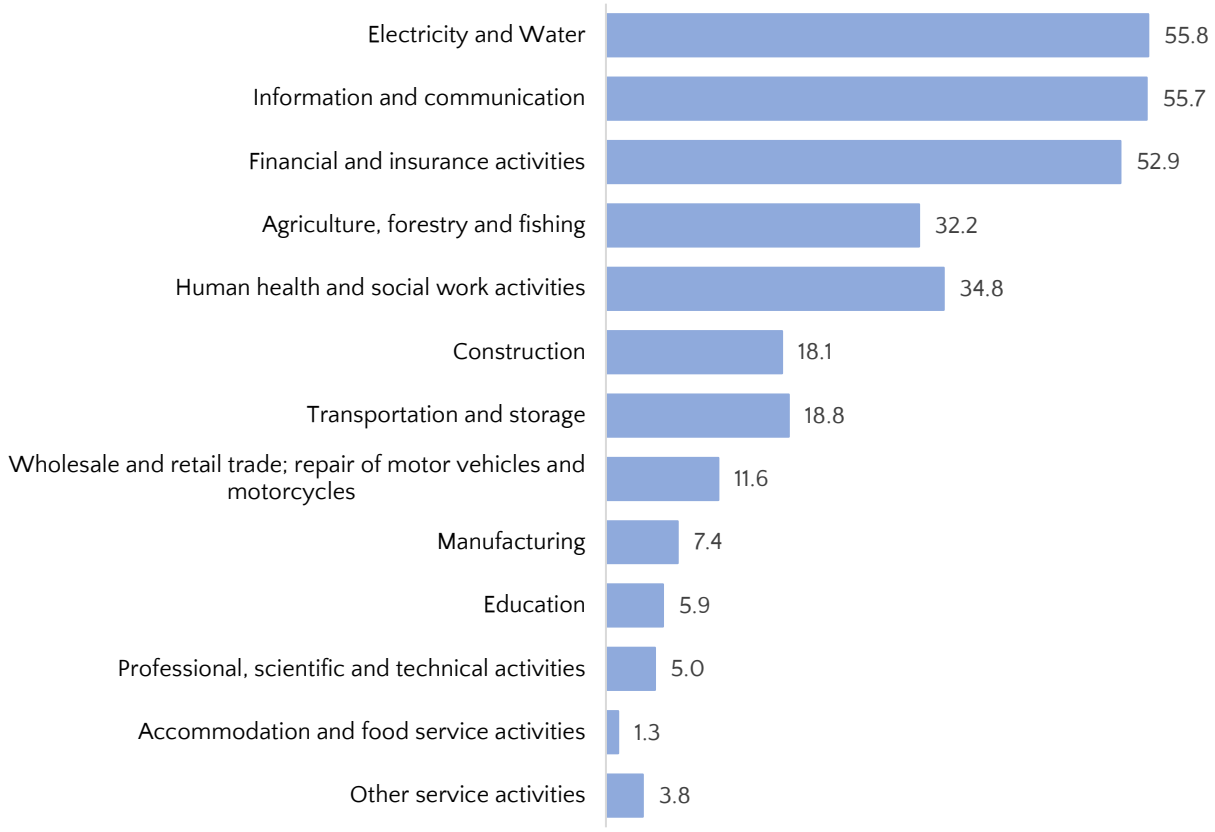


Source: *NSO, Business Innovation Survey 2023-2024*

Existing collaborative arrangements for innovating enterprises at sectoral level revealed variations in participation levels. For instance, Electricity and Water sector recorded the highest proportion of enterprises engaged in collaborative arrangements for innovation (55.8 percent). This was closely followed by the Information, Communication and Technology sector (55.7 percent) and the Financial and Insurance activities sector at 52.9 percent.

In contrast, very few enterprises in the other services sector (3.8 percent) and the Accommodation and Food Service activities sector (1.3 percent) reported implementing collaborative arrangements (Figure 3.7.2).

Figure 3.7.2: Percentage of Business Enterprise that made Collaborative Arrangements by Sector

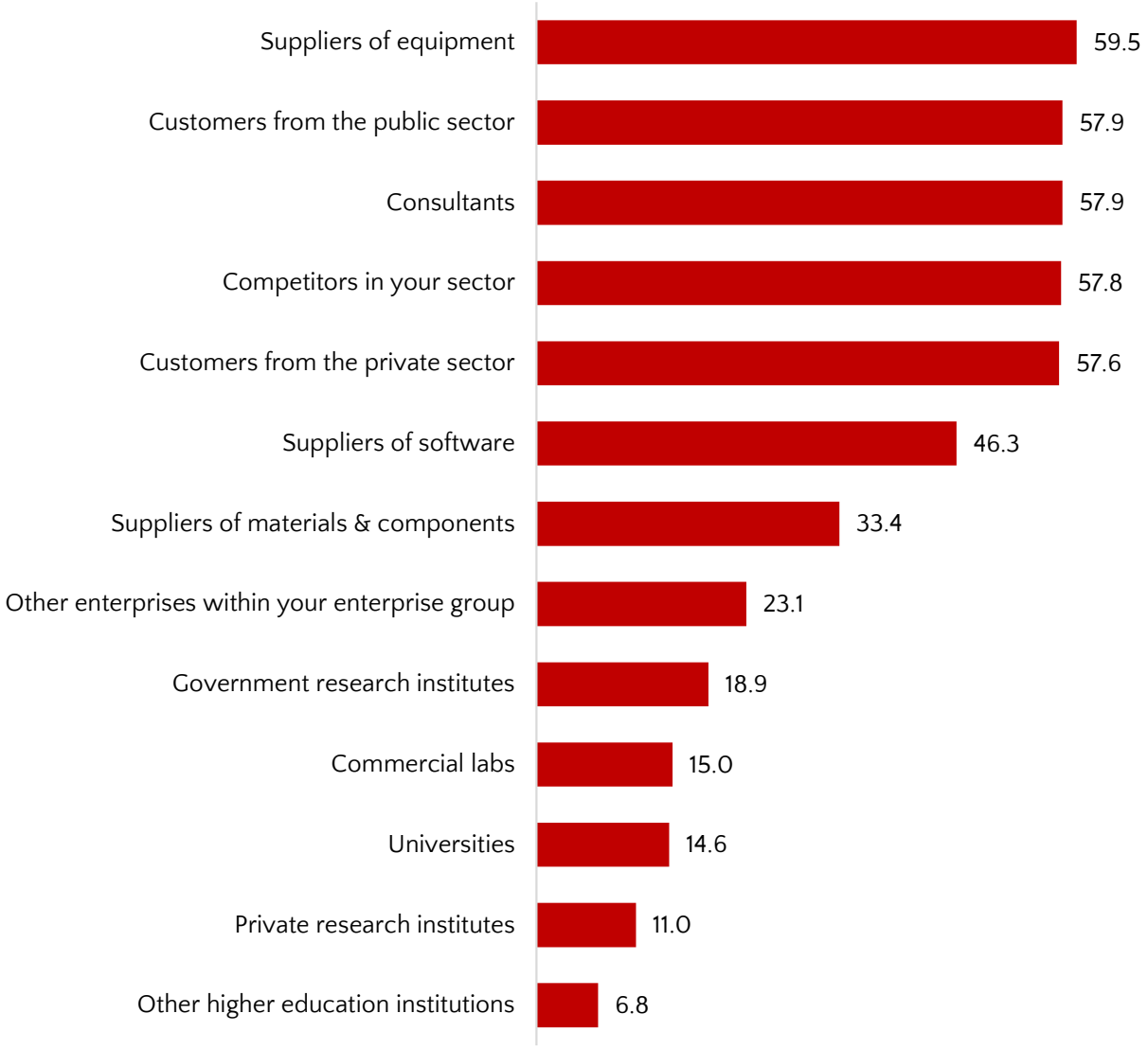


Source: *NSO, Business Innovation Survey 2023-2024*

An analysis of collaborative arrangements by type of partnership shows that enterprises most frequently collaborated with: Suppliers of equipment (59.5 percent) followed by Customers from the public sector (57.9 percent); Consultants (57.9 percent); Competitors within their sector (57.8 percent); Customers from the private sector (57.6 percent).

In contrast, partnerships were far less common with: Universities (14.6 percent), Private research institutes (11.0 percent) and Other higher education institutions at 6.8 percent (Figure 3.7.3).

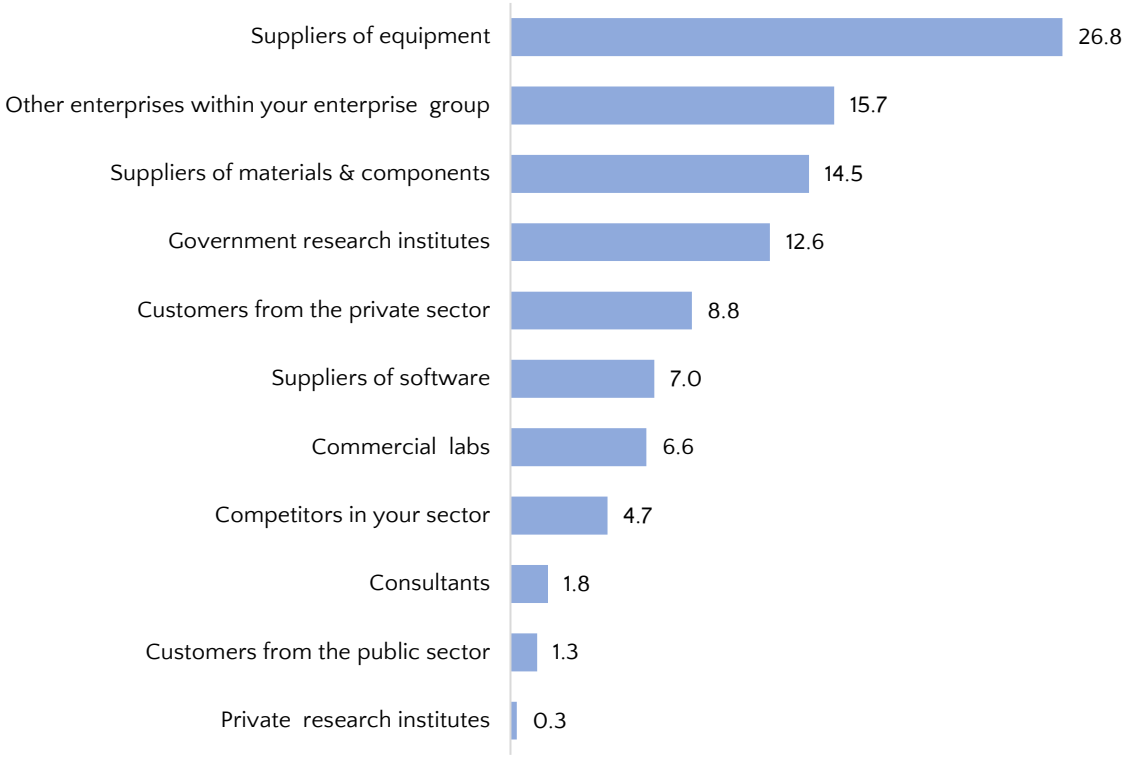
Figure 3.7.3: Proportion of Enterprises that made Collaborative arrangements by type of Co-operation Partner



Source: *NSO, Business Innovation Survey 2023-2024*

The survey also assessed the most valuable cooperative arrangements undertaken by enterprises. The findings indicate that the most valuable collaborative arrangement was with equipment suppliers (26.8 percent). This was followed by collaborations with other enterprises within the same group at 15.7 percent, suppliers of materials and components (14.5 percent), government research institutes (12.6 percent), and relationships with private sector customers at 8.8 percent. The least valuable cooperative arrangement was with private research institutions, accounting for only 0.3 percent (Figure 3.7.4).

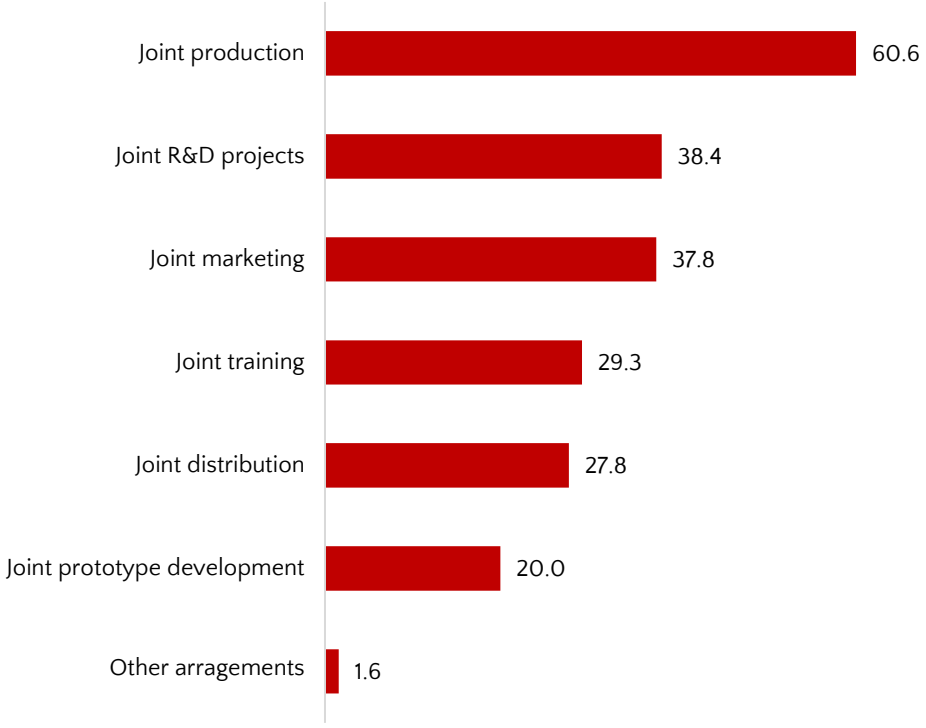
Figure 3.7.4: Percentage Distribution of Most Valuable Collaborative Arrangements for Innovation



Source: *NSO, Business Innovation Survey 2023-2024*

Distribution of enterprises performing collaborative arrangements activities shows that 60.6 percent teamed up for joint production of goods followed by 38.4 percent that worked together on joint R&D projects. Other activities were Joint marketing (37.8 percent), joint training activities at 29.3 percent, Joint distribution (27.8 percent), and 20.0 percent partnered up for joint prototype development (Figure 3.7.5).

Figure 3.7.5: Proportion of Enterprises that Engaged in Collaborative Arrangements by Activities

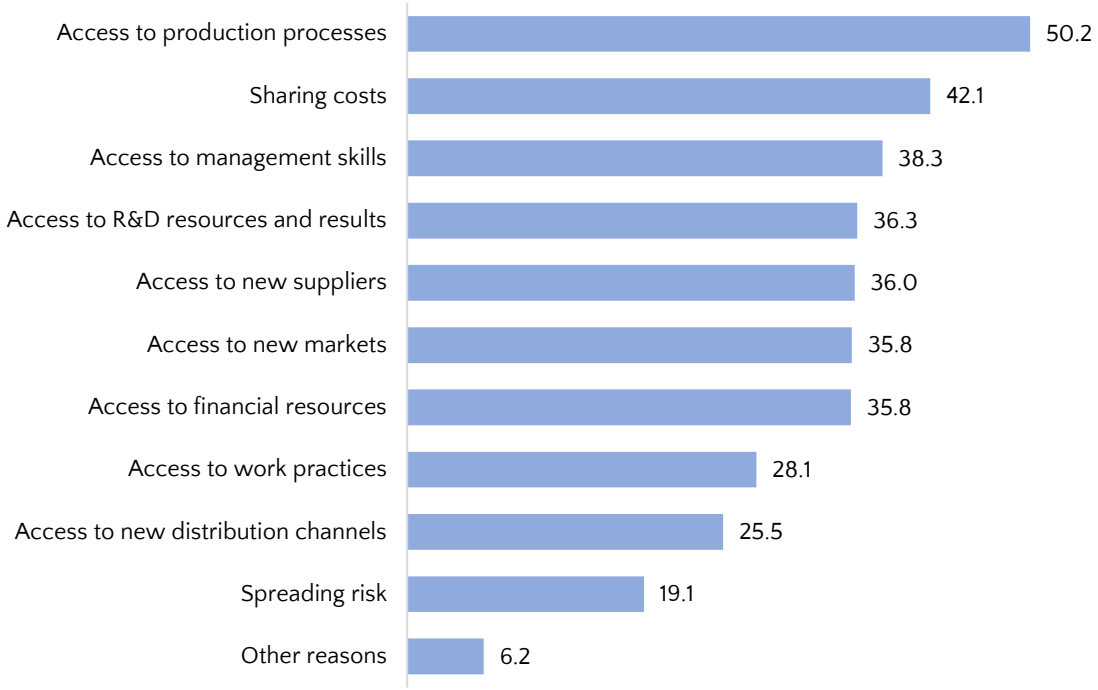


Source: *NSO, Business Innovation Survey 2023-2024*

3.7.2 Reasons for Engaging in Collaborative Arrangements

Analysis of reasons why enterprises engaged in collaborative arrangements for innovation shows that Access to production processes recorded the highest proportion at 50.2 percent followed by the reason to share costs at 42.1 percent. There were also some enterprises that said the reason they engaged in collaborative arrangement was to Access management skills (38.3 percent); access to R&D resources and results (36.3 percent); access to new markets (35.8 percent), access to financial resources (35.8 percent); access to work practices (28.1 percent); access to new distribution channels (25.5 percent) and for spreading the risk at 19.1 percent (Figure 3.7.6).

Figure 3.7.6: Percentage of Reasons Why Enterprises engaged in collaborative arrangements



Source: *NSO, Business Innovation Survey 2023-2024*

3.8 Innovations with Environmental Benefits

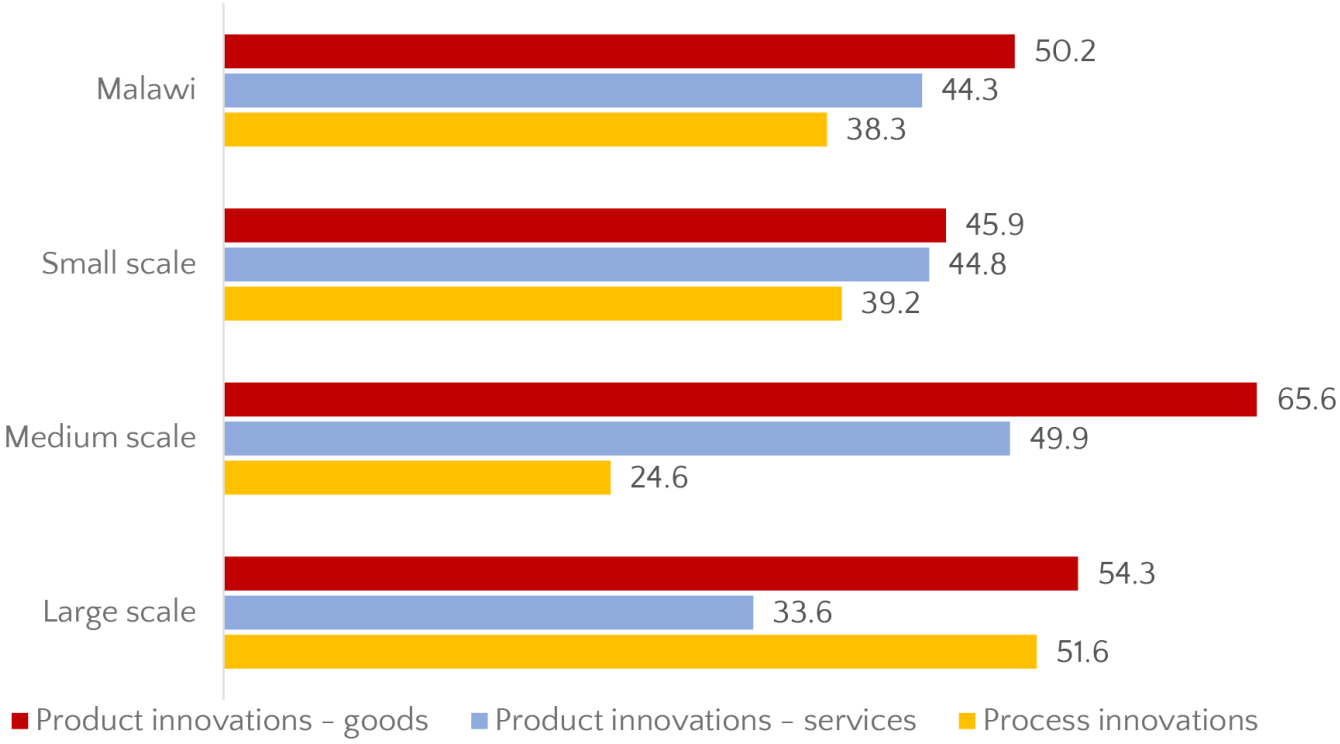
The survey also established whether environmental benefits were derived from products (goods or services) or process innovations. The results show that about 50 percent of enterprises implemented product innovations with environmental benefits. This was followed by service innovation at 44.3 percent, while the least environmental benefits were attributed to process innovation at 38.3 percent.

The analysis by enterprise size shows that 65.6 percent of medium-scale enterprises implemented product innovation (goods) with environmental benefits, compared to 54.3 percent of large-scale enterprises and 45.9 percent of small-scale enterprises.

Regarding those that were involved in the product innovations (services), medium scale enterprises reported the highest proportion of those that implemented product innovations (services) with environmental benefits at 49.9 percent followed by 44.8 percent in the small-scale enterprises, and large-scale enterprises at 33.6 percent.

Looking at those that were involved in the process innovations, large scale enterprises reported the highest proportion of those that implemented innovations with environmental benefits at 51.6 percent followed by 39.2 percent in the small-scale enterprises and then medium scale enterprises at 24.6 percent (Figure 3.8.1).

Figure 3.8.1: Proportion of Enterprises whose Innovation Activities Contributed to Environmental Benefits by Type of Innovation and Size of Enterprise

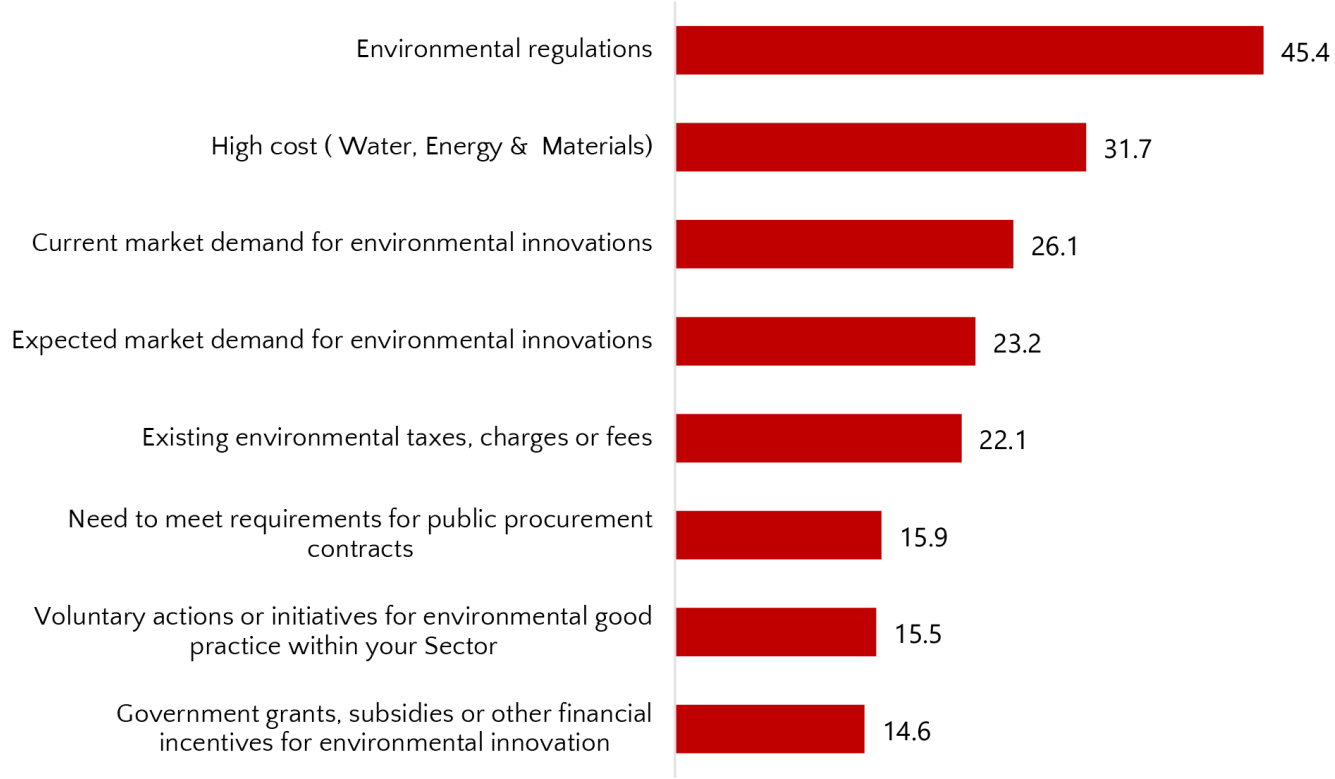


Source: *NSO, Business Innovation Survey 2023-2024*

Furthermore, enterprises that implemented innovations with environmental benefits were asked to rank the factors that motivated them to implement such innovations and categorize them in terms of degree of importance: high, medium or not relevant.

The factor with the highest degree of importance was the Existing environmental regulations (45.4 percent) followed by High cost of water, energy and materials (31.7 percent), Current market demand for environmentally friendly innovations (26.1 percent), Expected market demand for environmental innovations (23.2 percent) and 22.1 percent for Existing Environmental taxes, charges or fees at 22.1 percent (Figure 3.8.2)

Figure 3.8.2: Proportion of Innovative Enterprises Contributing to Environmental Benefits by Factors influencing Innovation with High Degree of Importance



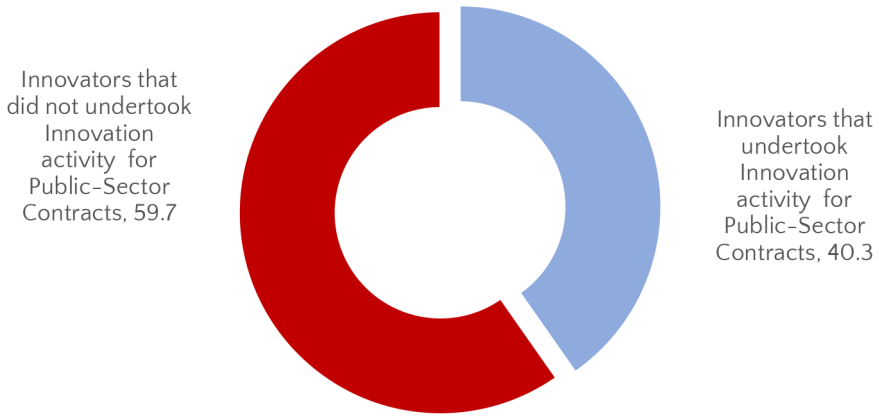
Source: *NSO, Business Innovation Survey 2023-2024*

3.9 Public-Sector Contracts and Innovation

Public sector contracts and innovation refer to the strategic use of government procurement system to stimulate development, adoption and diffusion of new innovative solutions in public service delivery. The interest is in knowing percentages of enterprises that had government contracts. Public contracts act as catalyst for economic transformation, technological upgrading and development.

Of the innovative enterprises, about 40 percent had either domestic or foreign contracts with public-sector organizations (Figure 3.9.1).

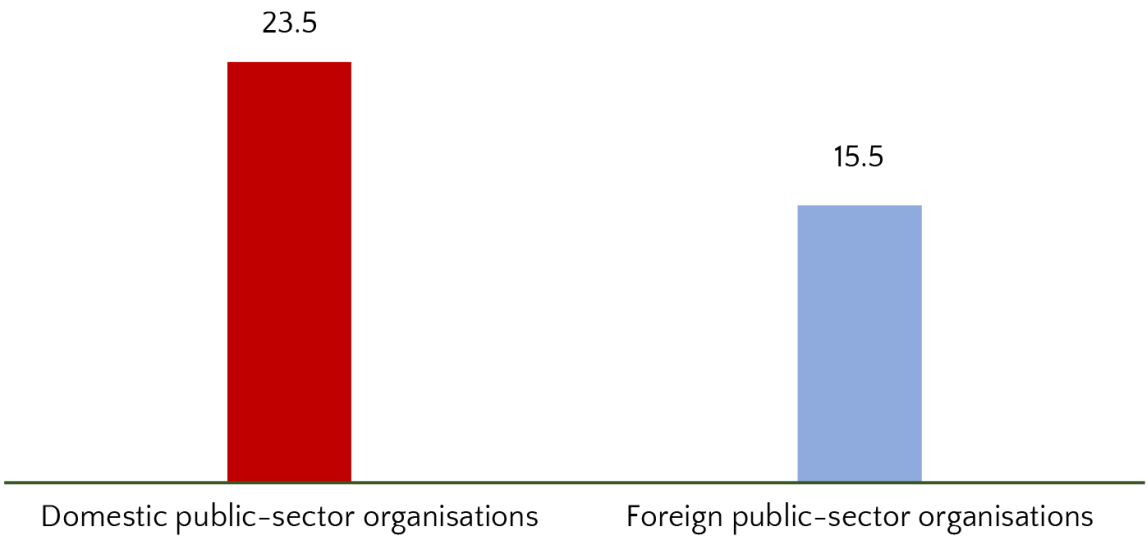
Figure 3.9.1: Percentage Distribution of Enterprises engaged in Innovation Activities with Public-Sector Contracts



Source: *NSO, Business Innovation Survey 2023-2024*

An analysis by type of enterprises which entered into contracts with public-sector organizations shows that most enterprises contracted with domestic public organizations (23.5 percent) and less with foreign public organizations at 15.5 percent (Figure 3.9.2).

Figure 3.9.2: Proportion of Enterprises with Public Sector Contracts by Type of Public Sector Organization



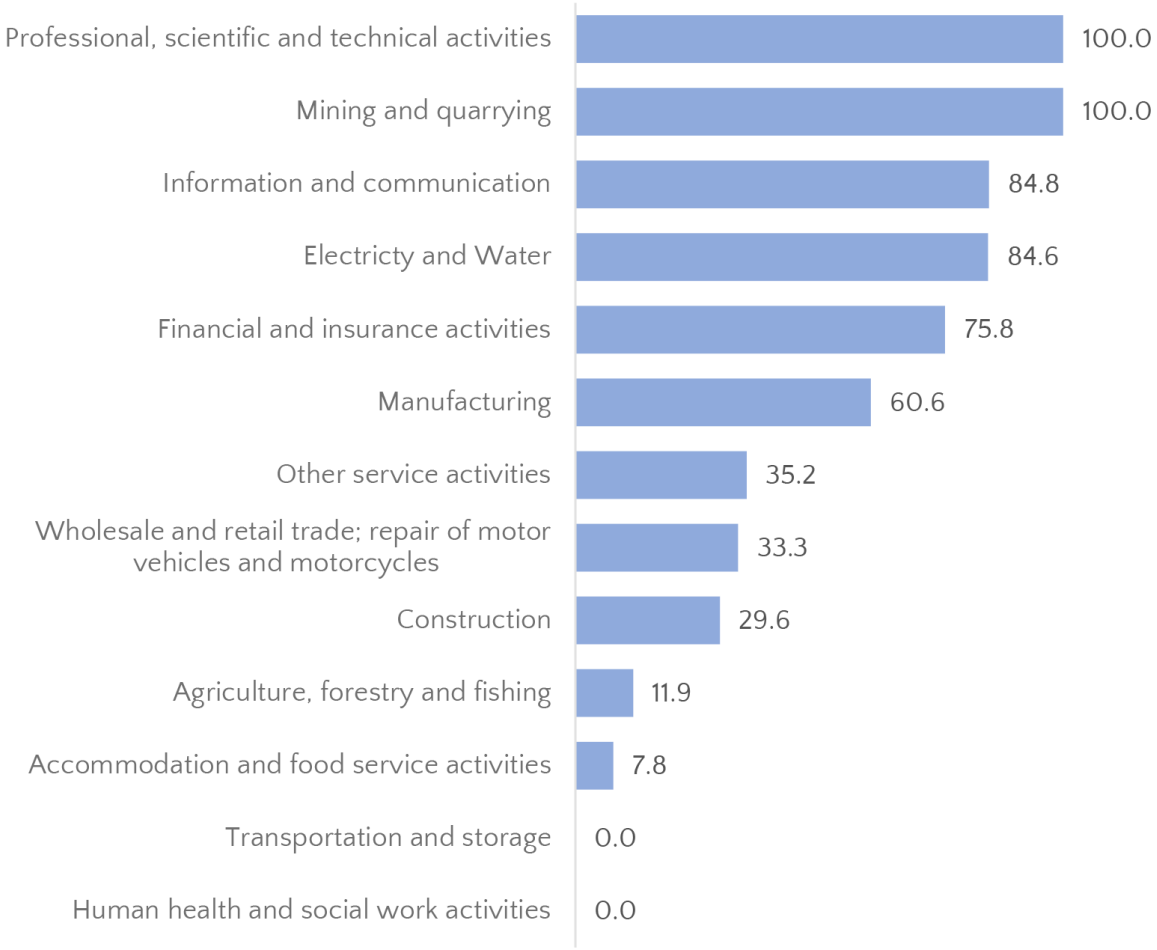
Source: *NSO, Business Innovation Survey 2023-2024*

The distribution of enterprises engaged in innovation activities through public sector contracts reveals some disparities across Malawi's economic sectors. Nationally, 40.3 percent of enterprises reported undertaking innovation activities with government procurement.

Public sector engagement is highly concentrated in a few technologically intensive or service specialized sectors. Mining and quarrying, as well as Professional, scientific and technical activities, recorded full participation, with 100 percent of enterprises reporting innovation activities associated with public contracts. Similarly, the information and communication (84.8 percent), utilities (Electricity and water) at 84.6 percent, financial and insurance activities (75.8 percent), and manufacturing sector (60.6 percent) demonstrated strong innovation engagement.

Some sectors, however, demonstrated minimal or no engagement. For example, Agriculture, forestry and fishing (11.9 percent) and Accommodation and food service activities (7.8 percent) show very limited engagement with public contracts. The results also show that Human health and social work activities and Transportation and storage sectors recorded zero participation (Figure 3.9.3)

Figure 3.9.3: Percentage Distribution of Enterprises engaged in Innovation Activities with Public-Sector Contracts by Sector



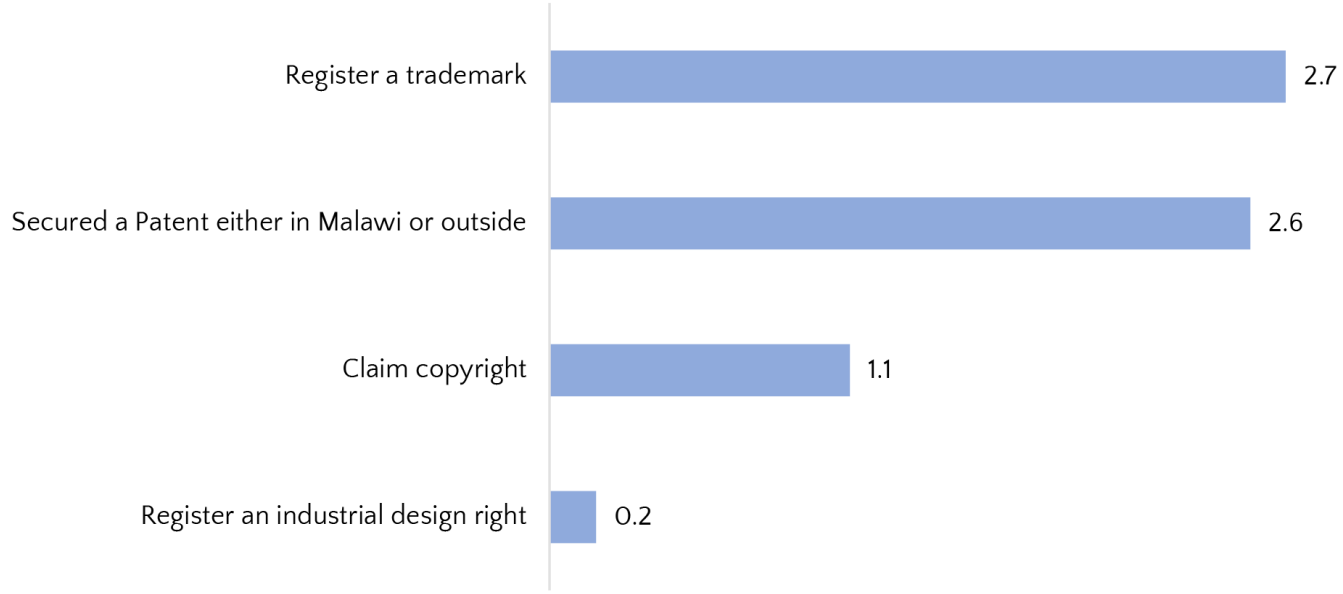
Source: *NSO, Business Innovation Survey 2023-2024*

3.10 Intellectual Property Rights and Licensing

Intellectual Property (IP) are creations of the mind such as inventions, literary and artistic works, and symbols, names and images used in commerce (NCST, 2023). An IP regime gives creators exclusive IP rights to their work for a certain period, encouraging innovation and creativity. The creators may license out their IP to third parties, as a way of commercializing their products. The IP system therefore serves as a framework for stimulating innovation activities within institutions and among individuals because it embodies a reward system to those who create inventions.

The survey findings show that 2.7 percent of business enterprises used trademarks as their main form of IP protection, 2.6 percent of business enterprises secured a patent either in Malawi or outside, and 0.2 percent of business enterprises applied industrial design rights (Figure 3.10.1).

Figure 3.10.1: Proportion of Innovative Enterprises with Intellectual Property Rights



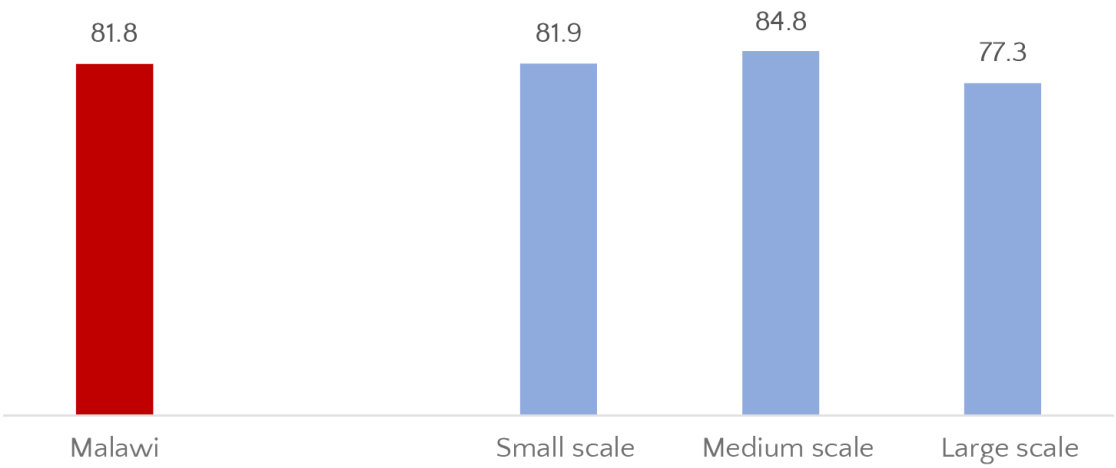
Source: *NSO, Business Innovation Survey 2023-2024*

3.11 Uptake of Digitalization for Innovation Activities

Overall, 81.8 percent of innovative enterprises reported using Information and Communication Technology (ICT) as part of the innovation supporting activities (Figure 3.11.1).

By enterprise size, medium-scale enterprises showed the highest uptake of ICT for innovative activities, at 84.8 percent. This was followed by Small-scale enterprises at 81.9 percent. On the other hand, large-scale enterprises recorded the lowest uptake, at 77.3 percent (Figure 3.11.1).

Figure 3.11.1: Percentage of Innovative Enterprises that Used ICT for Innovation Activities, by Size of the Enterprises

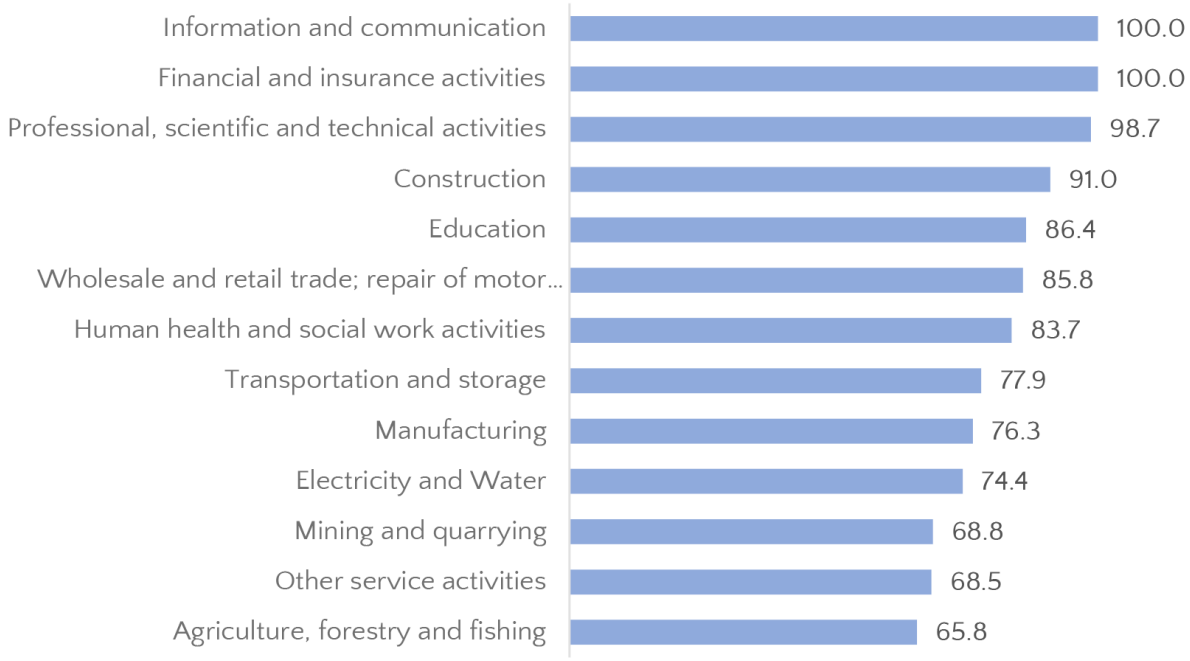


Source: *NSO, Business Innovation Survey 2023-2024*

The highest levels of ICT use for innovation activities were observed in Information and Communication Sector, Financial and insurance activities where adoption reaches 100 percent. Professional, Scientific and technical activities sector also show very high usage at 98.7 percent, followed by Construction and Education at 91.0 percent and 86.4 percent, respectively.

Mid-range adopters include Wholesale and retail, Human health and social work, Transportation and storage, Manufacturing, and Electricity and water. Lower adoption rates were observed in more resource-based sectors such as Mining and quarrying, and Agriculture, forestry and fishing (Figure 3.11.2).

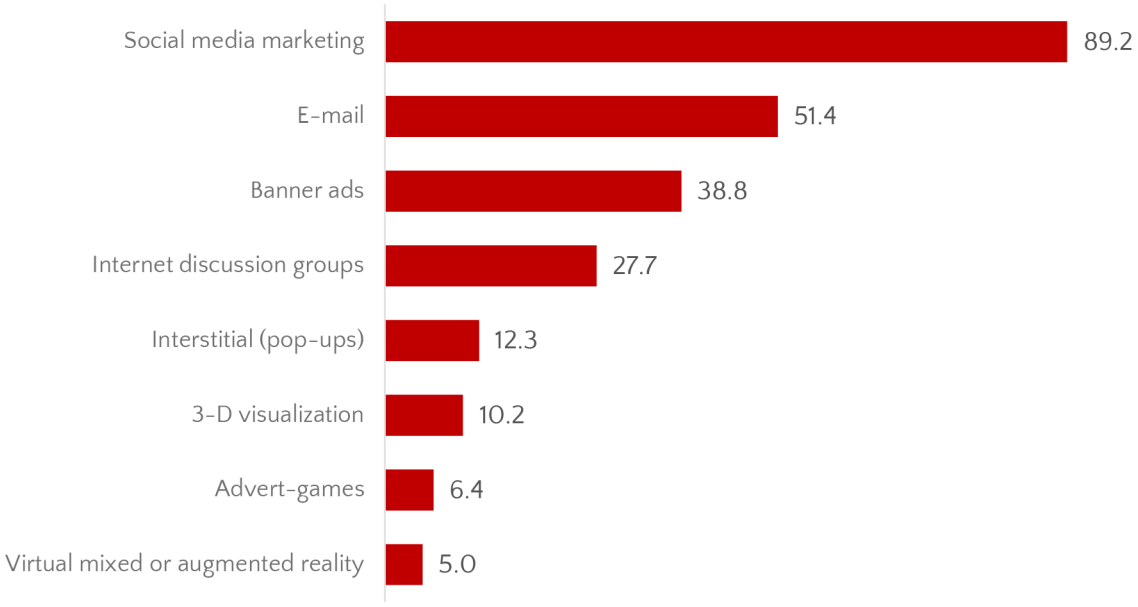
Figure 3.11.2: Percentage of Innovative Enterprises that Used ICT for Innovation Activities by Sector



Source: *NSO, Business Innovation Survey 2023-2024*

Innovative enterprises were also asked about the e-marketing tools they used during the survey period. The results show that social media marketing was the most widely used e-marketing tool, with 89.2 percent of enterprises reporting its use followed by E-mail marketing, used by 51.4 percent of enterprises. The least utilized tools were advert-games (6.4 percent) and virtual, mixed, or augmented reality technologies at 5.0 percent (Figure 3.11.3).

Figure 3.11.3: Percentage of Innovative Enterprises that Implemented Innovation Activities by E-marketing tools Used

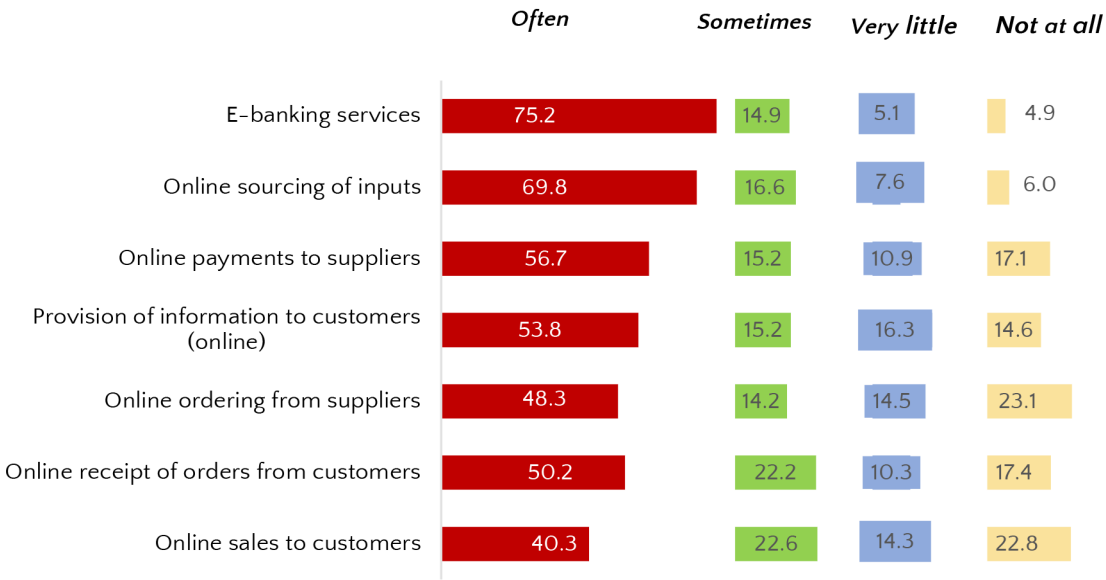


Source: *NSO, Business Innovation Survey 2023-2024*

The findings indicate that enterprises are increasingly incorporating online technologies into their innovation processes, particularly within financial and procurement-related digital services. A larger proportion of enterprises reported frequent use of E-banking services (75.2 percent) and Online sourcing of inputs (69.8 percent).

In addition, over half of the innovative enterprises regularly utilized online payments to suppliers (56.7 percent), provision of information to customers (53.8 percent), and online receipt of customer orders (50.2 percent). On the other hand, the adoption of online services for online sales to customers is lowest, with only 40.3 percent of enterprises indicating usage of such technologies (Figure 3.11.4)

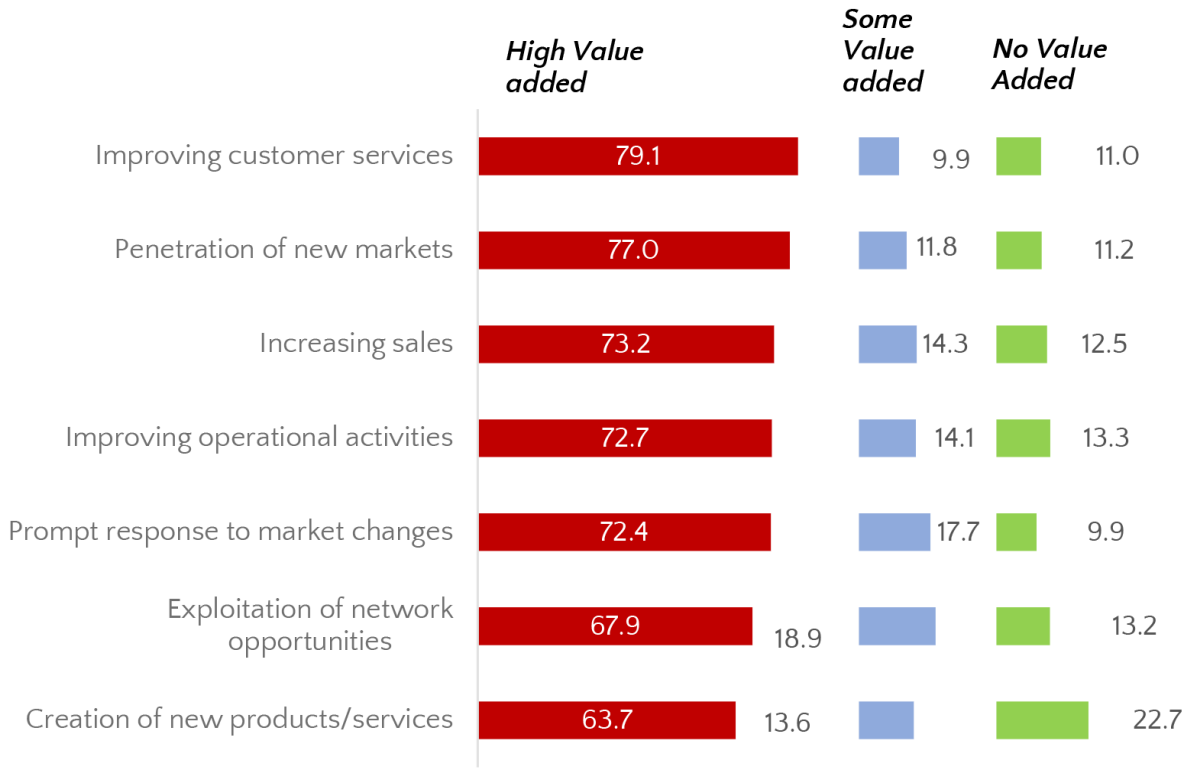
Figure 3.11.4: Percentage of Innovative Enterprises that Implemented Innovation Activities by Online Technologies and Services Used



Source: *NSO, Business Innovation Survey 2023-2024*

In order to learn more on the value addition through the uptake of ICT, innovative enterprises were asked to assess the degree of value added by ICT to their innovations. Majority of enterprises reported that ICTs made a high contribution to improving customer services at 79.1 percent. This was followed by penetration of e-markets at 77.0 percent, increasing sales as a result of ICT was at 73.2 percent. Improving operational activities and prompt response to market changes was at 72.7 percent and 72.4 percent, respectively. Moderately high was the exploitation of network opportunities at 67.9 percent, and creation of new products at 63.7 percent (Figure 3.11.5).

Figure 3.11.5: Percentage of Innovative Enterprises' Perception of ICT Value Added to Innovation



Source: *NSO, Business Innovation Survey 2023-2024*

3.12 Reasons for Lack of Innovation

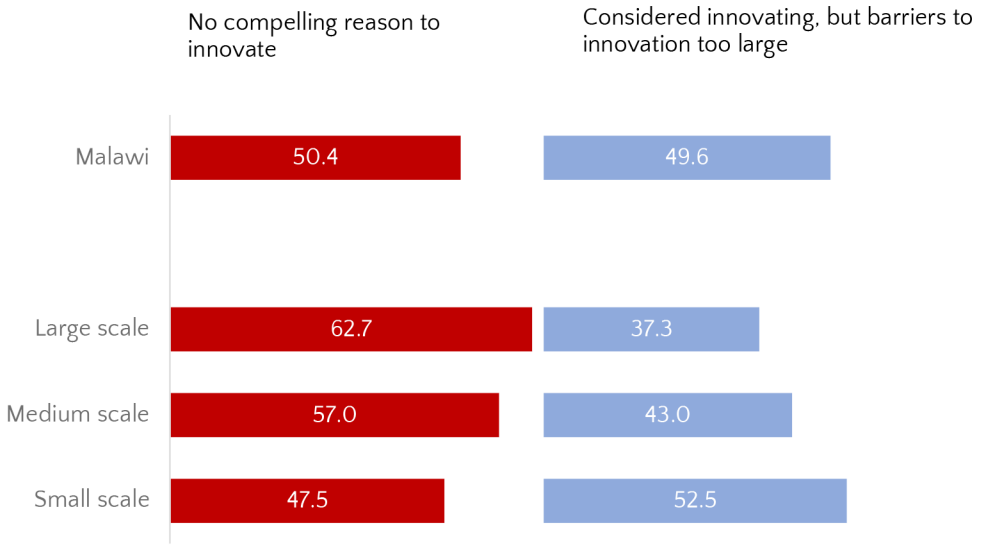
Early theories of Innovation are greatly influenced by Schumpeter who argued that economic development is driven by innovation in which new technologies replace the old processes through a dynamic process known as creative destruction. The theory argues that radical innovation creates major destructive changes and incremental innovations continuously advance the process of change gradually (OSLO Manual 2005, p.29).

Despite the knowledge on the importance of innovation, some business enterprises still have no interest in innovation. For policy, it is crucial to know why such enterprises do not innovate. Is it because of the cost factors, fear of competition, lack of market among other constraints to innovation.

The findings show that about 50 percent of the enterprises that did not innovate had no compelling reason to innovate, while 49.6 percent indicated that they had considered innovating but found the barriers too large.

An analysis by size of enterprises shows that, more than half of the small-scale enterprises (52.5 percent) that did not innovate stated that they had considered innovating but perceived the barriers as too high. In contrast, majority of large and medium-sized enterprises reported that they saw no compelling reason to innovate, at 62.7 percent and 57.0 percent, respectively (Figure 3.12.1).

Figure 3.12.1: Percentage of Enterprises that had no innovation activities by Size and Reason

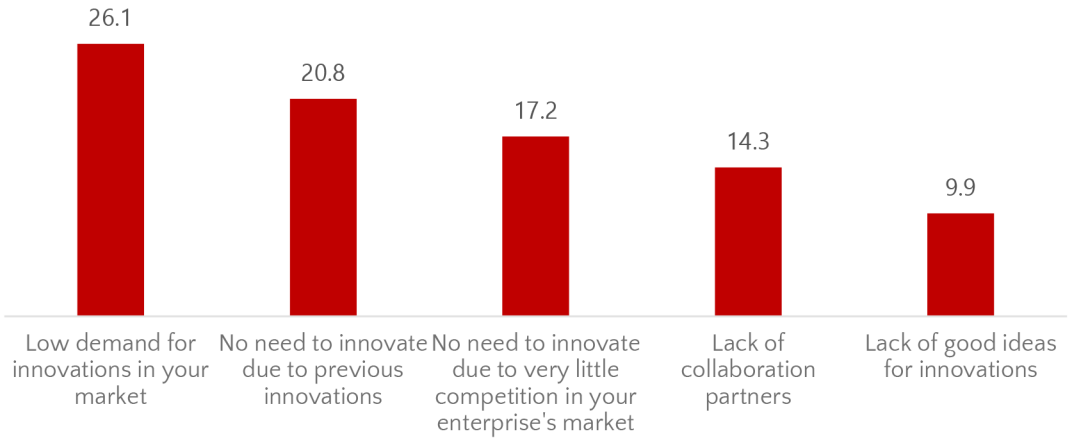


Source: *NSO, Business Innovation Survey 2023-2024*

Enterprises were further asked to indicate the degree of importance of given reasons for not conducting innovation activities between 2023 and 2024.

The results show that among the reasons considered to be of high degree of importance for not innovating was low demand for innovations in their markets (26.1 percent) was the most frequently cited reason. This was followed by enterprises that saw no need to innovate due to previous innovations (20.8 percent), those that perceived little competition in the market (17.2 percent), and those that reported a lack of collaboration with partners (14.3 percent). Lastly, 9.9 percent of enterprises indicated that they had no ideas for innovation (Figure 3.12.2).

Figure 3.12.2: Percentage of Reasons Why Enterprises did not Innovate

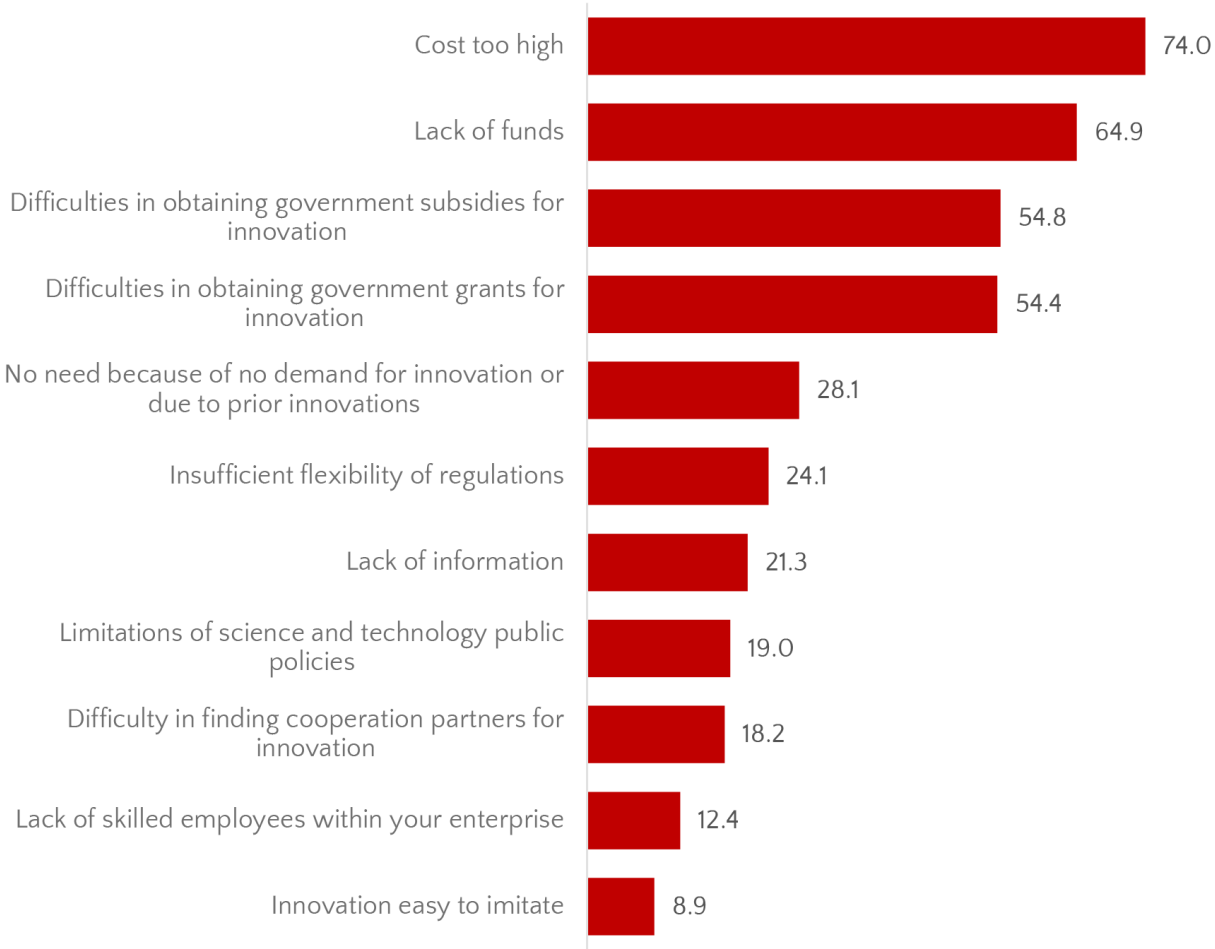


Source: *NSO, Business Innovation Survey 2023-2024*

3.13 Barriers to Innovations

The survey assessed barriers that affected or delayed enterprises in undertaking innovation activities during 2023 and 2024. The findings revealed that most enterprises indicated that innovation costs were too high (74.0 percent) followed by a lack of funds within the enterprise or group (64.9 percent), difficulties in obtaining government subsidies for innovation (54.8 percent), and difficulties in obtaining government grants for innovation (54.4 percent). The least mentioned was the ease of imitation of innovation at 8.9 percent (Figure 3.13.1).

Figure 3.13.1: Percentage of Enterprises reporting Barriers to Innovation



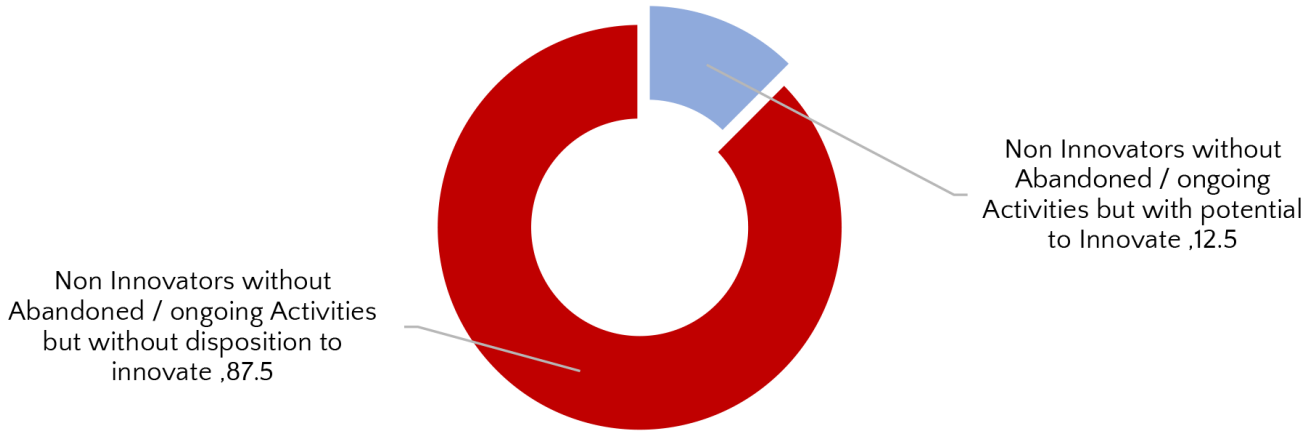
Source: *NSO, Business Innovation Survey 2023-2024*

3.14 Non-innovators with Potential to Innovate and those without Disposition to Innovate

This analysis defines Potential Innovators as enterprises that, although they did not innovate during the reference period and did not discontinue any ongoing activities, but engaged in additional internal or external initiatives such as research and development, equipment acquisition in preparation for innovation, or training related to innovation. The analysis also examines non-innovative enterprises that demonstrated no inclination towards innovation.

According to the respondents, 87.5 percent of all non-innovators showed no inclination to innovate during the reference period, whereas about 13 percent demonstrated potential for innovation during that same time (Figure 3.14.1).

Figure 3.14.1: Percentage Distribution of Non-Innovators who were Potential Innovators and those without Disposition to Innovate



Source: *NSO, Business Innovation Survey 2023-2024*

Chapter Four
Policy Implications and Recommendations

4.1 Policy Implications

The Business Innovation Survey (BIS-2023-24) has navigated through a cross-section of business enterprises at three levels: Large, Medium and Small Scale. In Chapter 3, we presented empirical findings categorized as follows: Leadership and Organizational Profile of Business enterprises which provides context for who the innovators are and why they innovate. It also provides information on Innovation Processes and Practices with a focus on how business enterprises manage and execute innovation activities internally. The report further captures partnerships, collaborations, and external financial or institutional support that facilitate innovation activities across different sectors. The report highlights key legal and commercialization aspects of innovations with particular emphasis on intellectual property and how business enterprises protect and commercialize their innovations. In this era of Sustainable Development Goals (SDGs), the report has attempted to answer some environmental and social impact questions which emphasized on innovations targeting sustainability and societal impact. Finally, the report concludes with challenges and barriers to innovation by grouping all possible factors that hinder or prevent innovation, discussing why some business enterprises do not innovate at all.

The Innovation maps reveal spatial distribution of business enterprise innovation activities across the country and the three regions. It reveals insights into regional distribution of innovation activities with the Southern Region leading in innovation intensity, followed by Central Region and Northern Region. The Eastern Region has been captured as part of the Southern spatial map.

From the results in Chapter 3, the following implications are important for the policy and business decision makers to consider:

4.2 Characterization of Innovation, Leadership and Organizational Profile of Business Enterprises

The survey results revealed that the two groups, i.e. innovators and non-innovators, differ significantly in terms of age, years of experience, sex, and educational attainment of top management as revealed by the charts in section 3.2.1.

The findings show that experience of top management is an important aspect in innovation management. The data of Gender (sex of top management) reveals under-representation of women in the top management of the two categories. Finally, the findings show that education attainment of top management is significantly different between innovative enterprises and non-innovative enterprises.

4.2.1 Implications

1. Policy decisions may target age of top managers who implement critical business decisions.
2. There is need to address the gender gap in top management of business enterprises.
3. There is need to promote recruitment of more experienced and well-educated cadres in top management of business enterprises.

4.3 Enterprise Innovation Strategy

The survey results indicating that only 36.7 percent of enterprises have established a formal innovation strategy with an allocated budget, may suggest that a majority of innovative activities within enterprises are conducted on an ad hoc basis, often with limited resources and focused primarily on short-term survival. A comprehensive innovation strategy is essential to improving productivity, strengthening competitiveness, and supporting national technological objectives.

4.3.1 Implications

Accordingly, the following recommendations are proposed:

1. Promote structured innovation planning within enterprises: The Government and its partners should assist firms in developing effective innovation strategies. This can be achieved through targeted training programs, advisory services, and practical tools designed to help enterprises identify innovation priorities, plan investments, and monitor progress.
2. Encourage firms to formalize innovation strategies and allocate budgets by providing incentives such as grants, tax benefits, and expanded market opportunities for products emerging from innovation activities.

4.4 Innovation Processes and Practices

Another important finding indicates that 57.1 percent of enterprises were innovative while 42.9 percent were not.

Among innovative enterprises, product innovation had the largest share accounting for 14.7 percent of all innovations. This was followed by enterprises that introduced all three types of innovation—product, market, and process—at 9.9 percent

Innovation comprises many activities that are not included in R&D. However, the survey used R&D as a proxy of one of the major innovation activities and why R&D was not conducted. Findings show that about 61 per cent cited lack of demand for R&D, difficulties of funding R&D, the high cost of recovery of R&D expenditures and the high-risk adverse nature of the top managers.

4.4.1 Implications

1. Product innovation is the type of innovation that most business enterprises undertook in the survey period,
2. There is need for deeper insights as to why the large scale is more innovative than the medium and small scale given the 57.1 percent business enterprise innovators at national level,
3. There is low likelihood of business enterprises to undertake R&D as an innovation activity. Therefore, to foster innovation in business enterprises there is need for strong innovative long-term solutions at policy level.

4.5 Partnerships, Collaborations, and External Financial or Institutional Support

Partnerships have an important impact on the circulation of knowledge within and outside the enterprise. On aggregate, business enterprises show an average of 14 percent partnerships. Although partnerships and collaborations exist, it is much lower than expected. These findings suggest that enterprises tend to prioritize partnerships with market-facing actors and industry peers, while collaborations with academic and research institutions remain limited.

4.5.1 implications

1. Low uptake of public financial support suggests the need to strengthen awareness, accessibility, and efficiency of government innovation funding mechanisms. This can be achieved by simplifying application procedures and enhancing outreach.
2. High reliance on internal funding demonstrates the importance of developing diversified financing instruments, including innovation grants, tax incentives, and public–private partnerships. Strengthening linkages between enterprises, universities, and research institutions could further enhance knowledge transfer and commercialization.

4.6 Legal and Commercialization Aspects of Innovations

The findings suggest that the most common form of IP protection for innovations by business enterprises was trademarks. Other forms such as patents, design rights and copyrights were less common.

4.6.1 Implications

1. Most technologies tend to be protected through patents and design rights. The lower the level of protection implies that fewer technologies are patented or protected through design rights. There is need for national IP system to provide incentives to business enterprises to encourage IP protection which is a measure of IP system performance.

4.7 Environmental and Social Impact

The survey attempts to assess how business enterprises are contributing and promoting SDGs in particular Goal 9 and 12, fostering sustainable industrialization and environmental sustainability and responsible production. The findings reveal that it is mainly medium-and large-scale enterprises who reported to have product and process innovations which are environmentally friendly.

4.7.1 Implications

1. More focus on innovations should be made at all SMEs levels if Malawi is to attain its SDG targets by 2030. We need to assess innovations at all levels to ascertain this aspiration.

4.8 Challenges and Barriers to Innovation

The survey finds the following as top five challenges and barriers to business innovation as revealed in Section 3,13.

Operating Costs of innovation activities are too high	Lack of funds (from within or external) to support innovation activities	Enterprises have difficulties obtaining government subsidies, Grants	STI limitations and insufficient flexibilities in regulations and standards and policy	Enteprises excessively perceived economic risk
				

4.8.1 Implications

1. There is a need to review Science, Technology and Innovation (STI) policies and create flexibility in regulations to support innovation.
2. Provide venture capital funding for promising innovations.

4.9 Recommendations

The following five key recommendations are suggested from the survey on business innovation using 2023-24 data:

- Business enterprises reported the need to strengthen and streamline innovation support schemes (old and new), including reporting on innovation funding mechanisms, systems and sources.

- Government must create an enabling environment to promote sector-specific innovation strategies, particularly in high-performing sectors such as ICT and Manufacturing. Stimulation of innovation through provision of policy instruments such as venture capital financing and also demand articulation for innovation may be a necessary policy intervention.
- Business enterprises are encouraged to prioritize and reduce financial and administrative barriers to innovation.
- Business enterprises are encouraged to introduce capacity-building initiatives to support enterprises in proposal development and intellectual property management.
- Government must regularly monitor business enterprise innovation trends to inform evidence-based policy implementation.

Chapter Five
Conclusion

This BIS was carried out to assess the status, nature, and drivers of innovation among enterprises in Malawi. The survey sought to determine the extent to which firms prioritise innovation, the types of innovation undertaken, the level of R&D activities by firms, access to public financial support, collaborative arrangements, use of IPRs, uptake of digitalisation, and the barriers preventing firms from innovating.

Overall, survey results indicate that innovation is widely recognised as a strategic priority issue among Malawian business enterprises, with approximately 75 percent of firms identifying it as important to their growth and competitiveness. More than half of the enterprises (57 percent) reported innovating between 2023 and 2024, with product innovation being the most common form. Large scale enterprises demonstrated slightly stronger commitment to innovation compared to small- and medium scale firms. A comparison between different sectors show that innovation rates are slightly highest in Information and Communication sector, followed by Mining and Quarrying, and Manufacturing, indicating that technology-intensive and resource based sectors are driving innovation activity in Malawi.

Despite the strong prioritisation, only a small proportion of firms reported receiving government support for innovation with lack of information, bureaucratic processes, and funding constraints as key barriers. High innovation costs, limited internal funds, and difficulty accessing subsidies or grants were the most frequently reported challenges. While R&D activity is present particularly continuous in-house R&D—its sustainability may be affected by these financial constraints. The findings further indicate growing digital adoption among innovative firms, suggesting that digital technologies are increasingly central to innovation processes. The survey confirms that innovation activity exists across sectors and firm sizes in Malawi with limited access to finance, information, and streamlined support mechanisms.

This first BIS in Malawi provides critical baseline evidence that innovation in Malawi is both present and promising but constrained by systemic barriers. Addressing these challenges will be essential to unlocking the country's full innovation potential and advancing sustainable economic transformation.

References

- National Commission for Science and Technology & National Statistical Office. (2025). Business Innovation Survey (Vol. 1). Government of Malawi.
- National Commission for Science and Technology. (2023). Procedures and Guidelines for Technology Transfer and Commercialization in Malawi (First ed.).
- OECD. (2005). The Measurement of Scientific, Technological and Innovation Activities: Guidelines for Collecting, Reporting and Using Data on Innovation (Third ed.).
- OECD. (2018). The Measurement of Scientific, Technological and Innovation Activities: Guidelines for Collecting, Reporting and Using Data on Innovation (Fourth ed.). OECD.

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