


2023
REPORT

DIGITAL MATURITY

ASSESSMENT OF ENTERPRISES

 **IN KENYA**



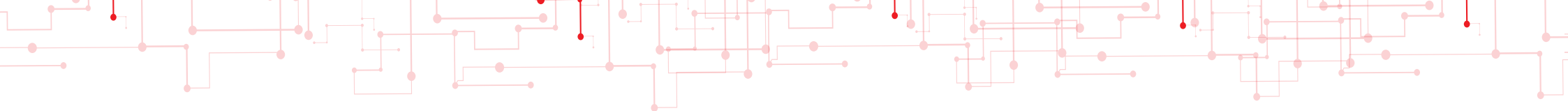
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ACRONYMS

| | | |
|-------|--|--|
| DMA | Digital Maturity Assessment |  |
| DIH | Digital Innovation Hub | |
| ESOs | Entrepreneur Support Organisations | |
| ACIH | The Association of Countrywide Innovation Hubs | |
| MSMEs | Micro, Small and Medium Enterprises | |
| ESG | Environmental, Sustainability and Governance | |
| KII | Key Informant Interviews | |
| AI | Artificial Intelligence | |



EXECUTIVE SUMMARY

PROJECT BRIEF

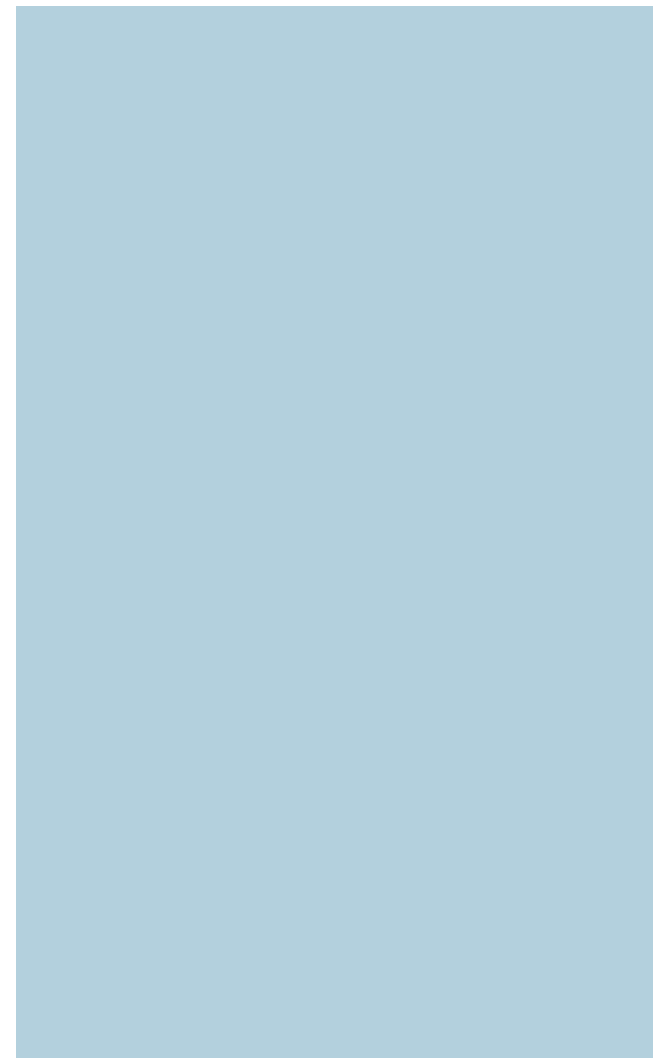
The GIZ Digital Transformation Centre (DTC) Kenya is an initiative of German Development Cooperation co-financed by the European Union (EU) established to support the country's digital transition towards a sustainable and human-centred digital economy and society. The goal of the DTC, on the one hand, is to strengthen the country's digital economy. It does so by strengthening the local digital innovation ecosystem, (up)skilling a tech savvy workforce, assisting SMEs in their digital transformation, fostering data-sharing for value creation and working towards decent job creation in the gig economy. On the other hand, the DTC seeks to strengthen an open and inclusive digital society.

GIZ has contracted GFA to implement the Strengthening intermediaries of the Kenyan digital innovation ecosystem (SKIIVE) project under the Digital Transformation Centre. One of SKIIVE's (two) work packages, Work Package B is the development of a Green Digital Innovation Hub (gDIH) in Kenya, a one-stop shop that will contribute digital transformations while promoting sustainable development, circular economy, environmental protection, and tackling climate change.

The gDIH is driven by the twin transition, where the green and digital transitions reinforce each other. The focus of a green digital innovation hub (gDIH) is typically on the twin transition, which is the simultaneous transition towards a low-carbon economy and a digital economy. The goal of a green digital innovation hub is to accelerate the twin transition by developing and promoting technologies that support the transition to a low-carbon economy, while also promoting economic growth and competitiveness through the adoption of digital technologies.

Green Digital Innovation Hub service offerings will be informed and guided by these 4 dimensions: Skills & Development; Innovation Ecosystem Building; Test Before Invest and Access to Finance.

This exercise on the Digital Maturity Assessment is in relation to this Work Package B, on the green digital innovation hub.





ABOUT THE DIGITAL MATURITY ASSESSMENT (DMA)

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Digital maturity assessment evaluates a business's or organisation's digital intensity and digital culture. Digital intensity measures the use of digital technologies in the business's operations. Digital culture is a workplace shaped and influenced by digital tools and technologies. In organisations with advanced digital cultures, most employees use digital tech to collaborate, innovate and offer customers access to products, services and support.

The DMA questionnaire therefore consisted of questions assessing the different aspects of digital maturity like digital business strategy, digital readiness, human-centric digitalisation, data management, automation & Artificial Intelligence, and green digitalization which looks at green maturity.

This documents presents the findings of the DMA survey. It acts as the general report of the DMA findings of all participating enterprises in Kenya.

Digitalisation: the process of using digital technology to collect data from organisational processes and to carry out activities using digital technology in order to increase performance in terms of productivity, quality, traceability, responsiveness, etc. and in order to better visualise and understand the way in which the various processes take place in the value chain of the organization. Digitisation (i.e. the process of converting analogue information into a binary format of 0s and 1s) is part of digitalisation).

WHO IS THIS DOCUMENT FOR?

This document is primarily intended for GIZ's Digital Transformation Centre –Kenya with regard to the SKIIVE project which aims to Strengthen the Intermediaries of the Kenyan Digital Innovation Ecosystem. It is also available for all the stakeholders and enterprises who participated in the DMA survey.

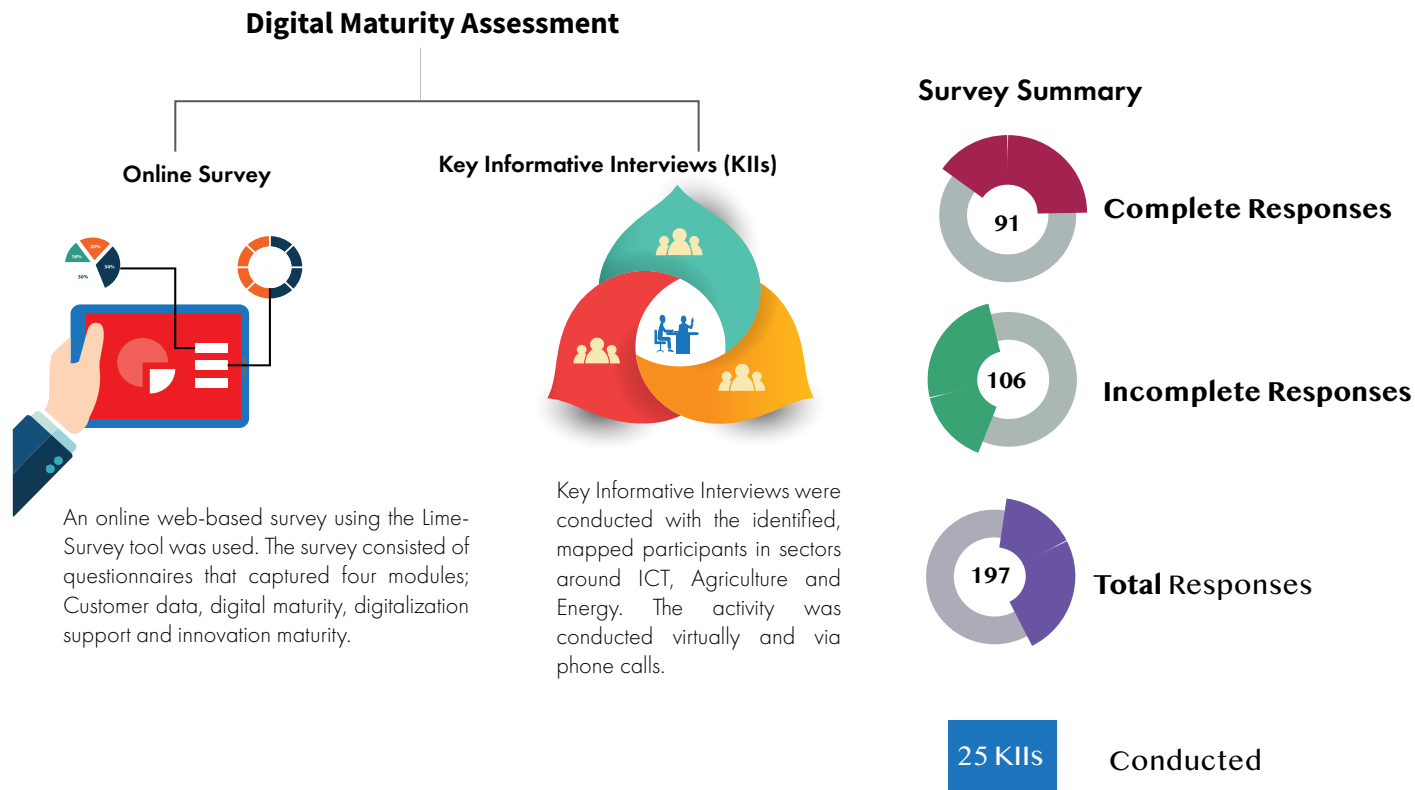
The survey findings will inform the GFA project team and the thematic groups the current status of digital maturity of enterprises in Kenya to provide the planned green Digital Innovation Hub in Kenya through GIZ's Digital Transformation Centre, with the necessary data to identify the digitalisation services needed, as well as serve as a benchmarking exercise for the participating enterprises to have a better picture of their digital maturity position in relation to their peers.



Our Approach - Data Collection Tools/ Sampling

GFA adopted a mixed-methods approach combining qualitative and quantitative methods. Insights from the qualitative research would provide the “why” to give context to the quantitative “what” insights provided by the survey.

The snowballing technique was used. We had to work with intermediaries such as Association of Countrywide Innovation Hubs (ACIH), universities/ colleges, startups/MSMEs, innovation ecosystem stakeholders among others.



Module 1: Customer Data [General]







Module 1: Customer Data [General]

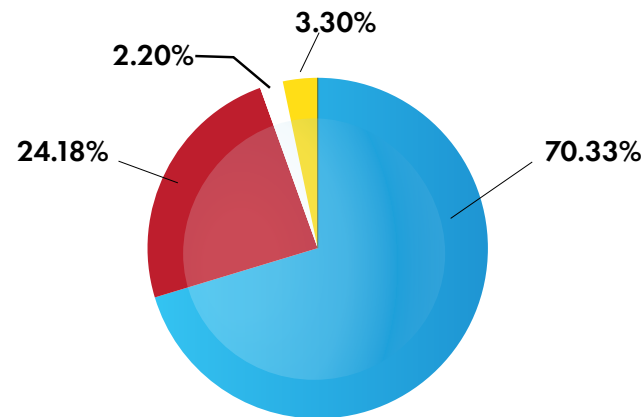
Module 1 of the survey consisted of the Customer Data that provides details and insights to best understand the nature and structure of the enterprises/businesses. This section will provide the findings.

Enterprise Staff's Size

The participants were asked to select the option that indicates the size of their staffs. The following are the results:

Enterprise Staff's Size

-  **Micro-size (1-9)**
-  **Small-size(10-49)**
-  **Medium-size(50-249)**
-  **Large-size (250 or more)**



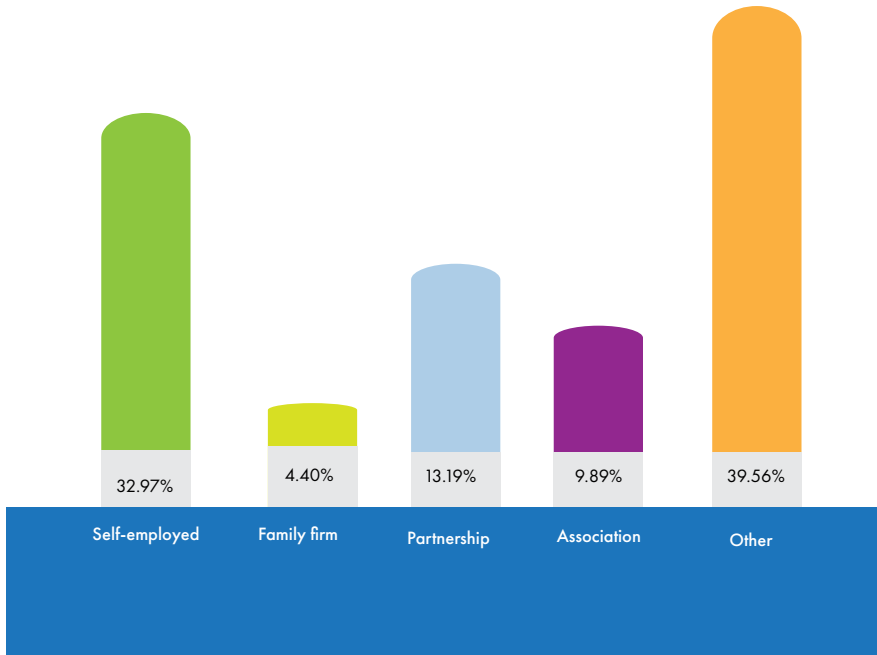
Key Insights

The size of staffs for most of the enterprises were in the category Micro-size (1-9) and small-size (10-49) categories. This indicates how concentrated the two categories are, and the need to tap in in those categories when rolling out services.

Business/Enterprise Category

The participants were asked to select the option that best state their business category. The following are the results:

Business Category



Key Insights

The "Other" category had the highest representation, with Limited companies being the highest in number.

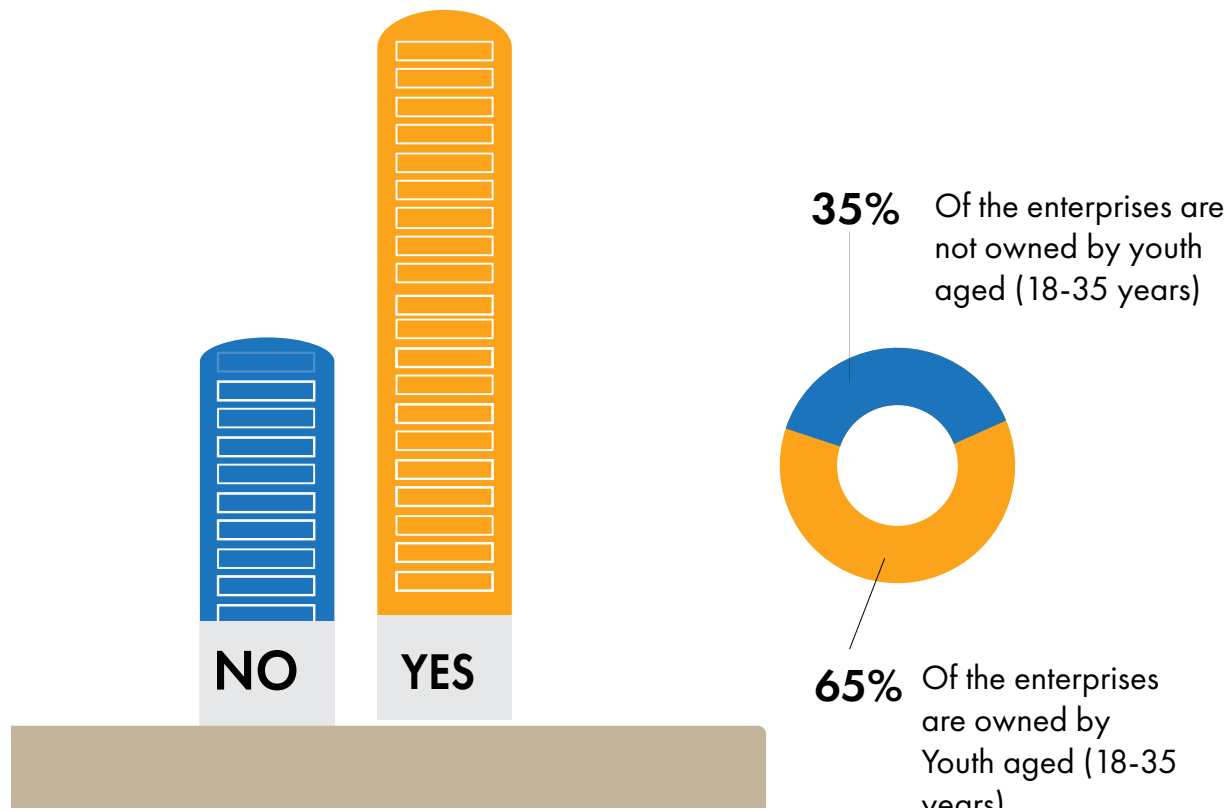
Others included:

- » Limited companies- 11
- » Non- Profit – 3
- » Private- 2
- » Community Based Organization (CBO)- 3
- » Universities/Academia/ Foundation – 6
- » NGO- 1
- » Public/Trust- 2
- » Social Enterprises- 4

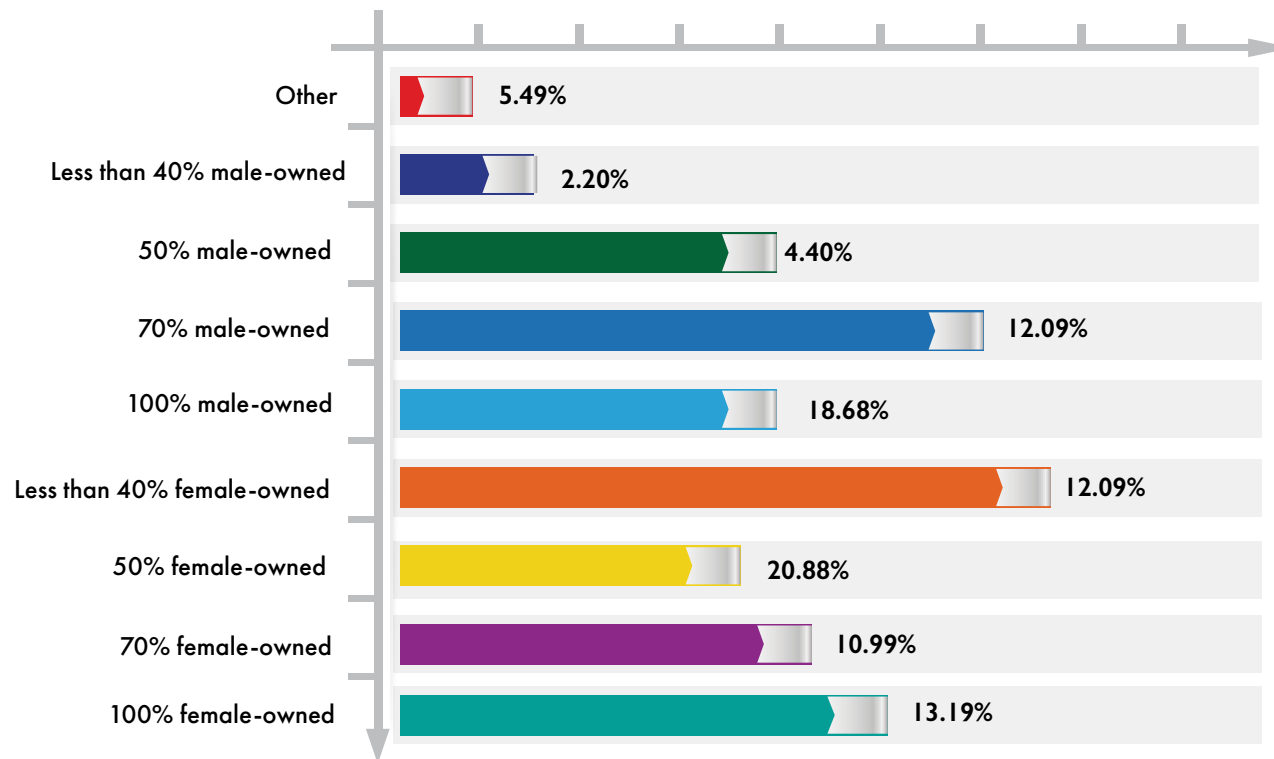
Self-employed ranked second highest business category.

Youth Owned (18-35 years) Enterprises

The participants were asked to state if their business is youth-owned or not. The youth age bracket is 18-35 years). The following are the results.



Gender Representation and Ownership



Key Insights

The gender representation varies in ownership percentage as per the findings.

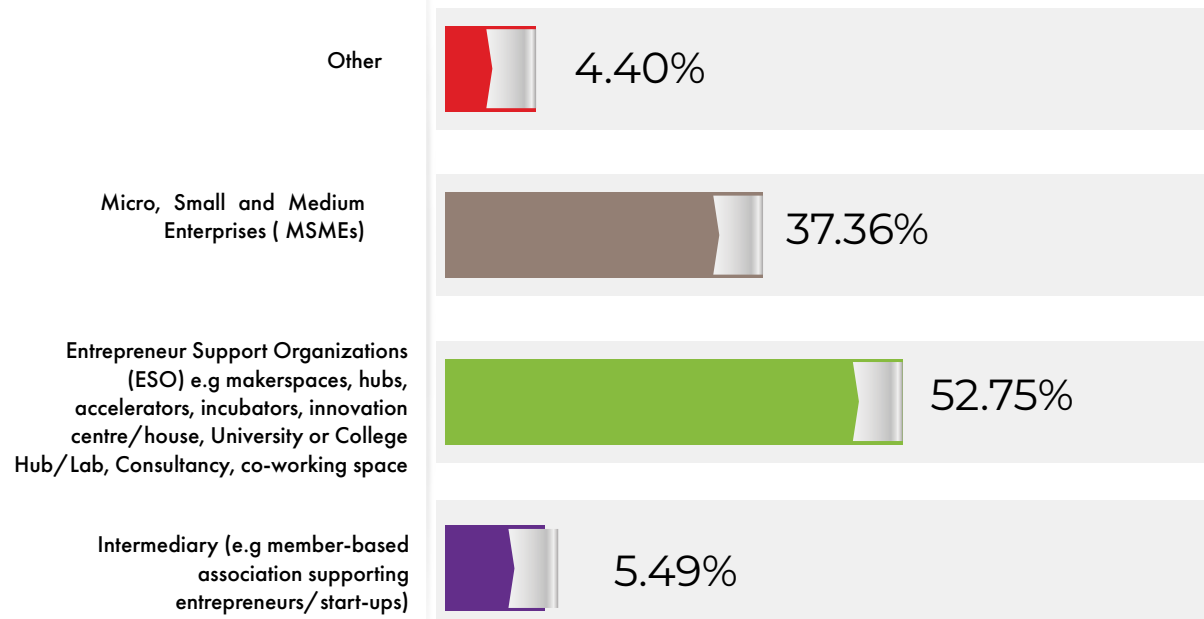
Others-

- » International NGO - a program of the Aspen Institute.
- » University Owned
- » Ratio of Male to Female is 40% to 60%
- » Limited Company by Guarantee

Enterprise Category

The participants were asked to select the option on how best they can classify their organization. The following are the results:

How Participants classified their organization



Key Insights

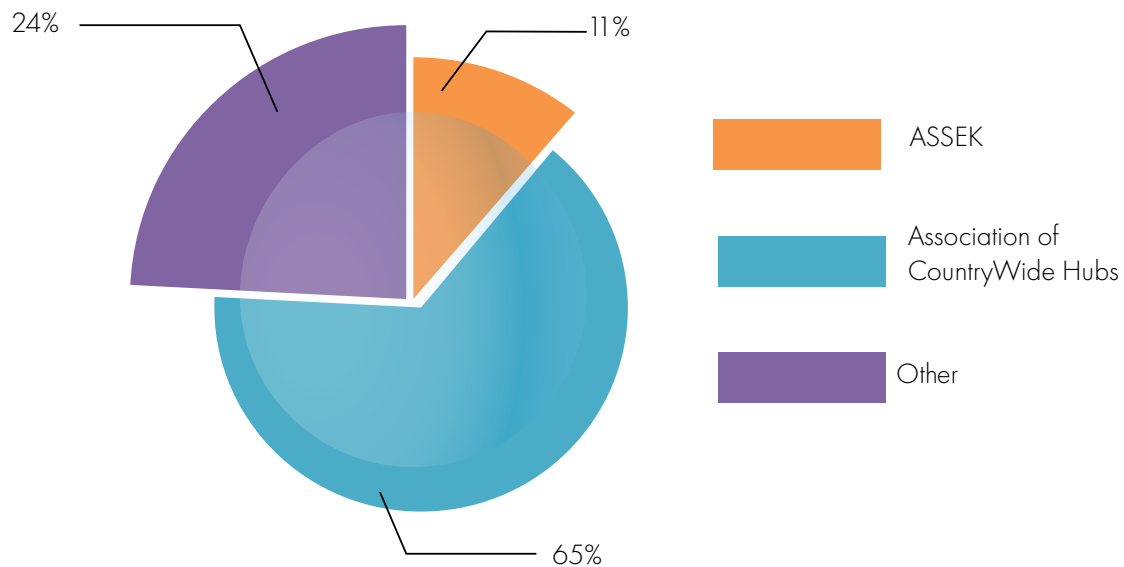
Most enterprises classified themselves as ESOs and MSMEs.

Others:

- » Advisory Firm
- » Micro enterprise dealing with beauty products and advisory on solutions serving in the space of B2B & B2C
- » Start-up

Affiliation

The participants were asked to indicate their affiliation from the list. The following are the results:



Key Insights

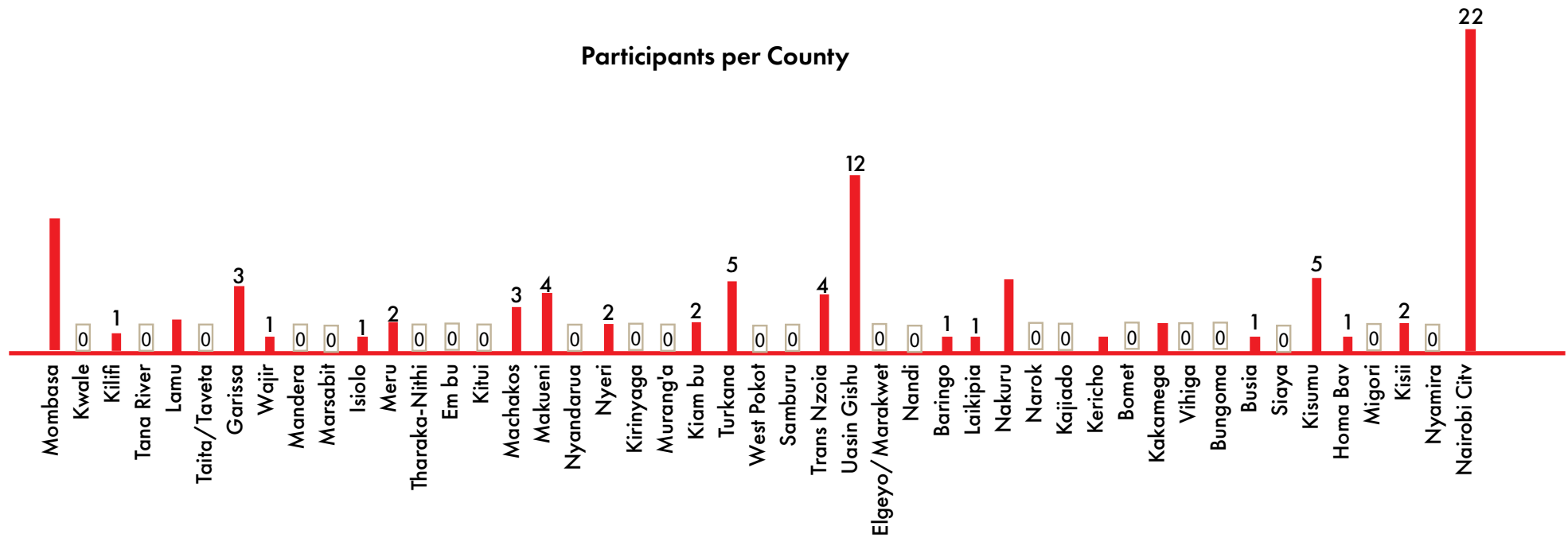
65% of participating enterprises have an affiliation with the Association of Countrywide Innovation Hubs(ACIH).

Others include:

- » Makueni innovation Hub
- » GIIN
- » Ashoka East Africa
- » Eldohub
- » Clean cooking Association of Kenya
- » None
- » Clean Cooking Association of Kenya (CCAK)
- » Afri labs
- » Chandaria Incubation Center
- » Mount Kenya University
- » Swahilipot Hub
- » SME Support Centre
- » Commission for University Education
- » Rhodes Holdings Ltd - Co-working space

Geographical Location

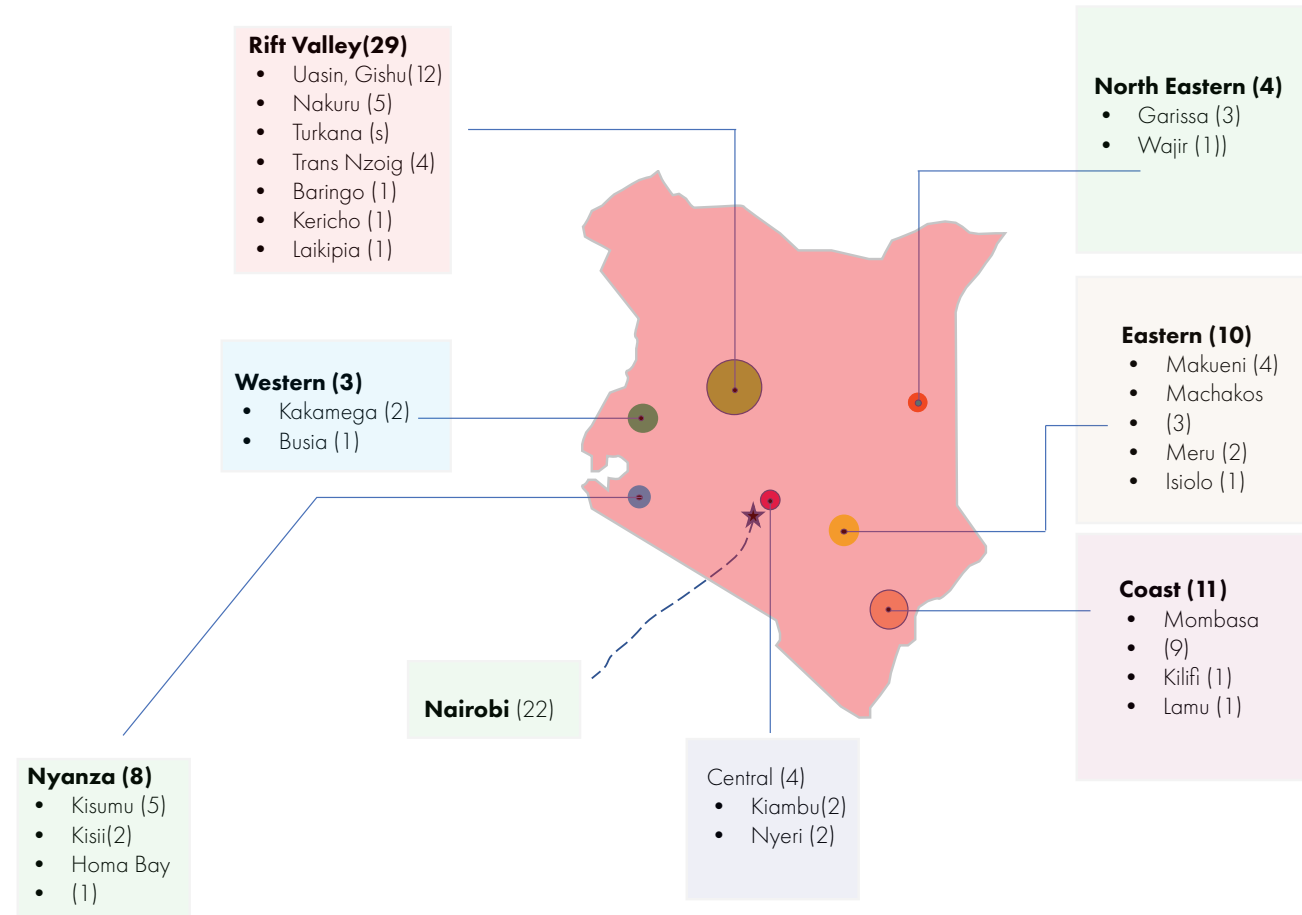
The participants were asked to indicate the County in which their business was located. The following are the results:



Geographical Location

Respondents by county.

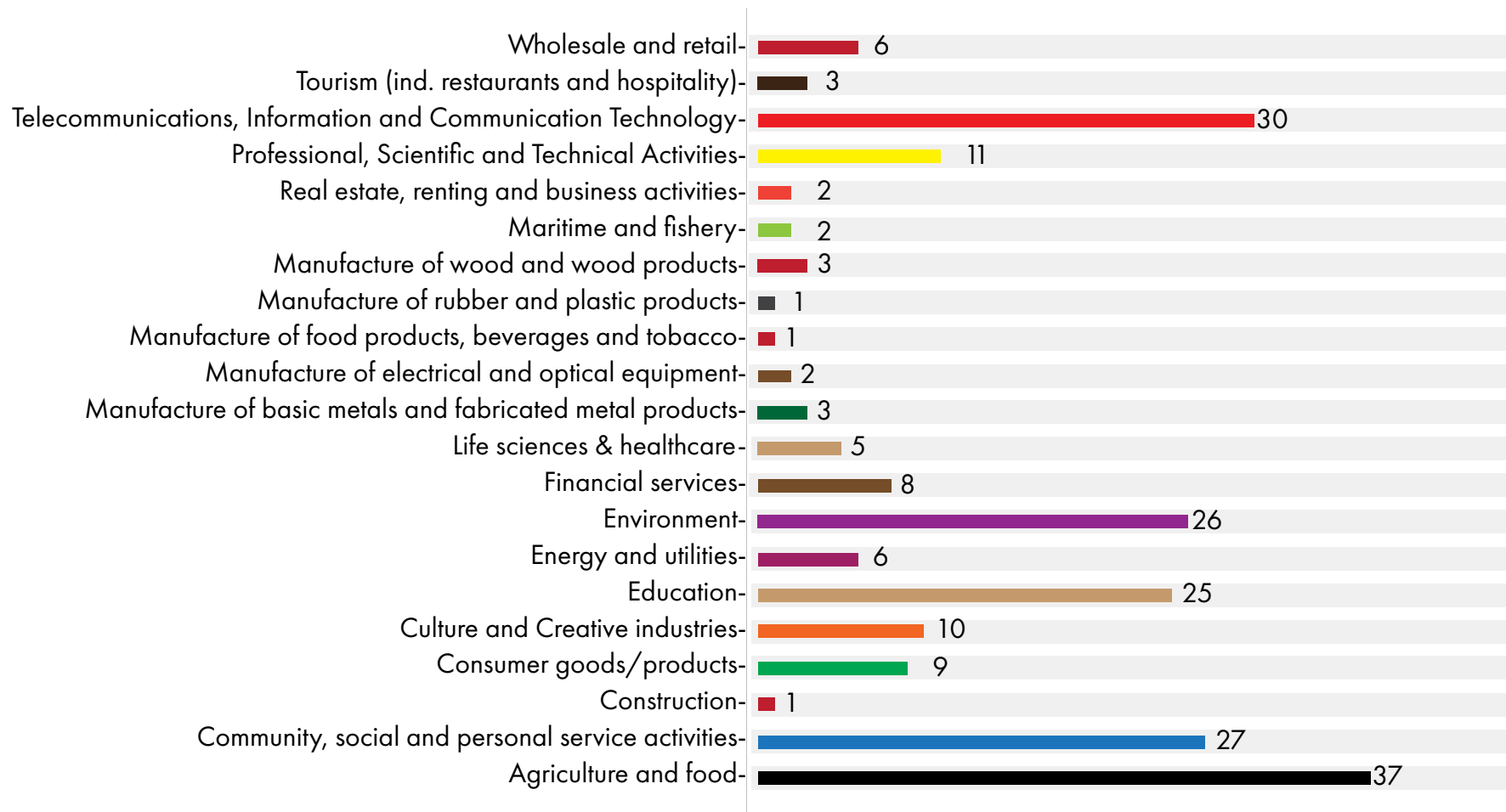
- » 23 counties were covered in the survey
- » With 22, Nairobi county had the highest number of participants
- » Outside of Nairobi, Uasin Gishu county was the highest represented



Sector of Activity

The participants were asked to select from the list the sector of their activities. The results are as follows:

Sectoral Respondents Distribution



Module 2 Digital Maturity (General)

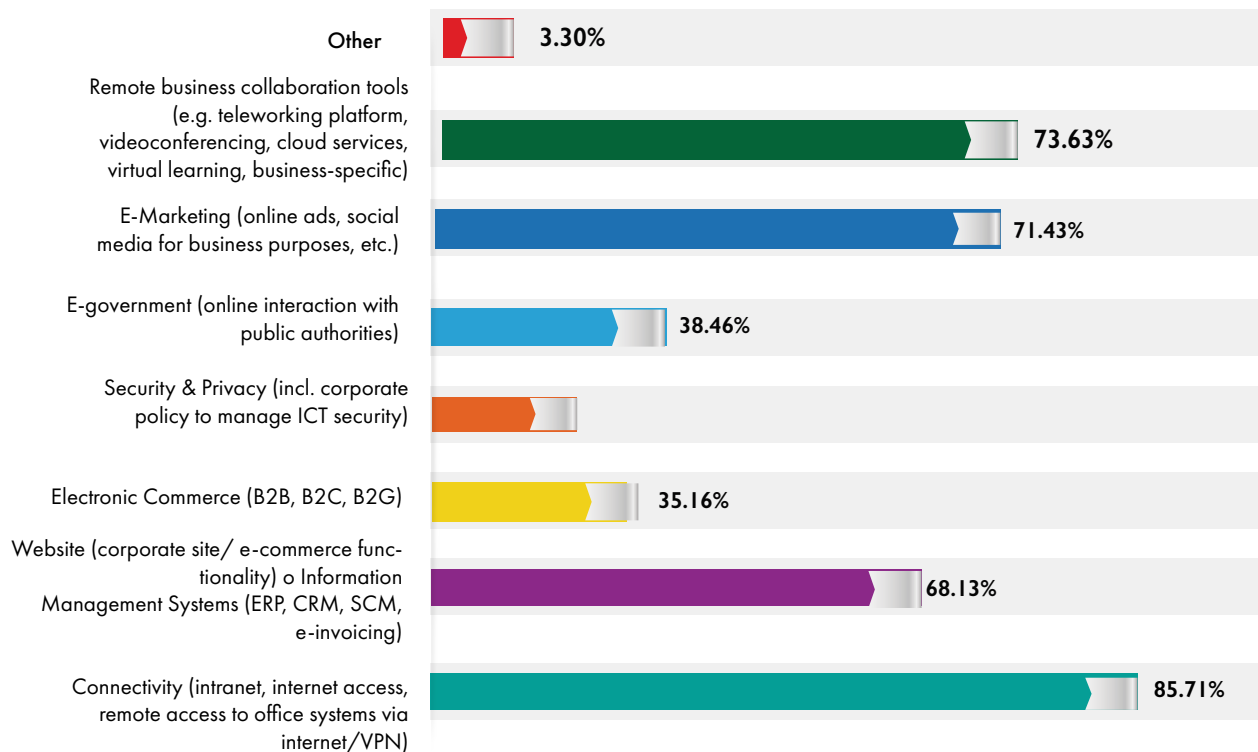
Module 2: Customer Data [General]

Module 2 of the survey covered Digital Maturity, that provided details and insights to best understand the digital readiness, digital business strategy, human-centric digitalisation, data management, automation & artificial intelligence and green digitalization. This section will provide the findings as captured in the survey.

Sector of Activity

The participants were asked this question: Which of the following business digital tools/means are actually used by your enterprise?

Business Digital Tools Used



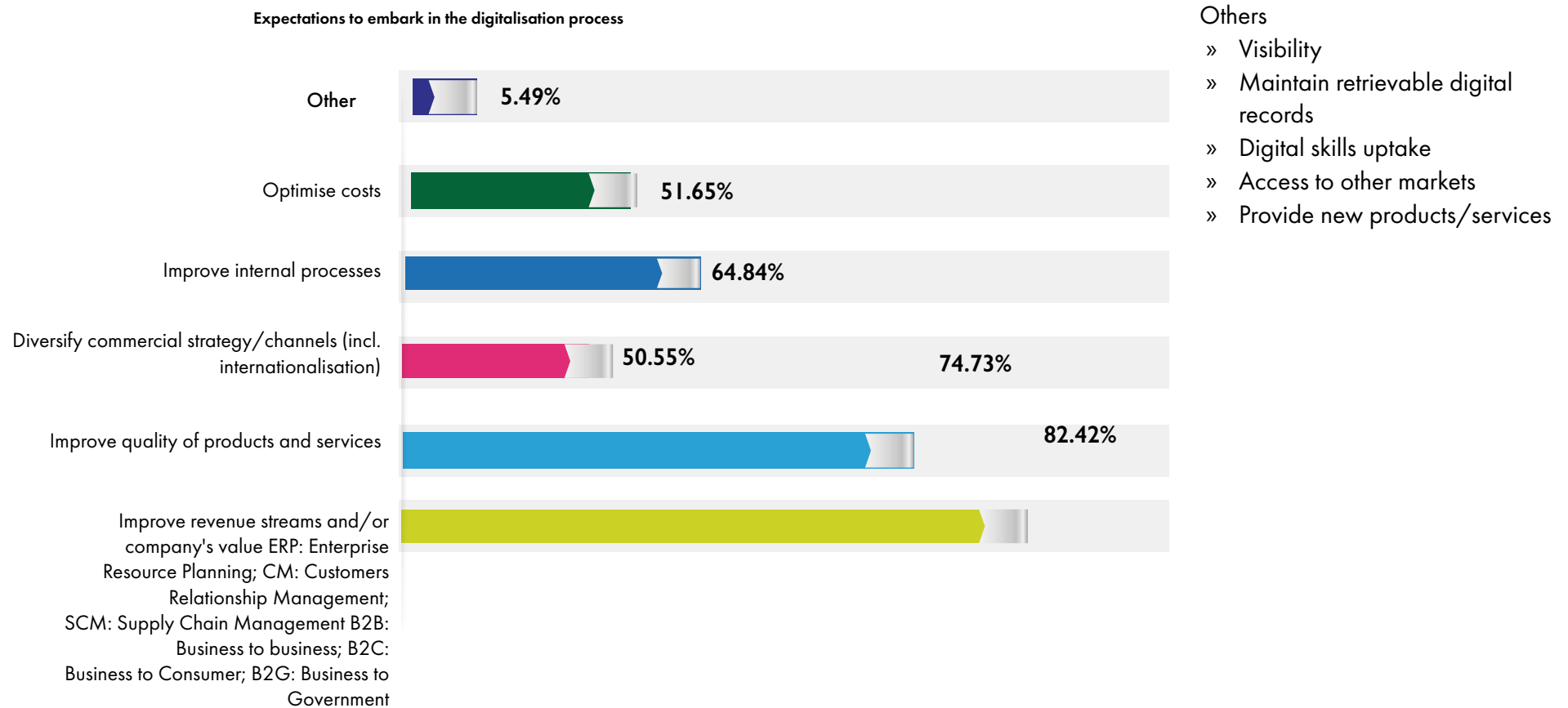
- » Digital waste reporting, waste collection records, digital waste collection incentivization (carbon credit)
- » Training of youth on IT skills in rural Kenya
- » CAD

Digital Readiness

The participants were asked this question:

Which of the following expectations lead your enterprise willingness to embark in a digitalisation process?

The following are the results:



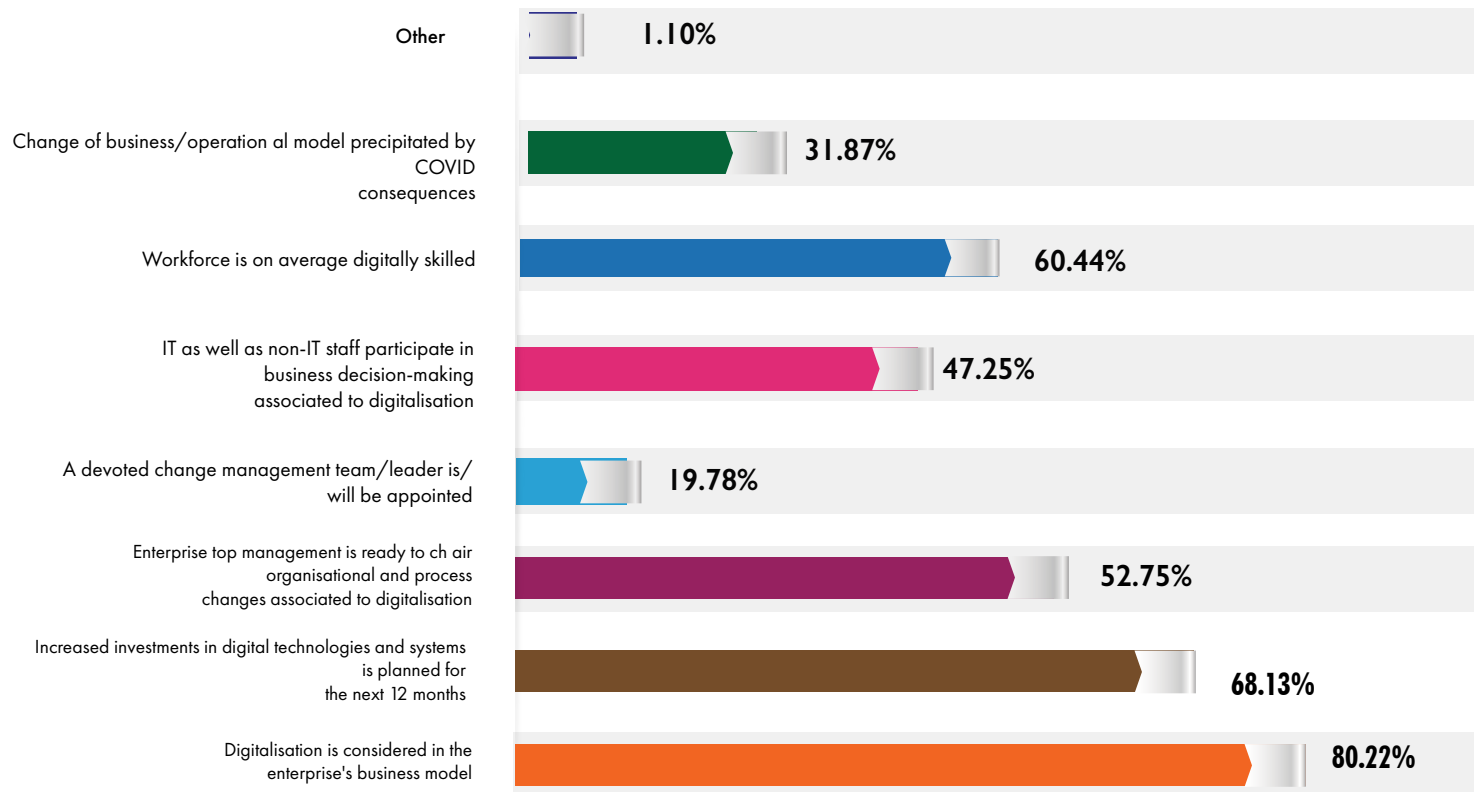
Digital Readiness

The participants were asked this question:

Which of the following conditions currently applies to your enterprise?

The condition that currently applies to the enterprise findings are shown, with 80% indicating that digitalisation is one of the key strategic areas in their business model. The enterprises indicates that their priorities are at the bottom when it comes to change in management leadership. The second highest condition on digital readiness was on digitalisation in terms of integrating systems and processes.

Conditions that best applies to the business's current digital readiness



Digital Readiness/ Business Strategies

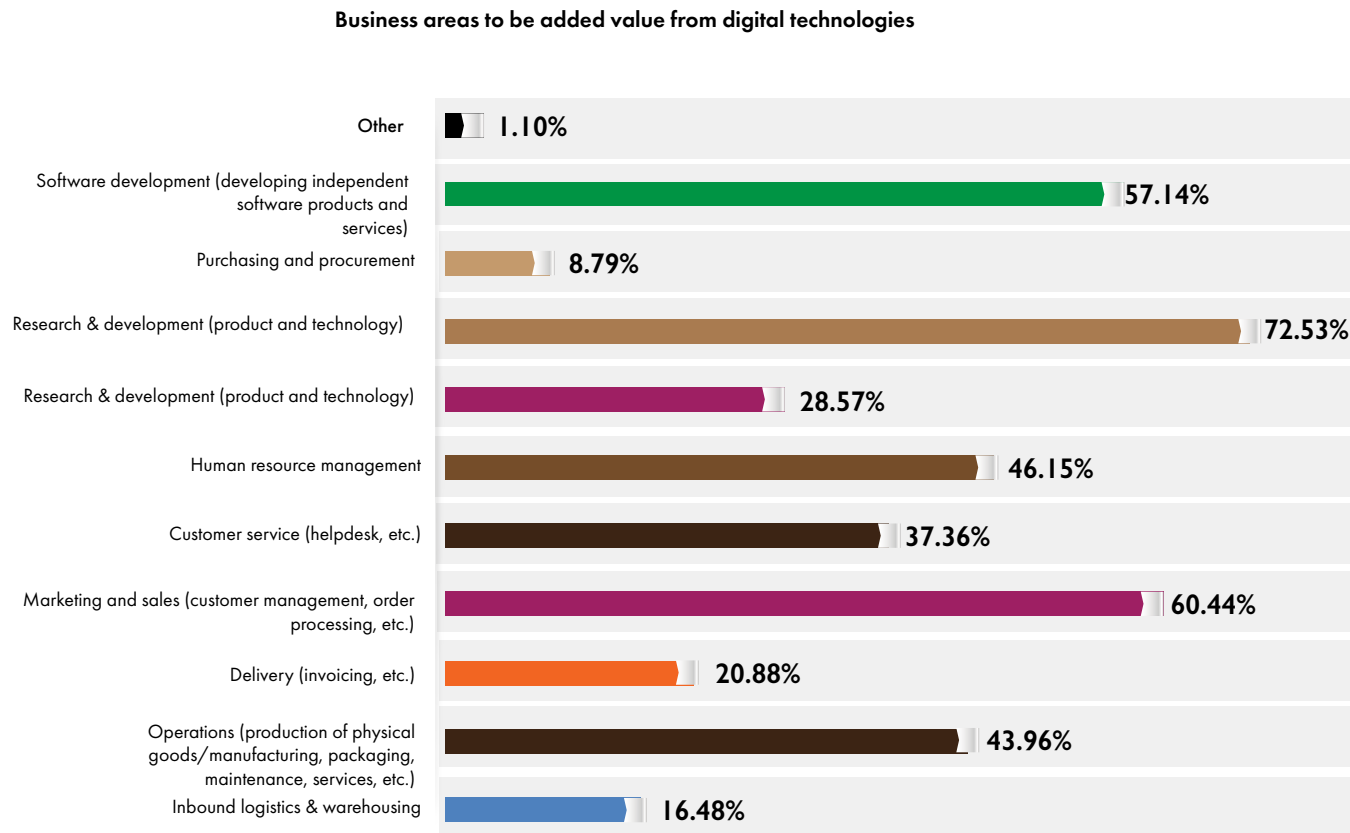
The participants were asked this question:

In which business areas would you like to see added value from digital technologies?

The key insights generated is that research and development is an important area that needs to be looked at. This shows that most enterprises recognize the importance of research while embarking on new technologies. Marketing and Sales and intensive research took second and third positions respectively.

Interestingly, purchasing and procurement recorded the lowest.

The business areas that the enterprises would like to see added value from digital technologies findings are shown below:



Response- other

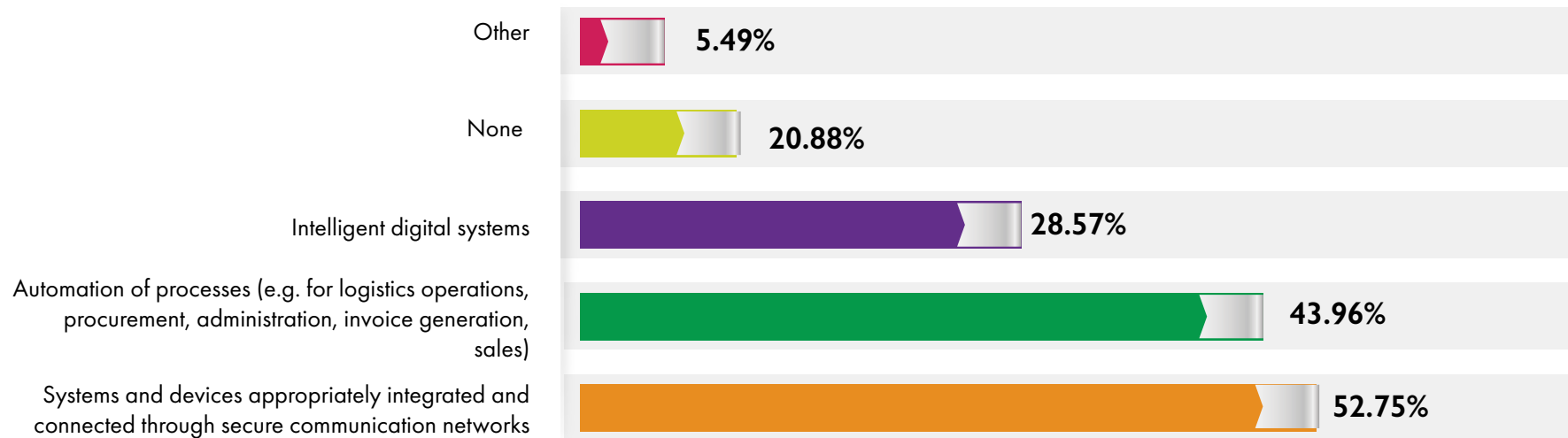
- » Decision making to enhance human centred design and solutions process

Automation facilitated by interconnected and intelligent digital systems

The participants were asked this question:

With regards to your enterprise's business areas where digital technologies can provide added value, which of the following are already in place? The findings are shown below:

Areas where Digital Tech can provide added value



Response- others

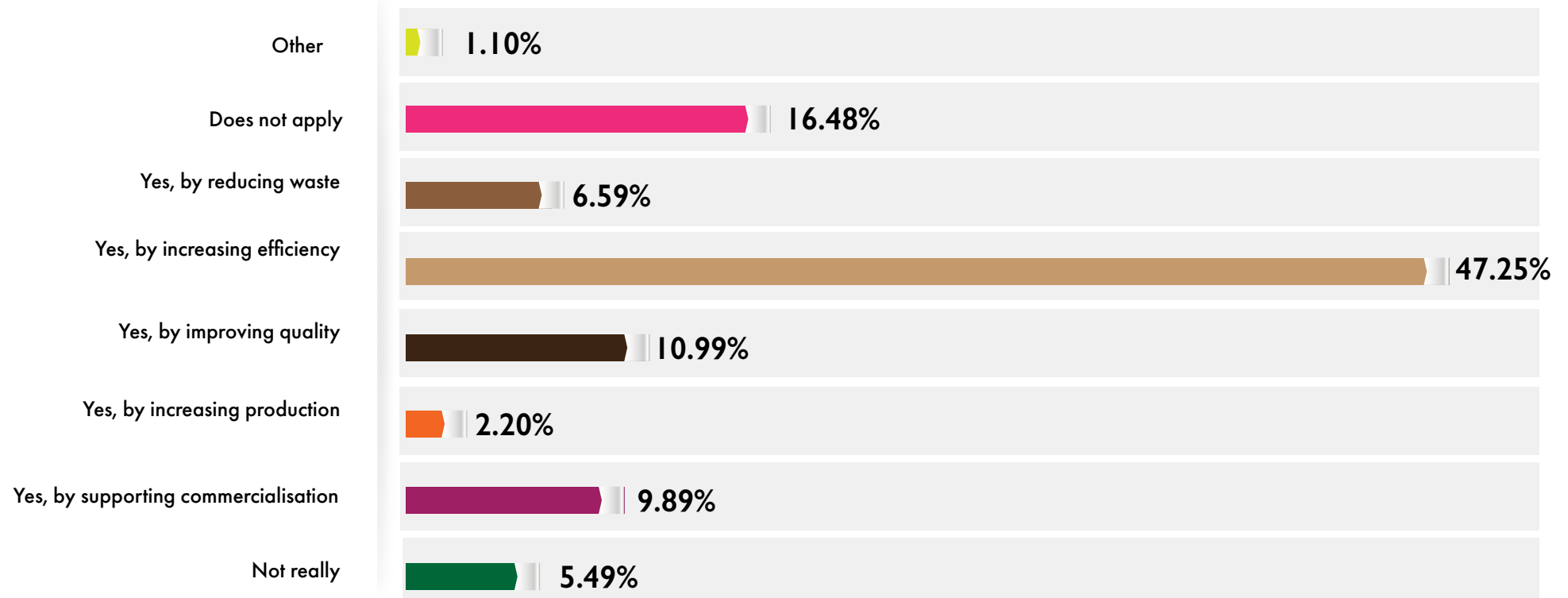
- » Programme roll out, attendance registers and database
- » Digital communication channels including social media, website, work planning, emailing and conferencing systems
- » None
- » Digital fabrication processes

Automation facilitated by interconnected and intelligent digital systems

The participants were asked this question:

Which of the following does your company plan/expect/wish to adopt/improve in the near future? The findings are shown below

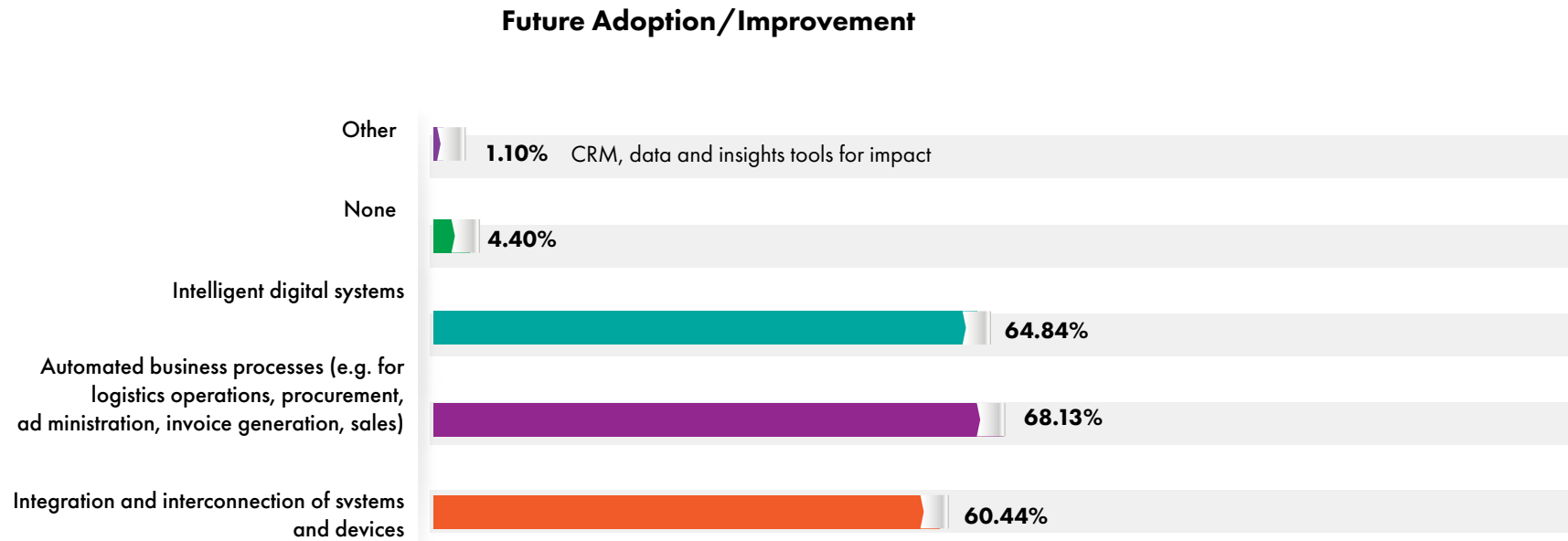
Have Automation or intelligent processes improved the enterprise's business?



Automation facilitated by interconnected and intelligent digital systems

The participants were asked this question:

The participants were asked this question: Which of the following does your company plan/expect/wish to adopt/improve in the near future? The findings are shown below:



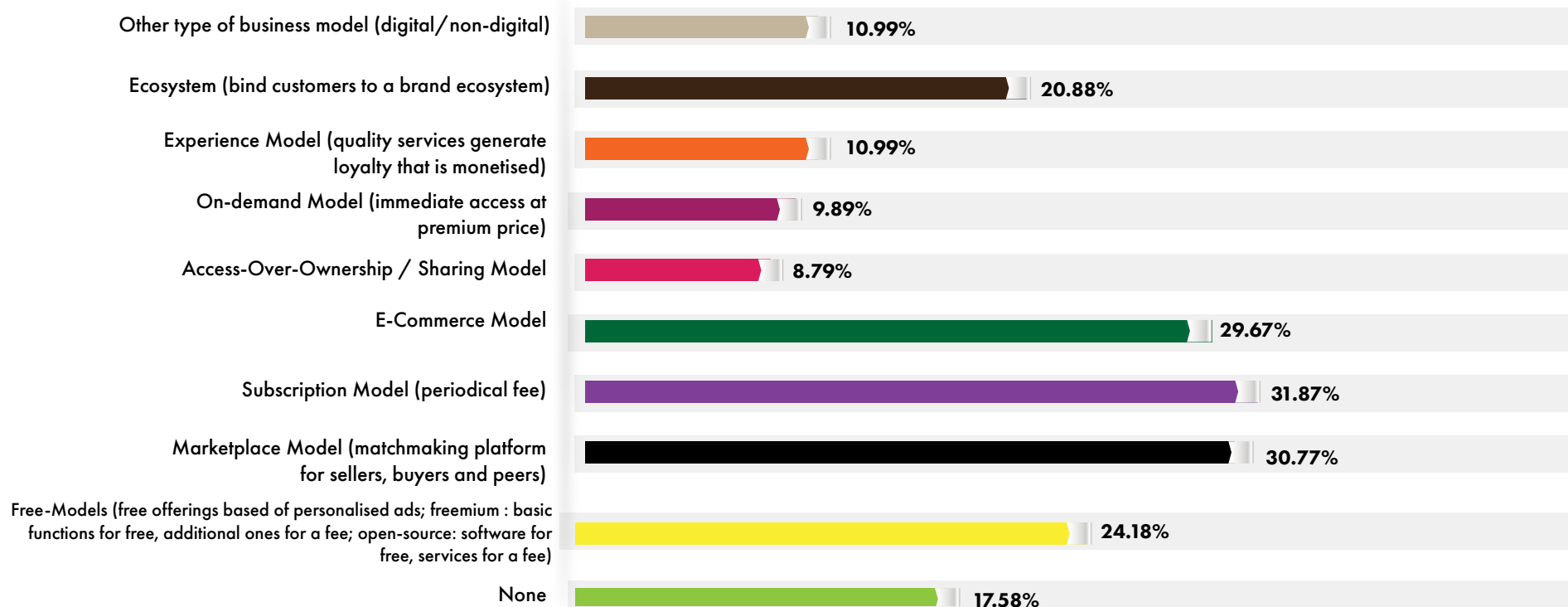
Human-Centric Digitalization- Digital services/Customisation and new Business Models

The participants were asked this question:

Is your enterprise featuring any of the new (digitally driven) business models listed below?

The findings were as follows:

New Digitally Driven Business Models Featured by the enterprises

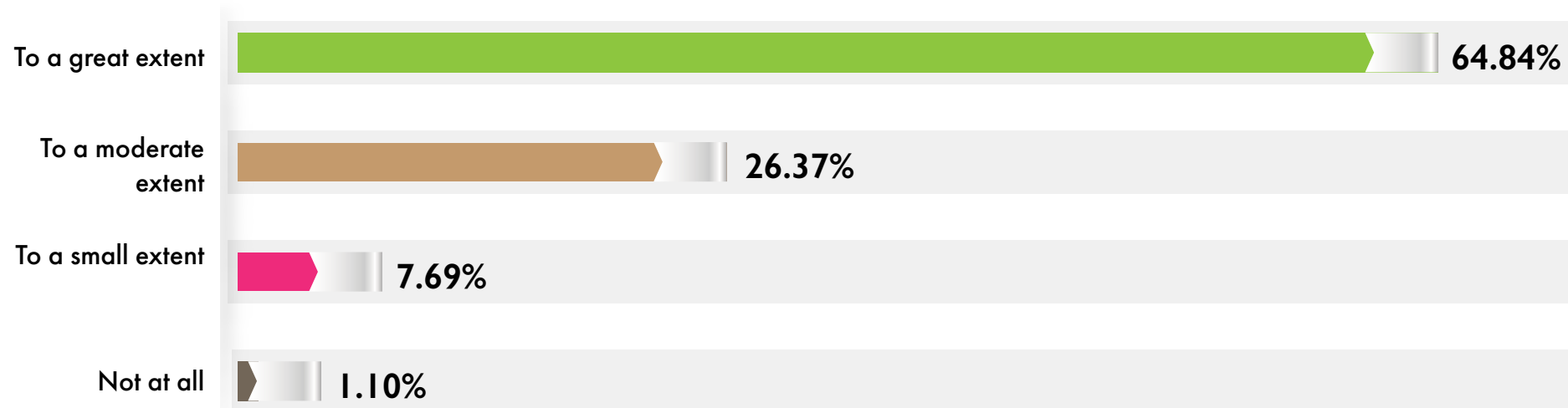


Human-Centric Digitalization- Digital services/Customisation and new Business Models

The participants were asked this question:

Does your enterprise plan a transition towards digital services and/or customizable processes thanks to their digitalisation in the near future? The findings are shown below:

Plans for transition towards digital services and customizable processes

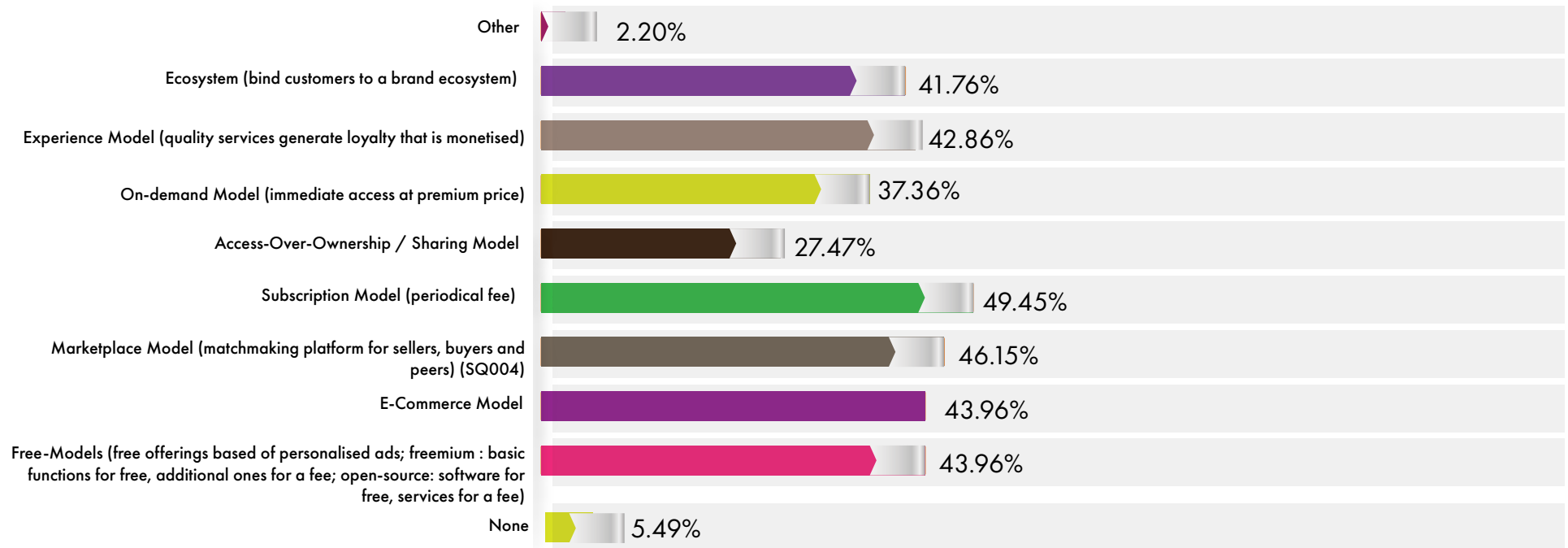


Human-Centric Digitalization- Digital services/Customisation and new Business Models

The participants were asked this question:

Does your enterprise plan to feature any of the new (digitally driven) business models listed below in the near future? The findings are shown below:

Plan to feature new digitally business model



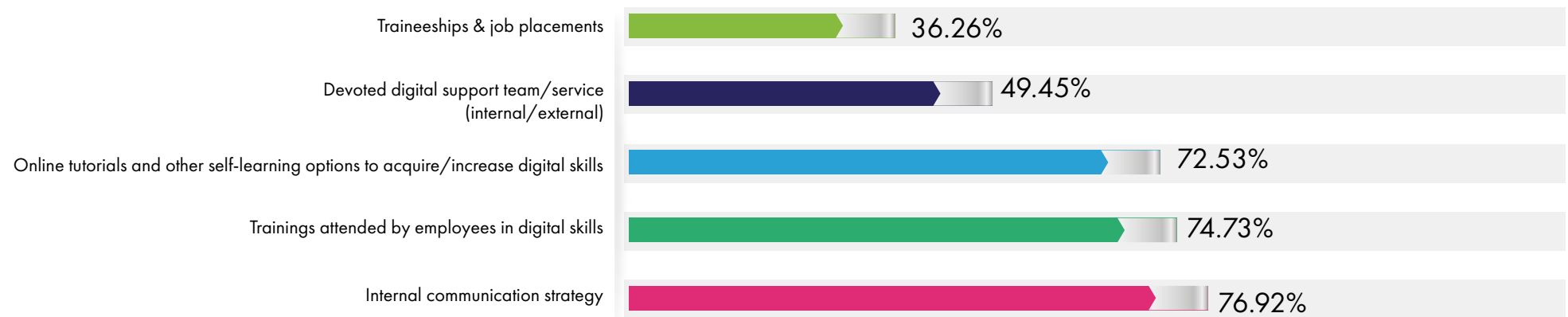
Human-Centric Digitalisation – Digital Skills and Workforce Empowerment

The participants were asked this question:

How does your enterprise ensure that the workforce is capable to take full advantage of the available digital tools?

The findings are shown below:

How the enterprises ensures that the workforce is capable of taking full advantage of the available digital tools

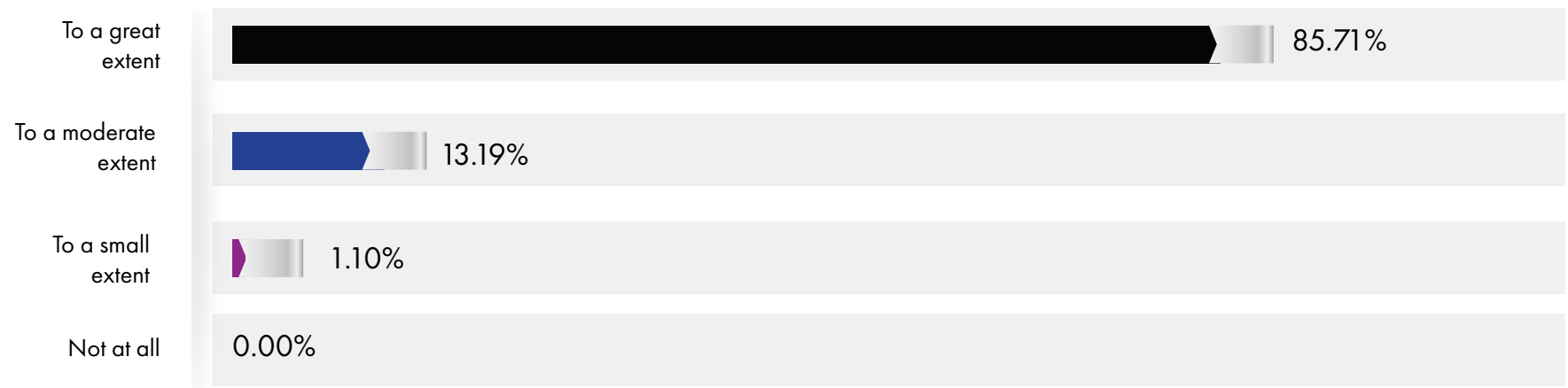


Human-Centric Digitalisation – Digital Skills and Workforce Empowerment

The participants were asked this question:

Is your enterprise's staff willing to use/learn to use the available digital tools? The findings are shown below:

Staff willingness to use the available digital tools



Human-Centric Digitalisation – Digital Skills and Workforce Empowerment

The participants were asked this question:

Does your enterprise's staff use digital tools to streamline the workflow?

The findings are shown below:

Do the staffs use digital tools to streamline the workflow

No, digital tools are perceived as a burden in accomplishing tasks

3.30%

Yes, by deriving actionable insights from data to improve processes

48.35%

Yes, by offloading or being assisted in dangerous or delicate tasks

4.40%

Yes, by automatizing repetitive tasks

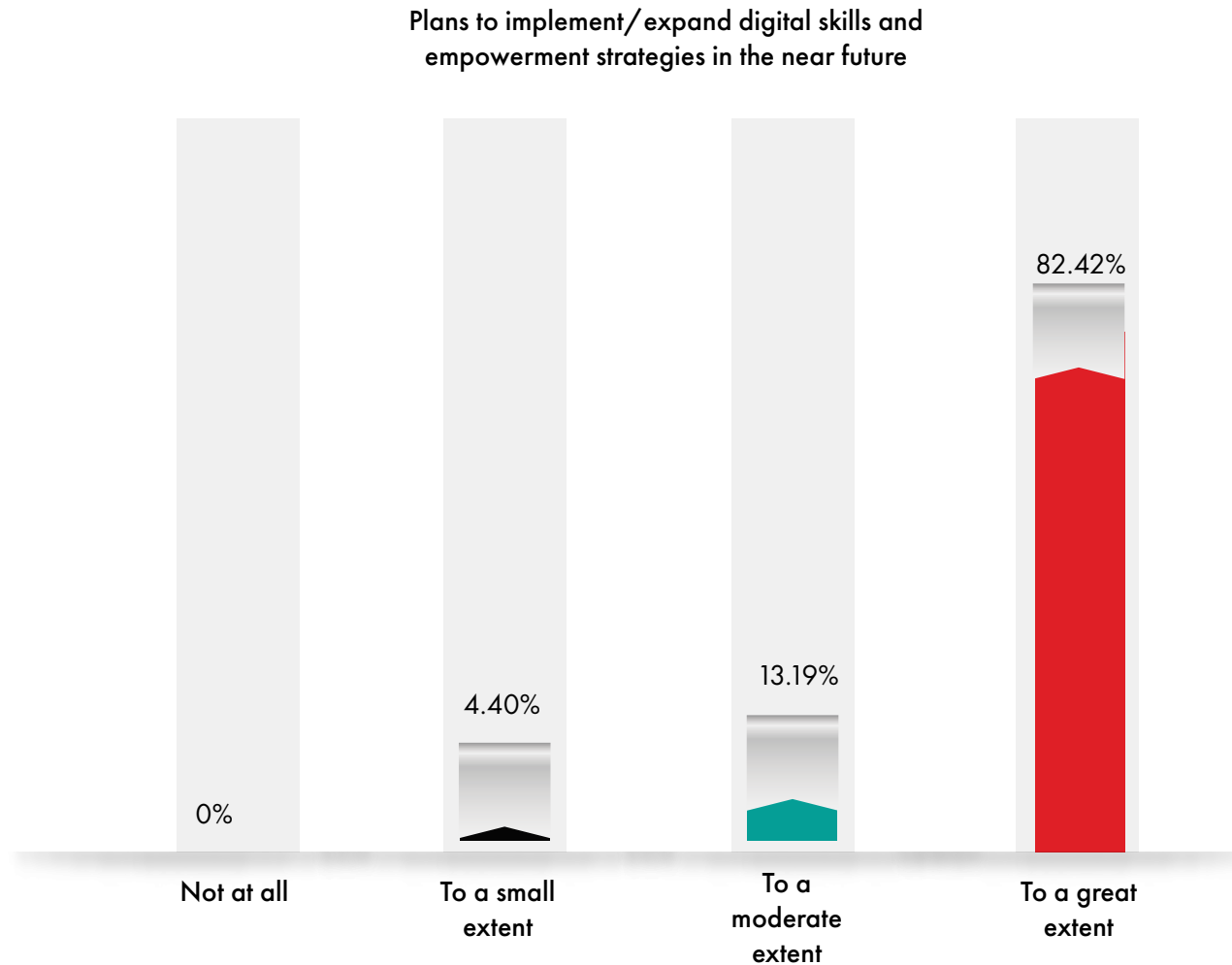
43.96%

Human-Centric Digitalisation – Digital Skills and Workforce Empowerment

The participants were asked this question:

Does your enterprise's staff use digital tools to streamline the workflow?

The findings are shown below:



Business Offering

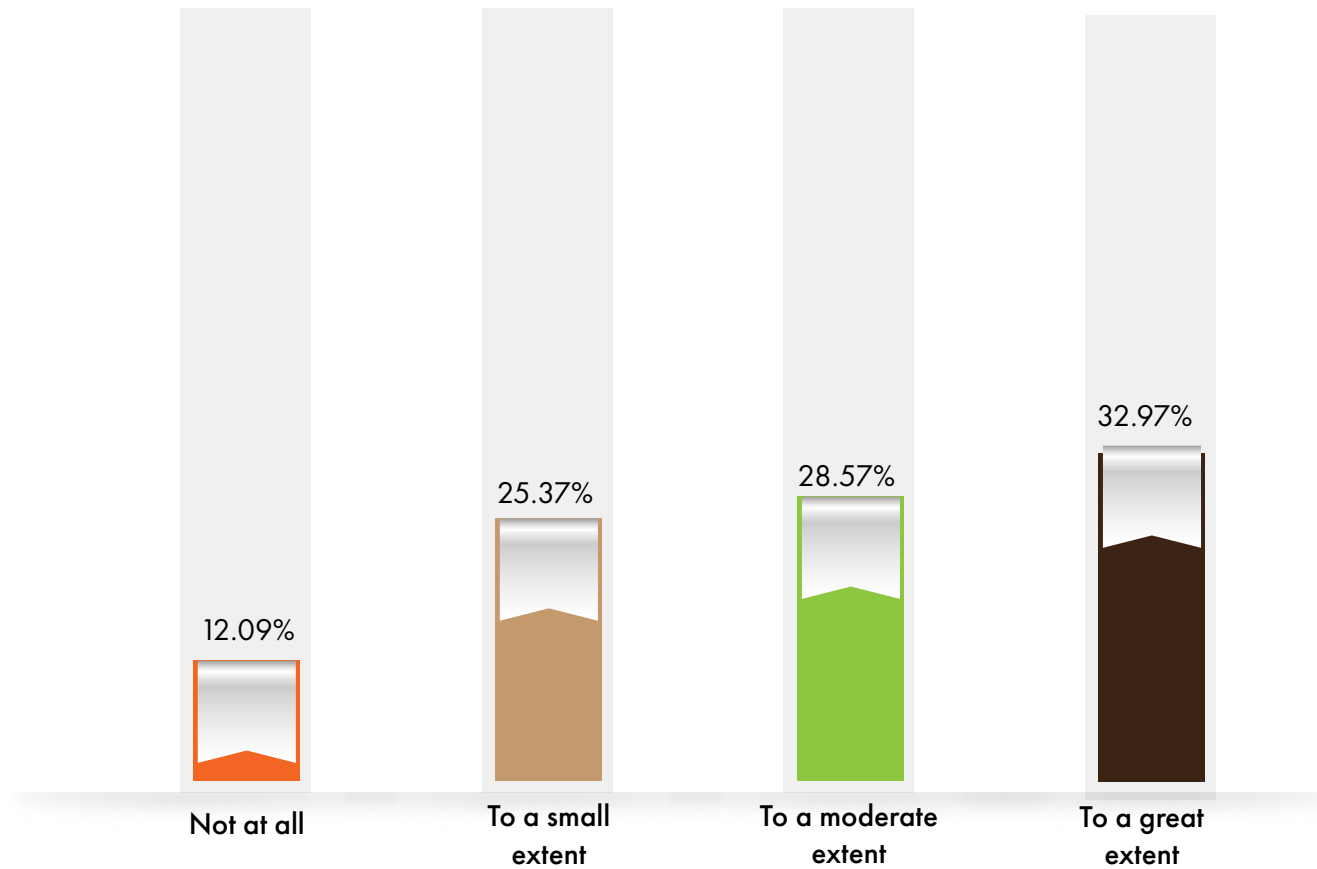


The participants were asked this question:

Are Digital (“smart”) data-driven services an integrated part of your enterprise’s business processes?

The findings are shown below:

Smart data-driven services part of the business process



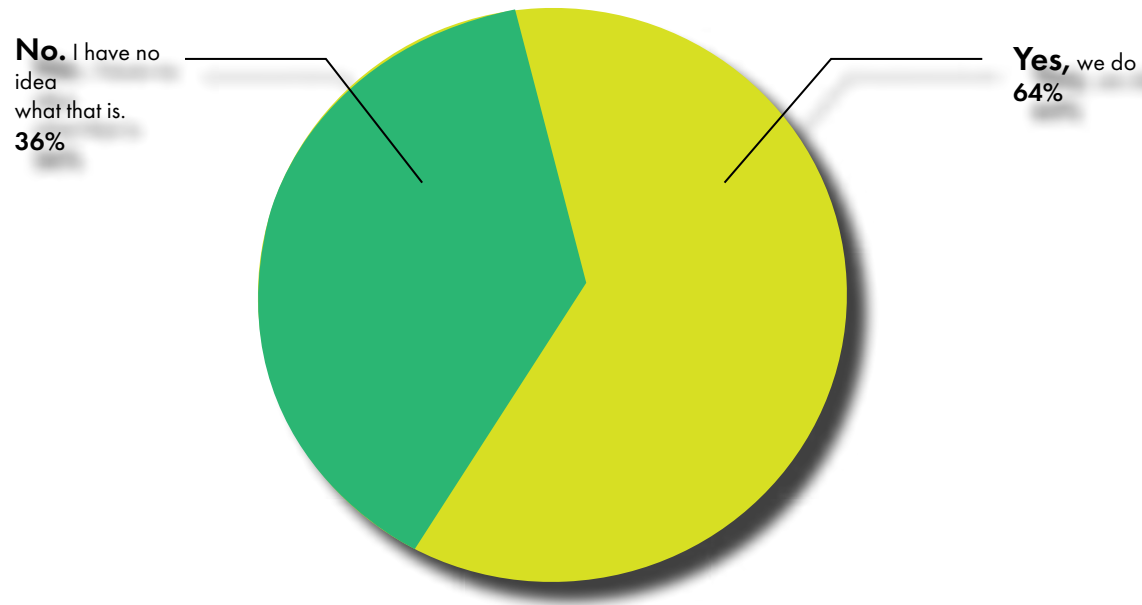
Data Management

The participants were asked this question:

As an organization, do you have any environmental, sustainability and governance (ESG) policies internally to guide your green practices?

The findings are shown below:

ESG policies to guide in green practices



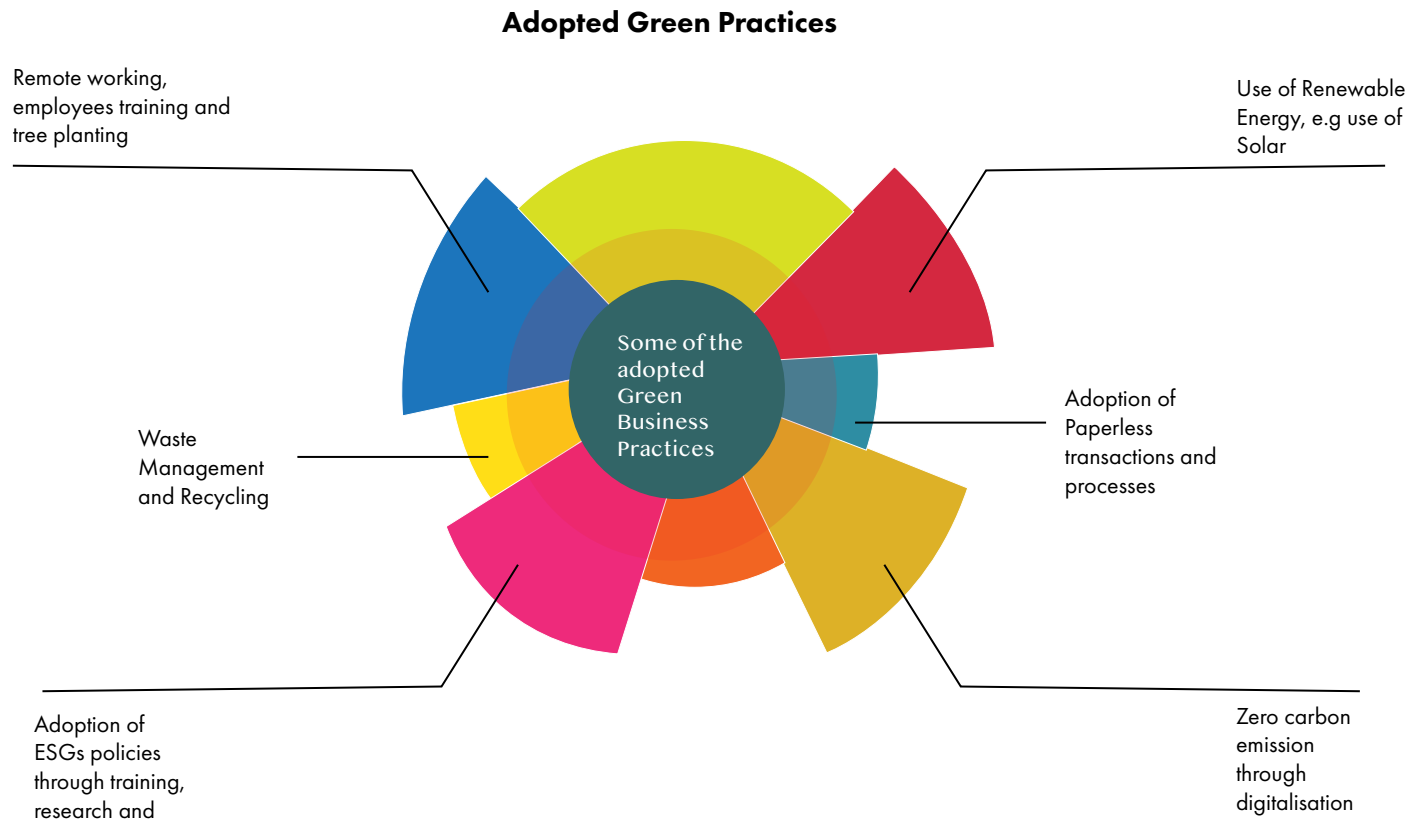
Green Digitalisation – Green Business Practices

The participants were asked this question:

If you have adopted green business practices, which ones?

This was a qualitative question where all the respondents were to write down the adopted green practices in their enterprises.

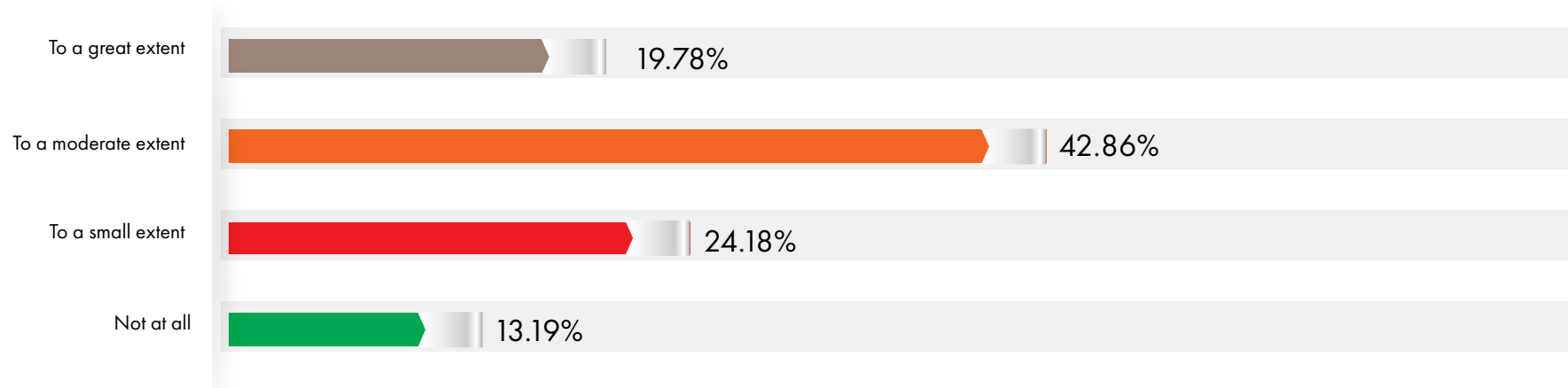
The key themed findings are shown below:



Green Digitalisation – Green Business Practices

The participants were asked this question: How educated and engaged are your employees on green practices? The findings are shown below:

How educated and engaged the employees are in green practices

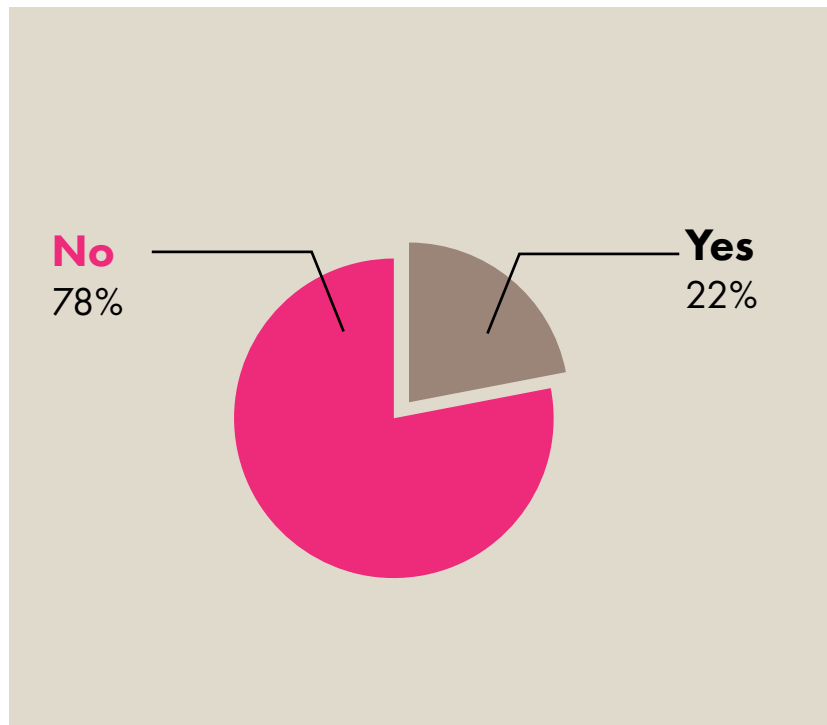


Green Digitalisation – Green Business Practices (General)

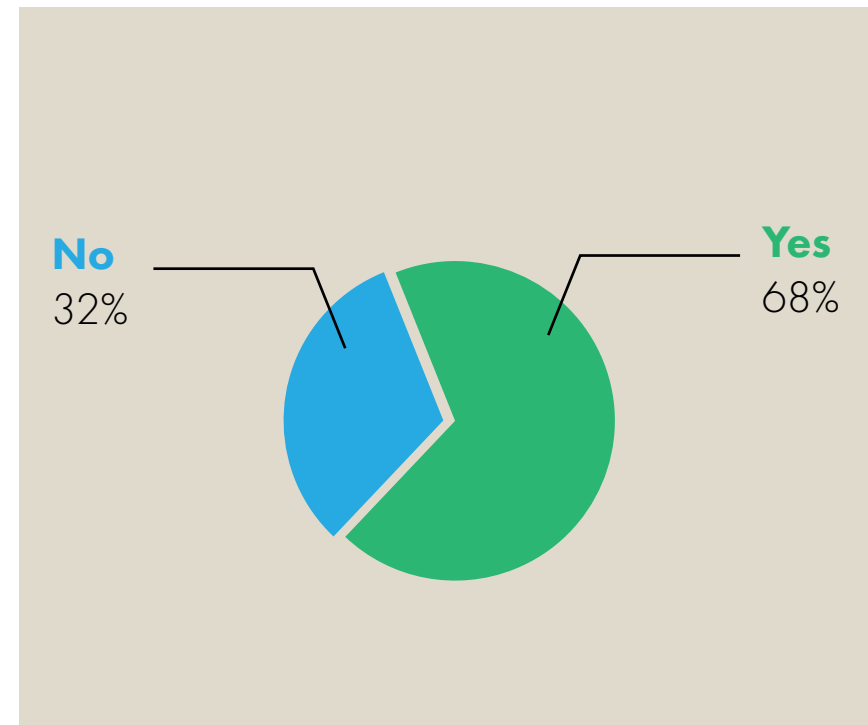
The participants were asked this question:

The participants were asked this question: Do you know your organization's carbon footprint? , Do you know how you can become a greener company? In other words, do you know/understand how you can innovate and offer greener products and services? The Findings are shown below:

Do you know your organization's carbon footprint?



Knowledge on how to become a greener company



Green Digitalisation – Green Business Practices

The participants were asked this question:

Are there any organisations you can, or need to partner with to enable you go green? This could be sustainability NGOs, environmental companies, government departments etc. If yes, which ones and what is your need?

Based on the responses provided by all the participants, the themed key findings are shown below

United Nations

- » UNEP- The United Nations Environment Programme
- » UNHCR- United Nations High Commissioner for Refugees
- » UNFCCC- The United Nations Framework Convention on Climate Change
- » UNDP - United Nations Development Programme

Research Institutes

- » ICIPE- International Centre of Insect Physiology and Ecology
- » KEFRI – Kenya Forestry Research Institute
- » NEMA- National Environment Management Authority
- » KAWR – Kenya Association of waste Recyclers

Government

- » Ministry of ICT
- » County Government
- » NARIGP- National Agricultural and Rural Inclusive Growth Project

Financial Institutions

- » Equity Bank
- » Commercial Bank
- » World Bank programs

Development Agencies

- » OECD – Organization for Economic Cooperation and Development
- » GIZ

Non-Government Organizations/Private sector

- » Eco-Fiti Africa
- » KEPSA- Kenya Private Sector Alliance

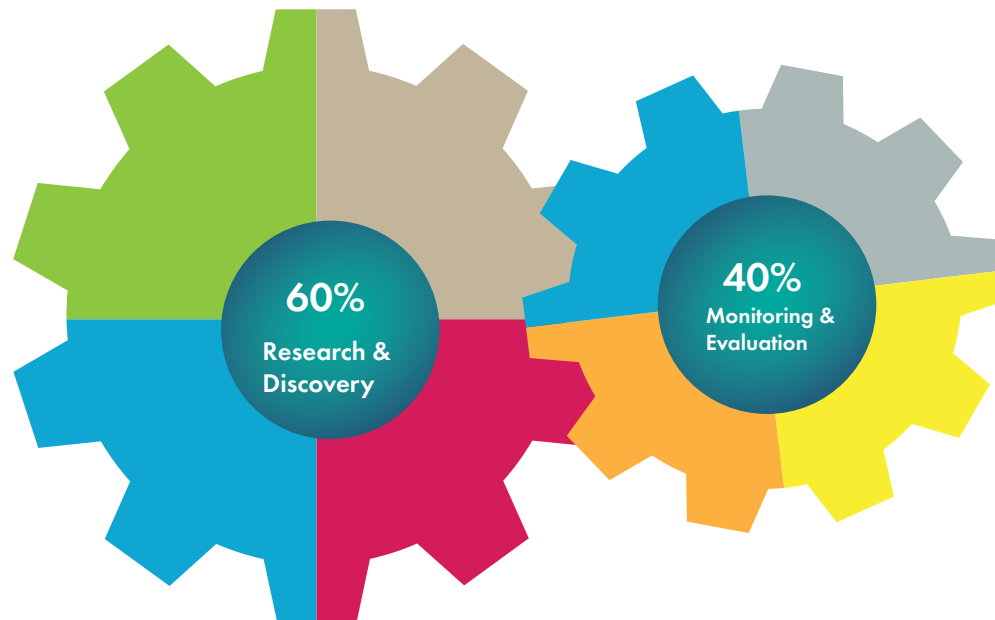
Green Digitalisation – Green Business Practices

The participants were asked this question:

How do you measure or get feedback on your green performance?

Based on the responses provides by all the participants, the themed key findings are shown below:

How the enterprises measure or get feedback on their green performances



Through:

- Feedback from clients and key stakeholders
- Key Performance and Monitoring Indicators
- Data analysis and Interpretations

Data Collection:

- Surveys
- Interviews
- Literature Review e.g. NEMA reports

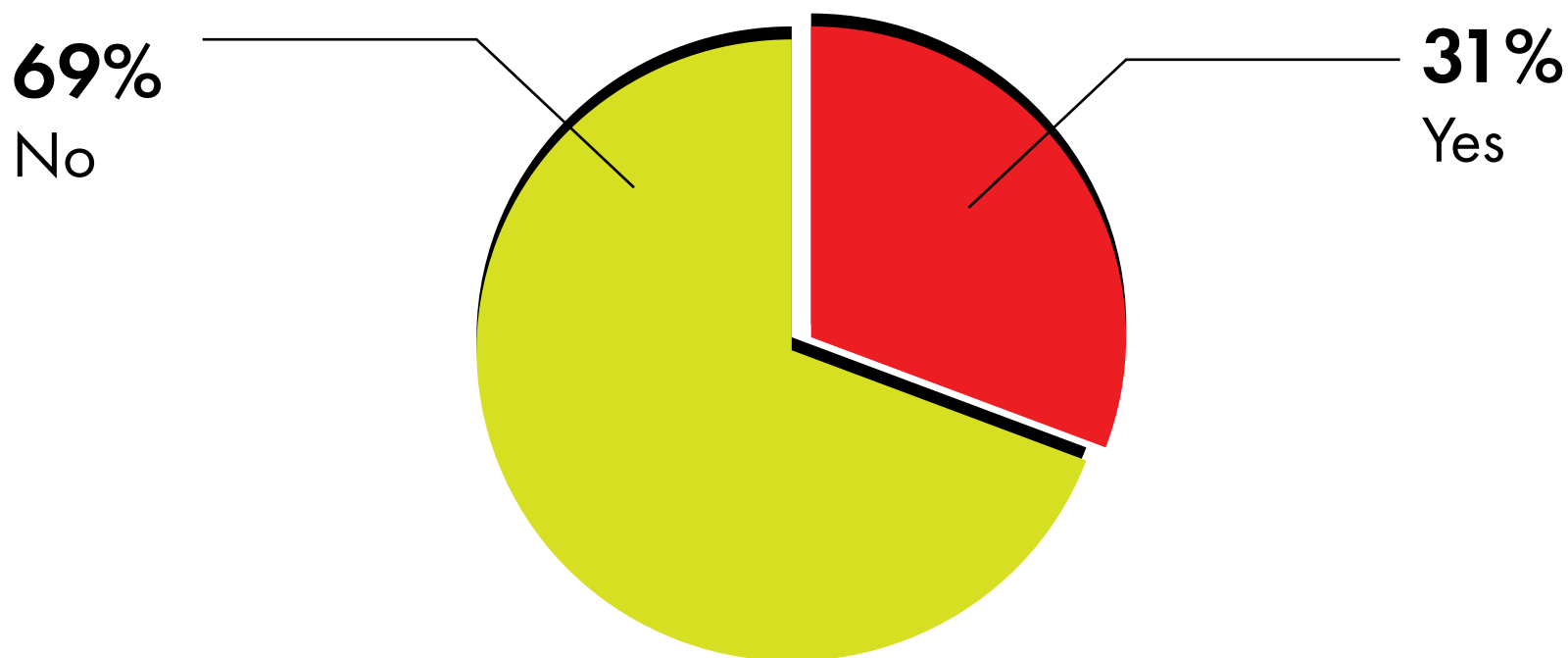
Green Digitalisation – Green Business Practices

The participants were asked this question:

Do you know how your competitors fare in terms of green practices?

The findings below shows that majority of the enterprises do not know how their competitors fare in terms of green practices.

Do you know how your competitors fare in terms of green practices?



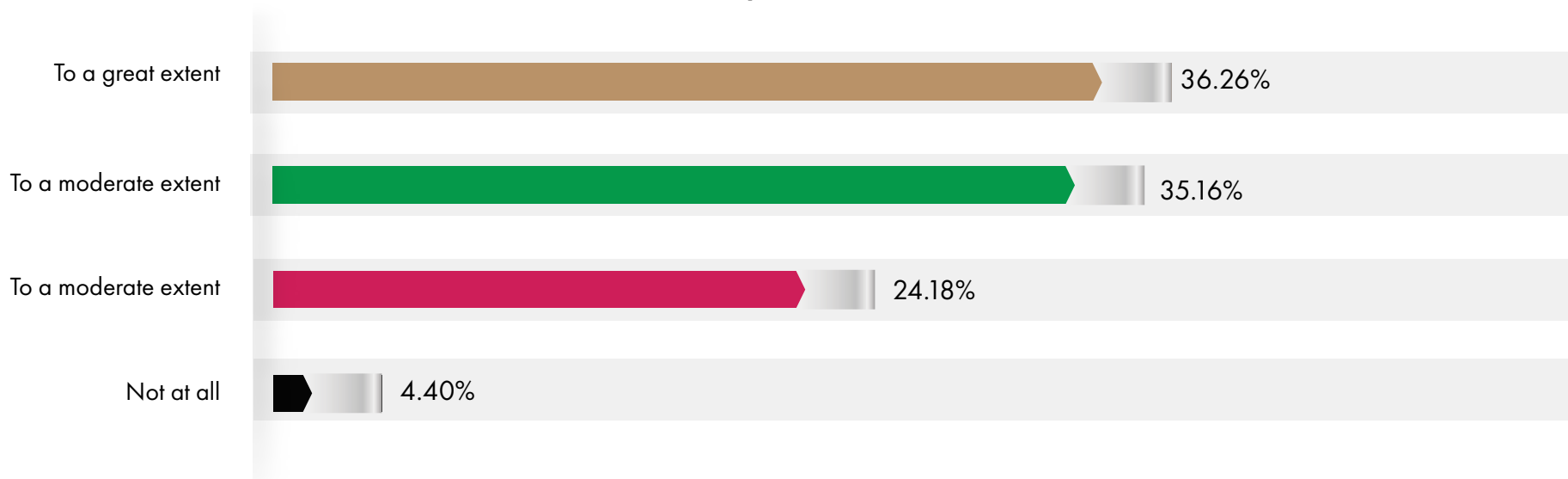
Green Digitalisation – Eco-sustainability supported by digitalisation

The participants were asked this question:

Are digital technologies supporting the sustainability of your business model and/or its products and services?

The findings are shown below:

Are digital technologies supporting the sustainability of your business model and/or its products and services?



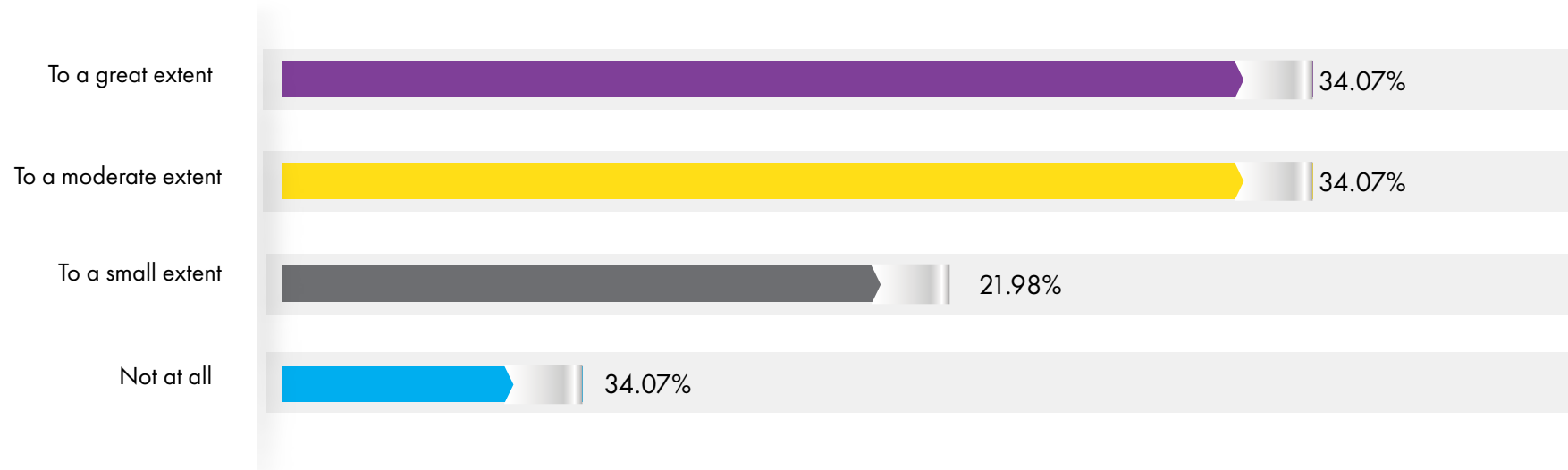
Green Digitalisation – Eco-sustainability supported by digitalisation (General)

The participants were asked this question:

Are digital technologies supporting the sustainability of production and business processes, not wasting precious resources and not harming the environment and quality of life? (monitoring and controlling consumption of energy, water, emissions, noises, recycling, etc. in real time?)

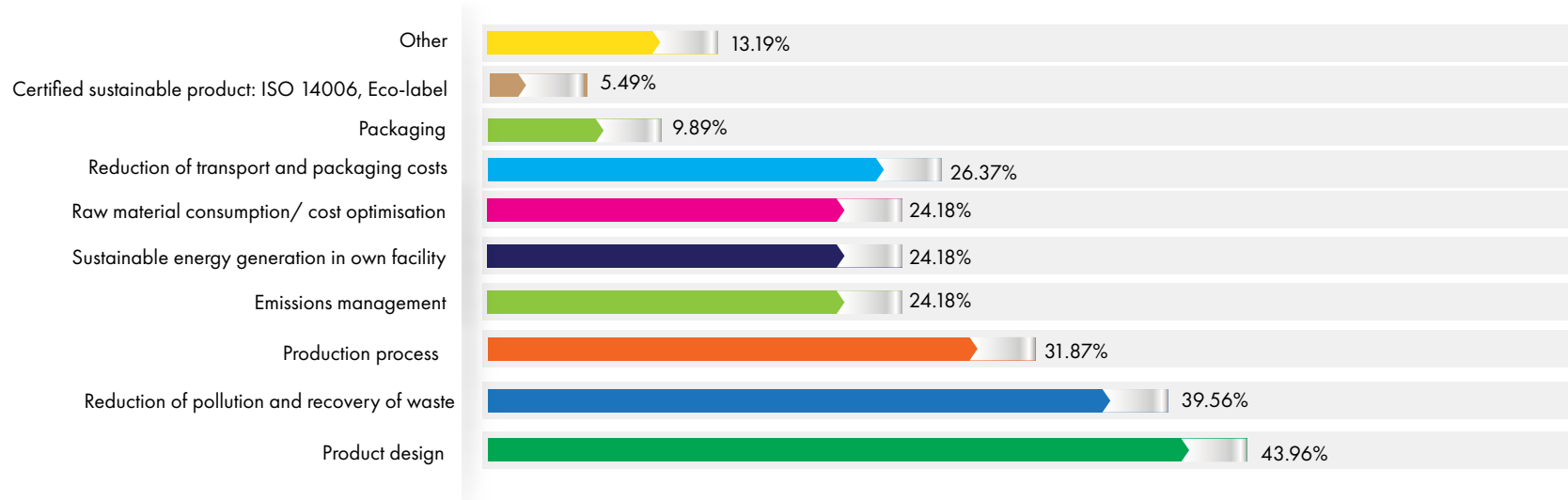
The findings are shown below:

Are digital technologies supporting the sustainability of production and business processes, not wasting precious resources and not harming the environment and quality of life?



Green Digitalisation – Eco-sustainability supported by digitalisation (General)

Use of Digital Technologies for Eco-sustainability

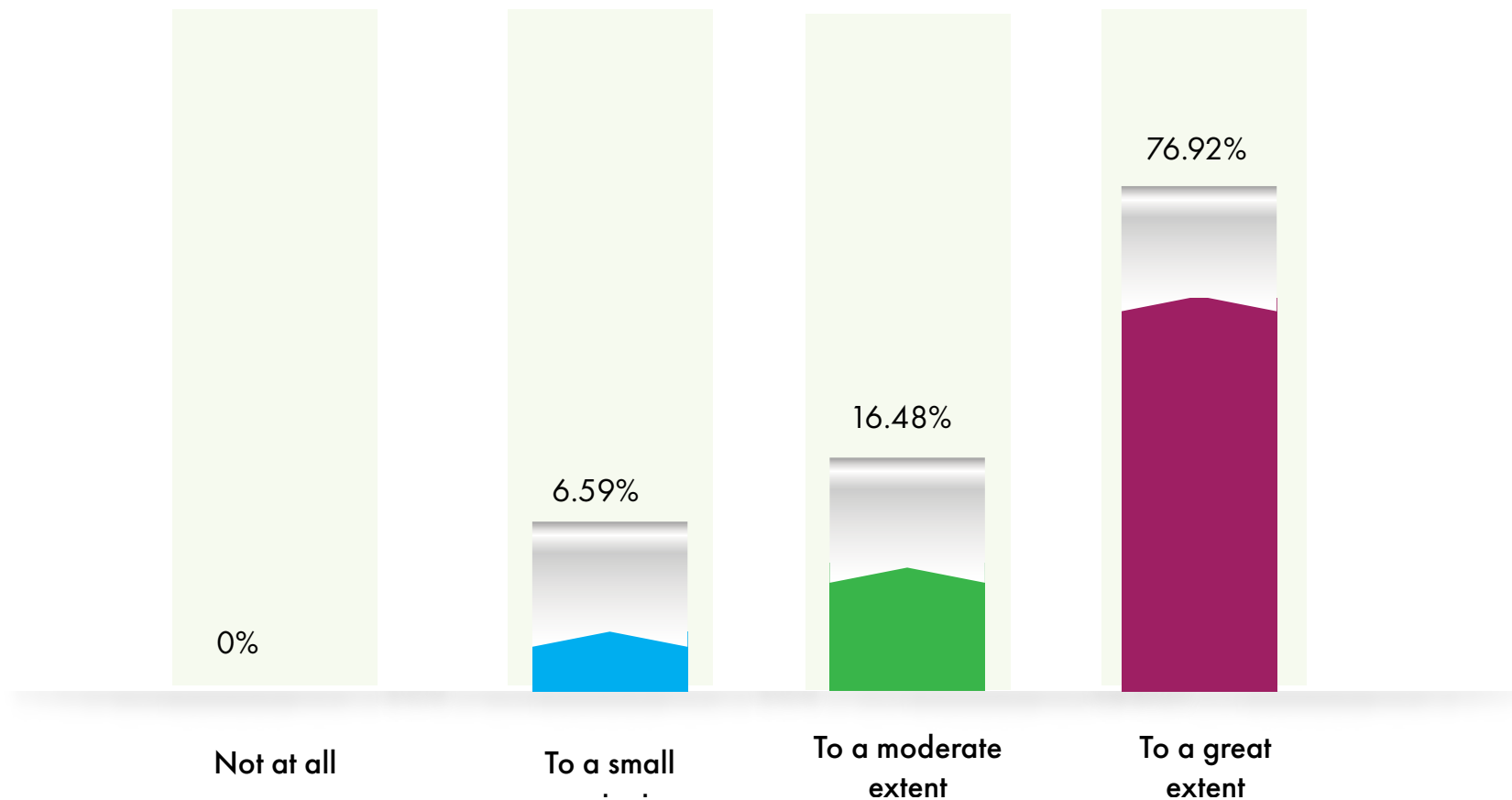


Green Digitalisation – Eco-sustainability supported by digitalisation (General)

The participants were asked this question: Does your enterprise plan to adopt/increase the use of digital technologies to improve its sustainability in the near future?

The findings are shown below:

Plans to adopt/increase use digital technologies to improve sustainability



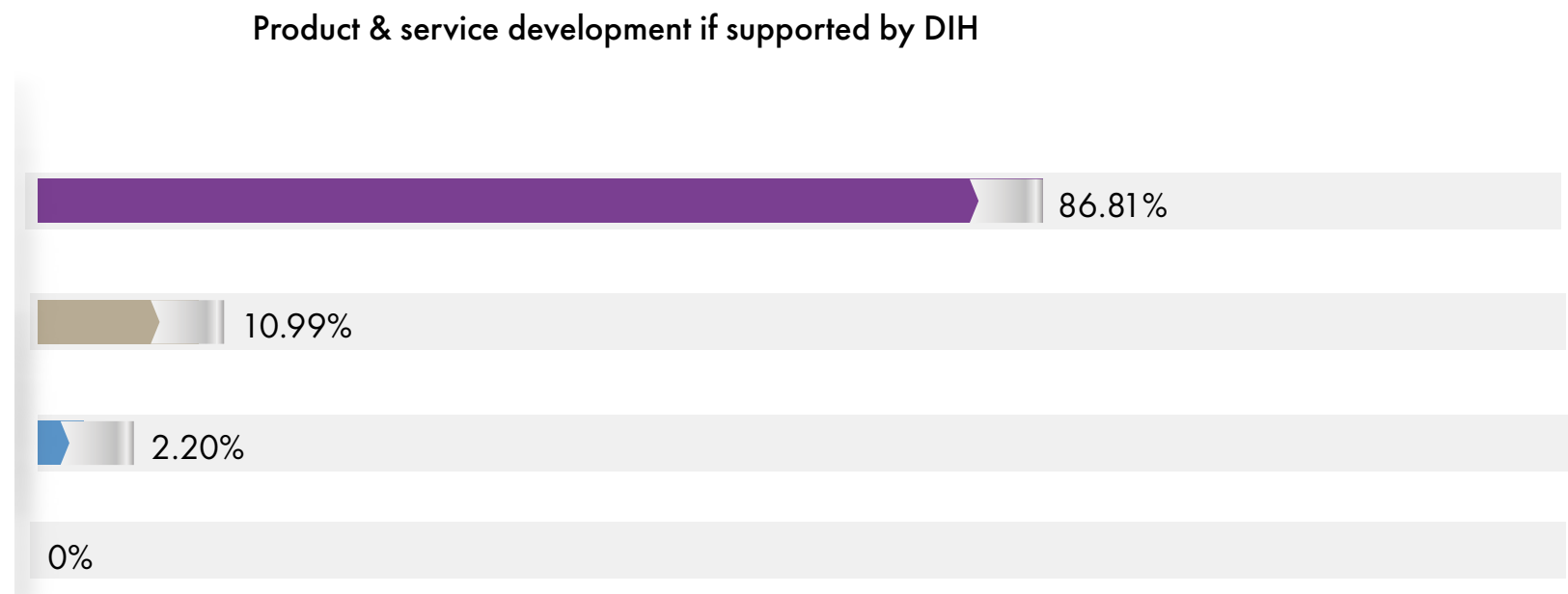
Module 3 Digitalization Support (General)

Module 3 Digitalization Support (General)

The Digitalization Support is the Module 3 of the survey that provides details and insights to best understand the potential need of support services by the DIH. This section will provide the findings as captured in the survey.

Potential need of Support Services

The participants were asked this question: If support is provided by the Digital Innovation Hub (DIH), would you plan to or develop innovative new market products or service offerings? The following are the results:

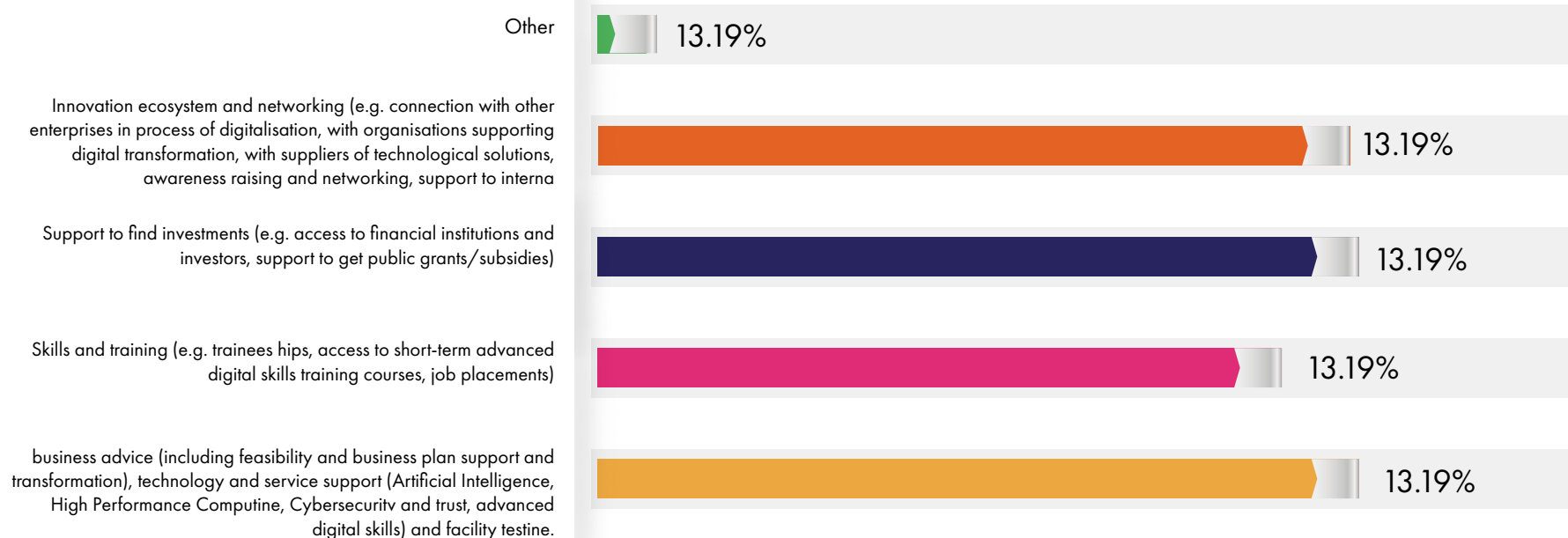


Potential need of Support Services (General)

The participants were asked this question:

Which Digital Innovation Hub (DIH) services would you consider useful for your enterprise? The following are the results:

DIH services that are considered useful by enterprises



Module 4 Digitalization Support (General)

Module 4: Digitalization Support (General)

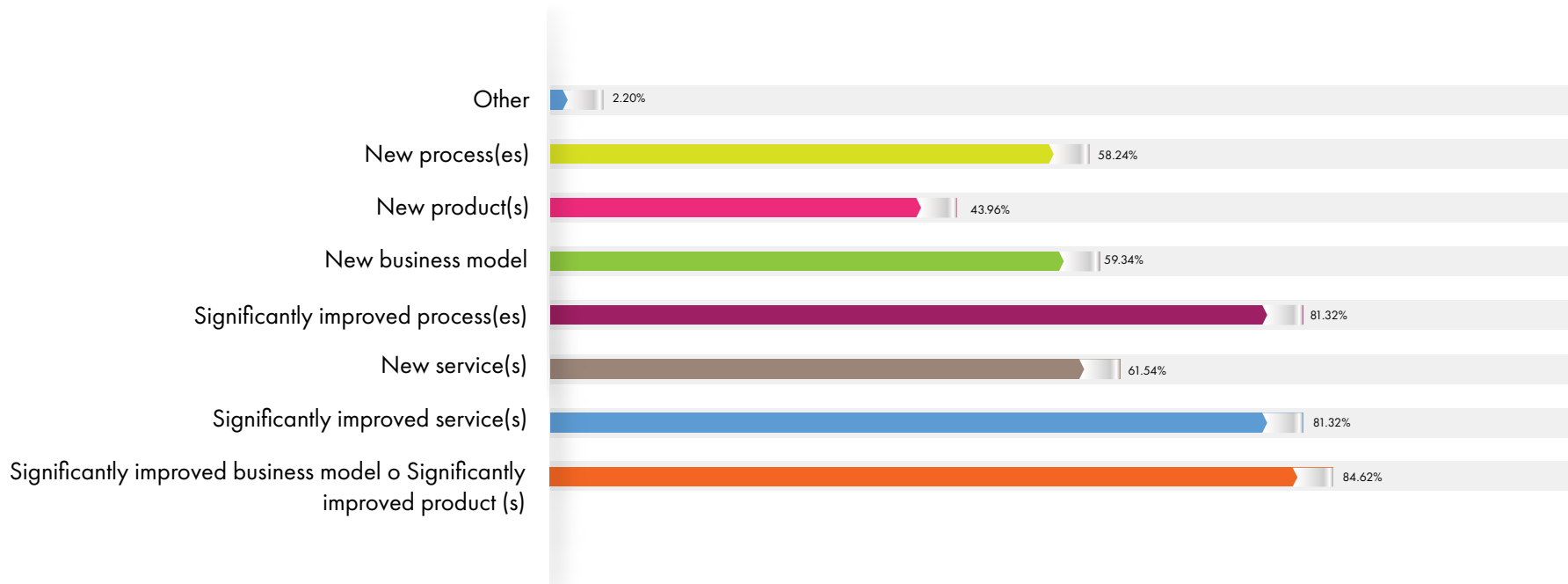
The Innovation Maturity is the Module 4 of the survey that provides details and insights to best understand the expectations that the enterprises have from digitalisation. This section will provide the findings as captured in the survey.

Expectations from Digitalisation

The participants were asked this question:

What do you expect from digitalisation? The following are the results:

Expectations enterprises have from Digitalisation



Entrepreneur Support Organizations (ESOs)

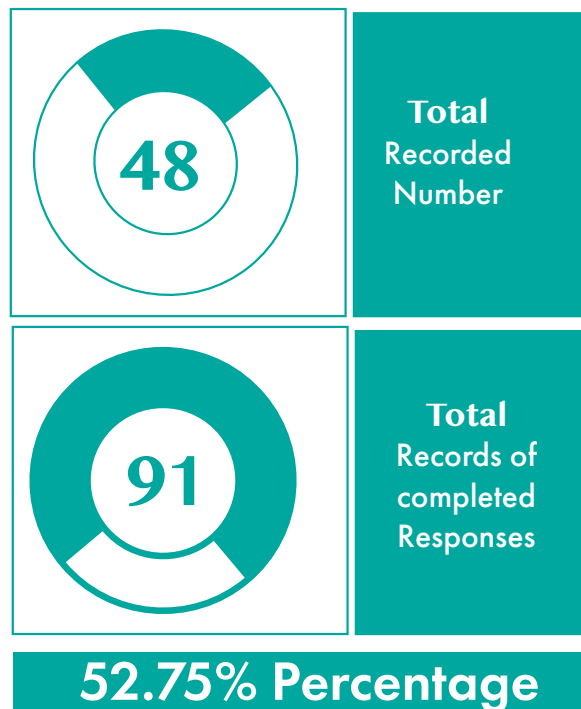
Entrepreneur Support Organizations [ESOs]

Nature of the ESOs

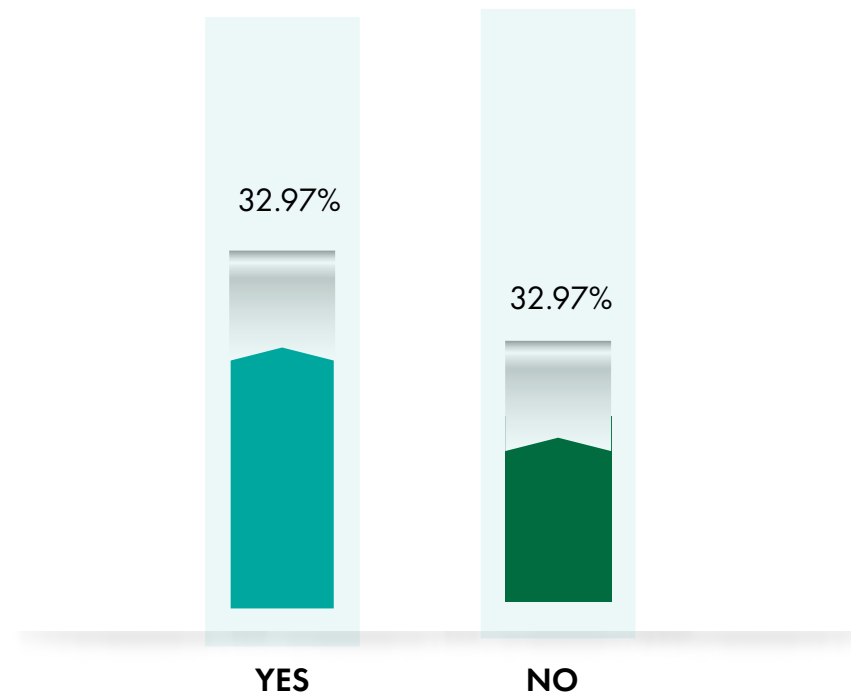
This section dives deeper to give the analysis of the Entrepreneur Support Organizations (ESOs) who included the makerspaces, hubs, accelerators, incubators, innovation centre/house, university/college hub/lab, consultancy, co-working spaces.

The section presents the specific findings in areas around Youth, Gender Representation, Location and Sector of Activity.

ESOs Summary

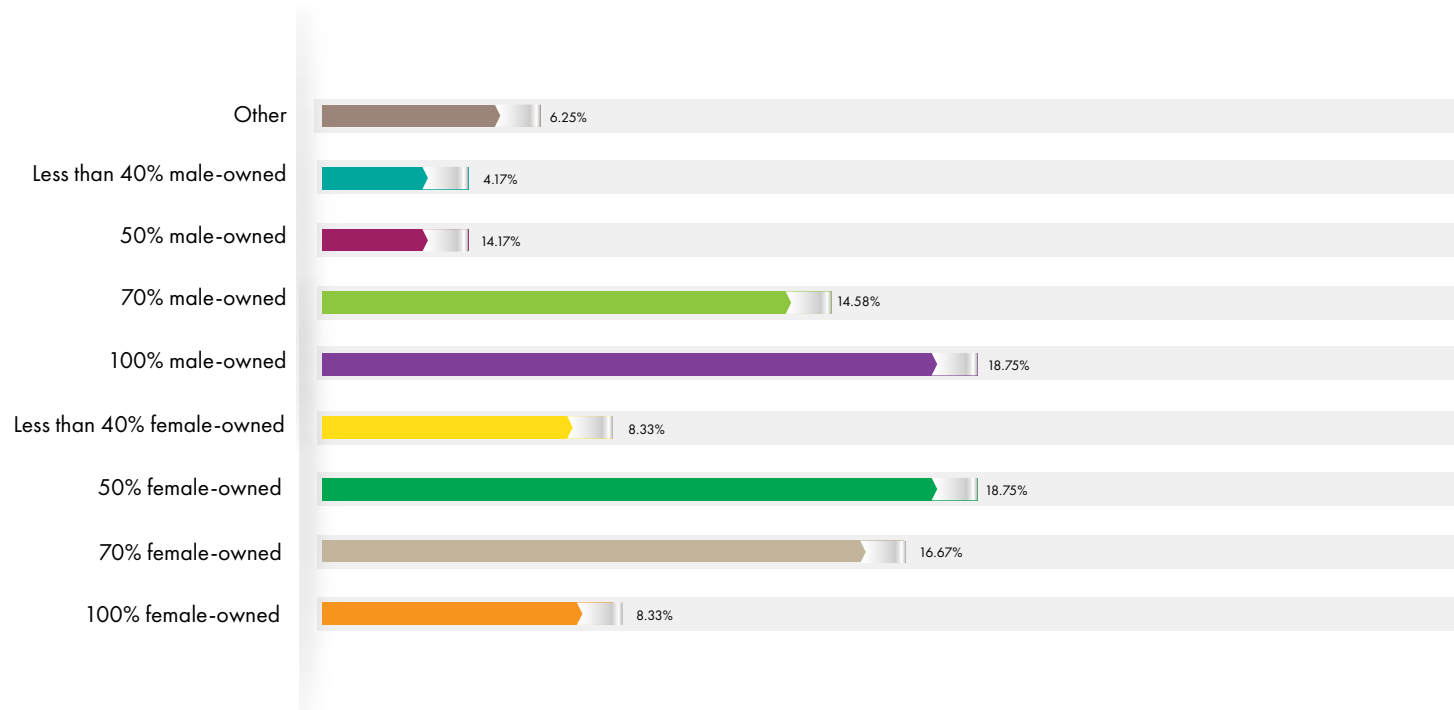


ESOs - Youth -Owned (18-35 years)



ESOs – Gender Representation and Ownership

ESOs – Gender Representation and Ownership



Key Insights

The findings indicates that there is a gender ownership balance. The gender representation is varying by the ownership percentage.

Others Include:

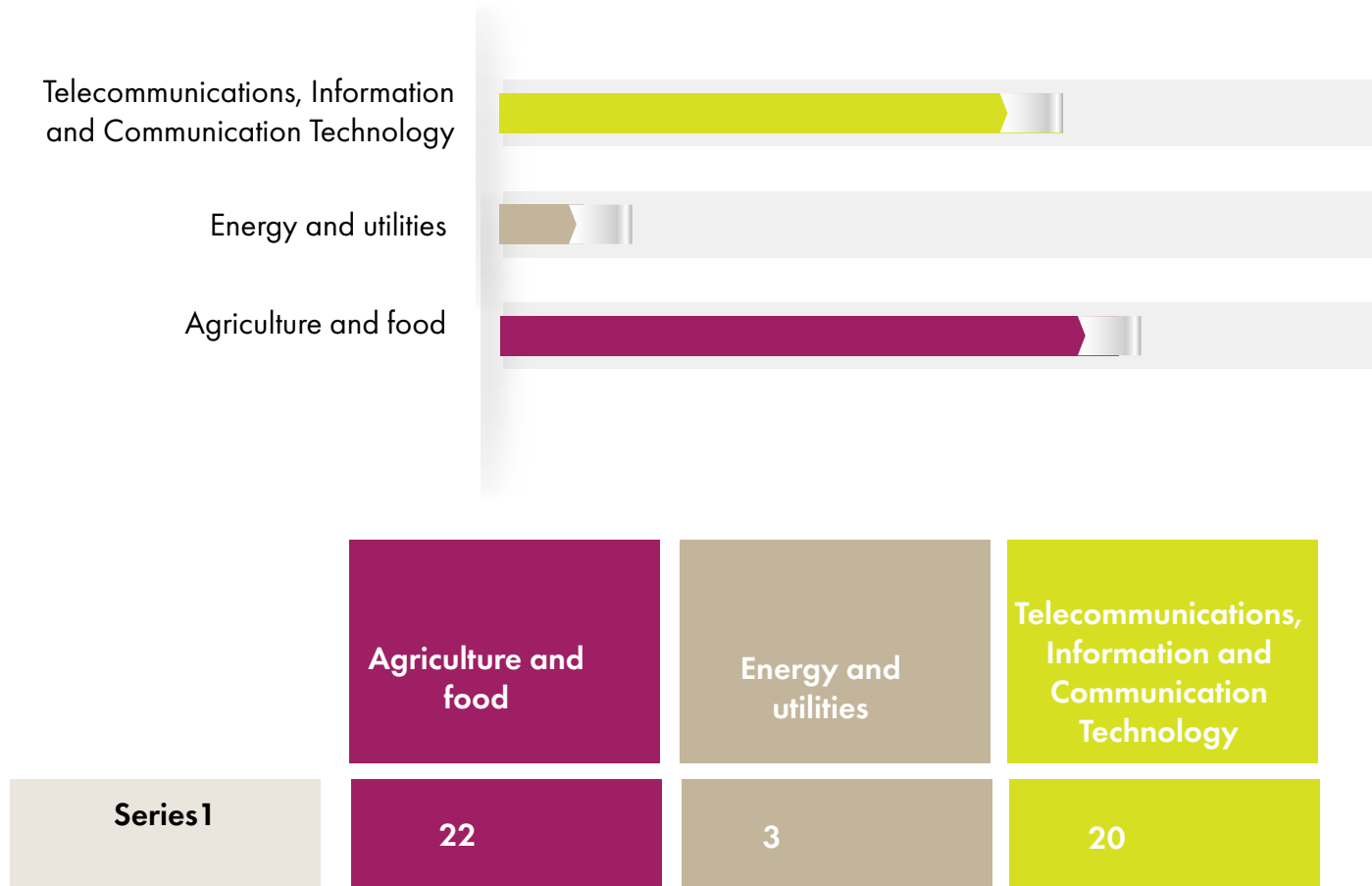
- » University Owned
- » Ratio of Male to Female is **40%** to **60%**
- » Limited Company by Guarantee

ESOs – Sector of Activity

ESOs – Sector of Activity

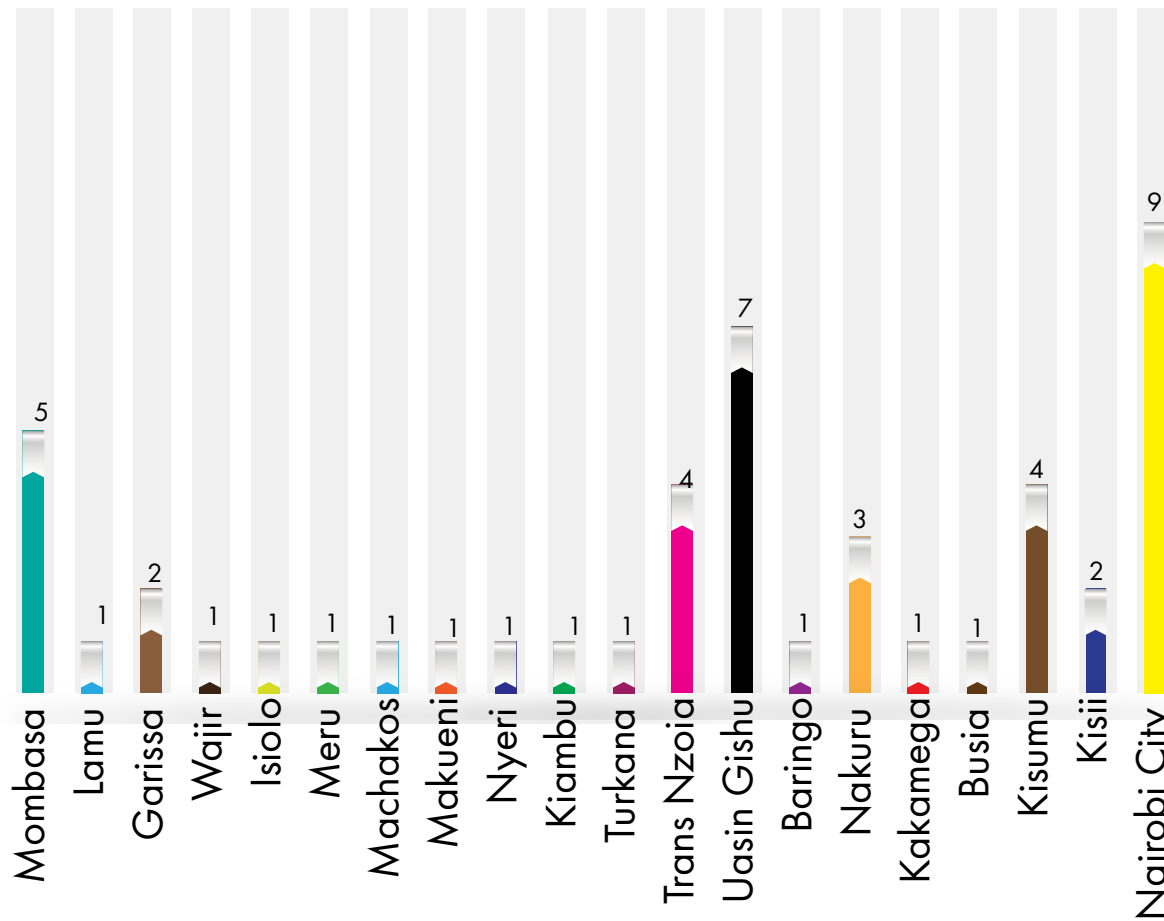
Key Insights

- » ICTs and Agriculture sectors were well represented as compared to the Energy sector.



ESOs – Geographical Location- Count Per County

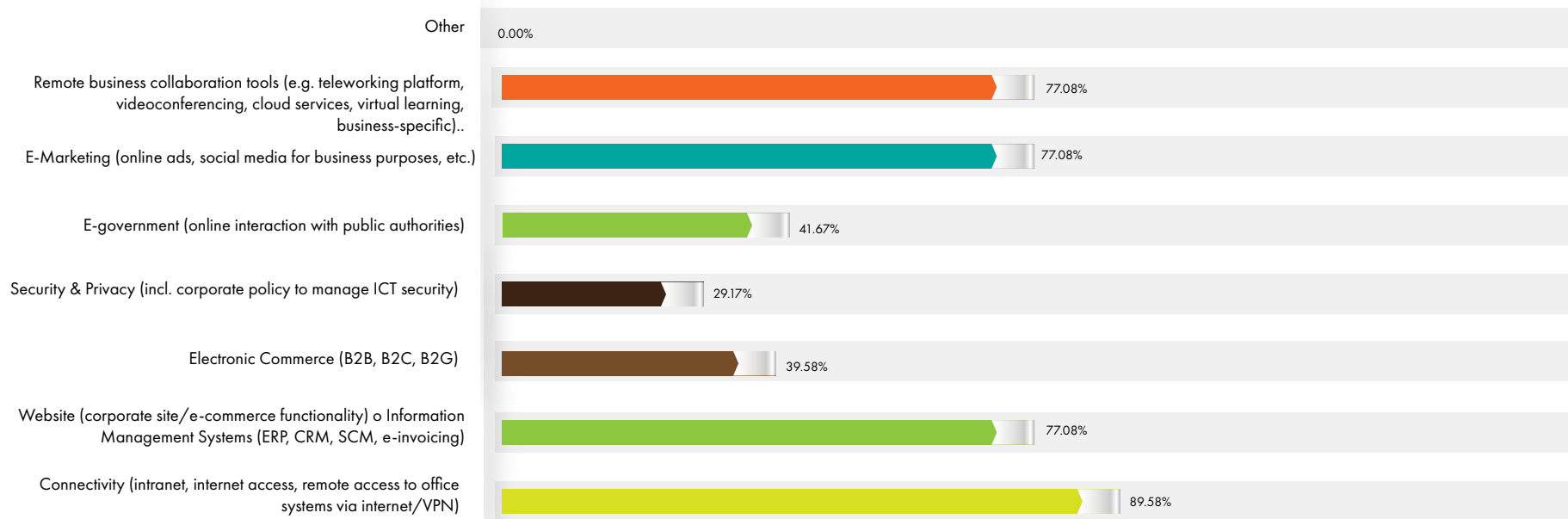
ESOs – Geographical Location- Count Per County



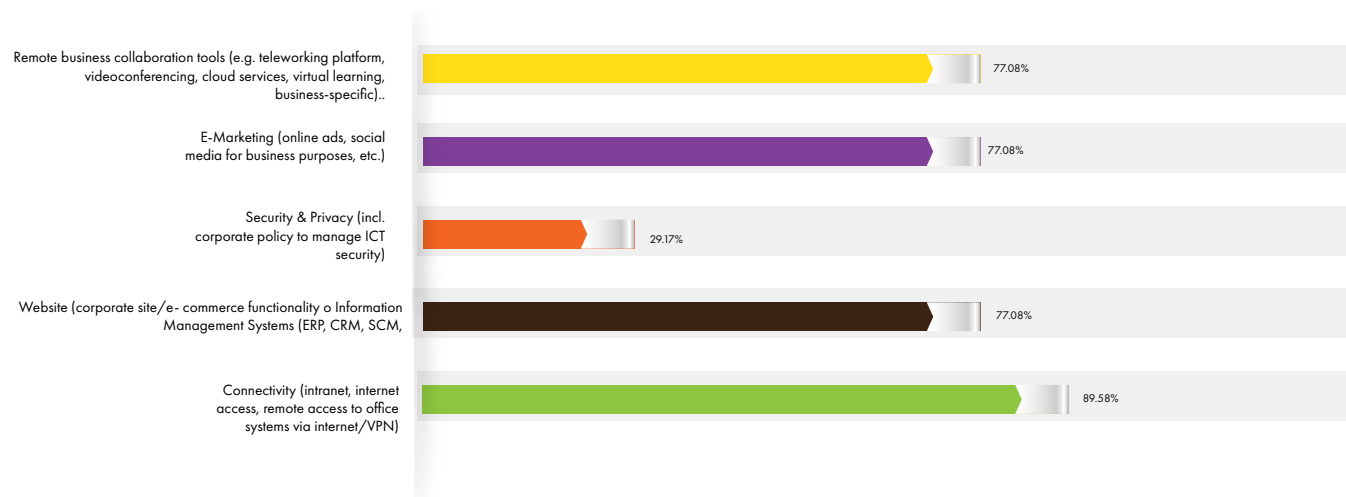
Key Insights

- » Out of the 47 counties in Kenya, only 20 counties are represented by ESOs with Nairobi city, Uasin Gishu , Mombasa , Trans Nzoia and Kisumu Counties recording the highest responses.

ESOs – Digital Readiness & Strategy - ESOs Digital Tools Used



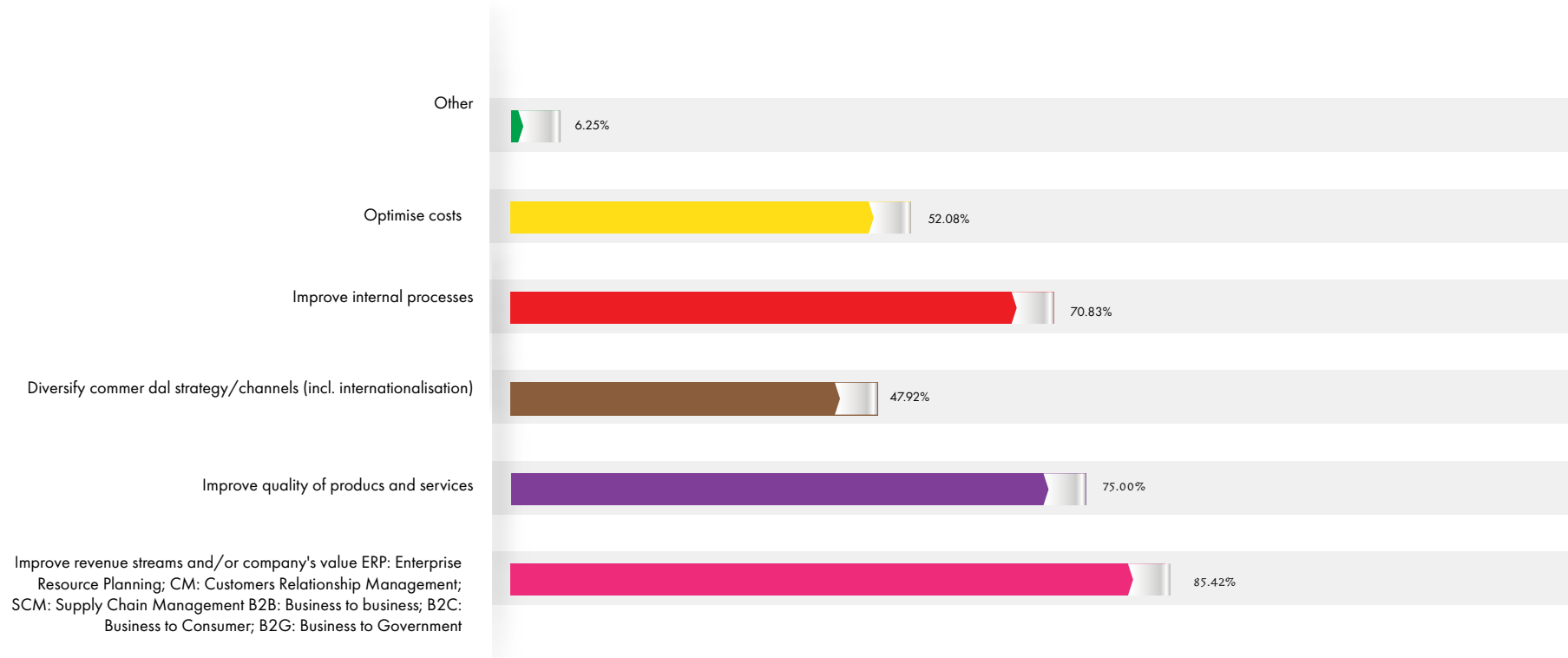
ESOs Digital Tools Used



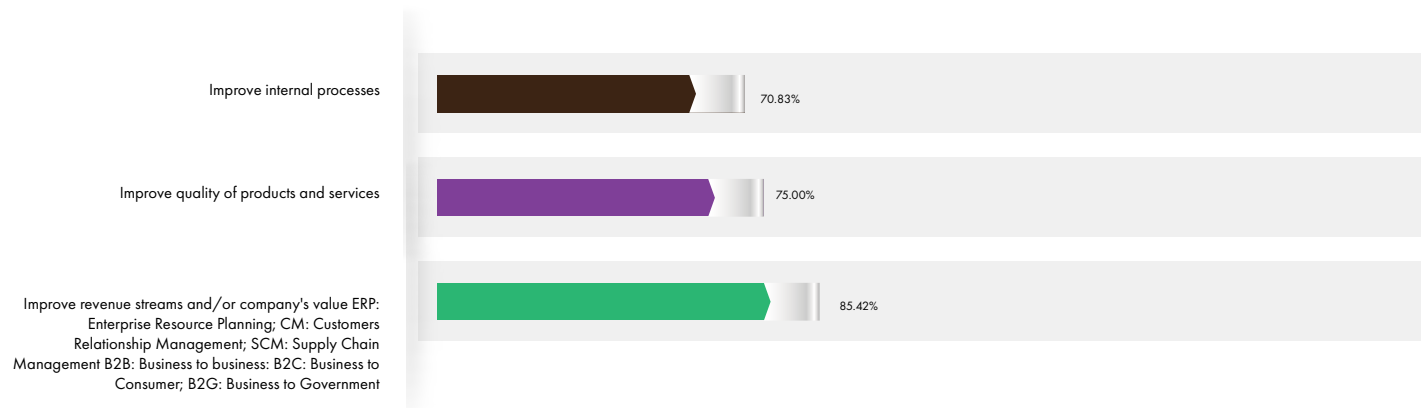
Key Insights

- » Digital tools around security & privacy are not highly used despite the fact that most ESOs are using digital tools. This is an area that needs to be addressed in this era of increased cybercrimes.
- » Majority of digital tools used show how the ESOs are digitally prepared in terms of culture and strategy. The digital tools already in use are around connectivity, websites, e-marketing and remote business collaboration tools.

ESOs expectations in embarking on a Digitalisation process



ESOs expectations from embarking on a Digitalisation process



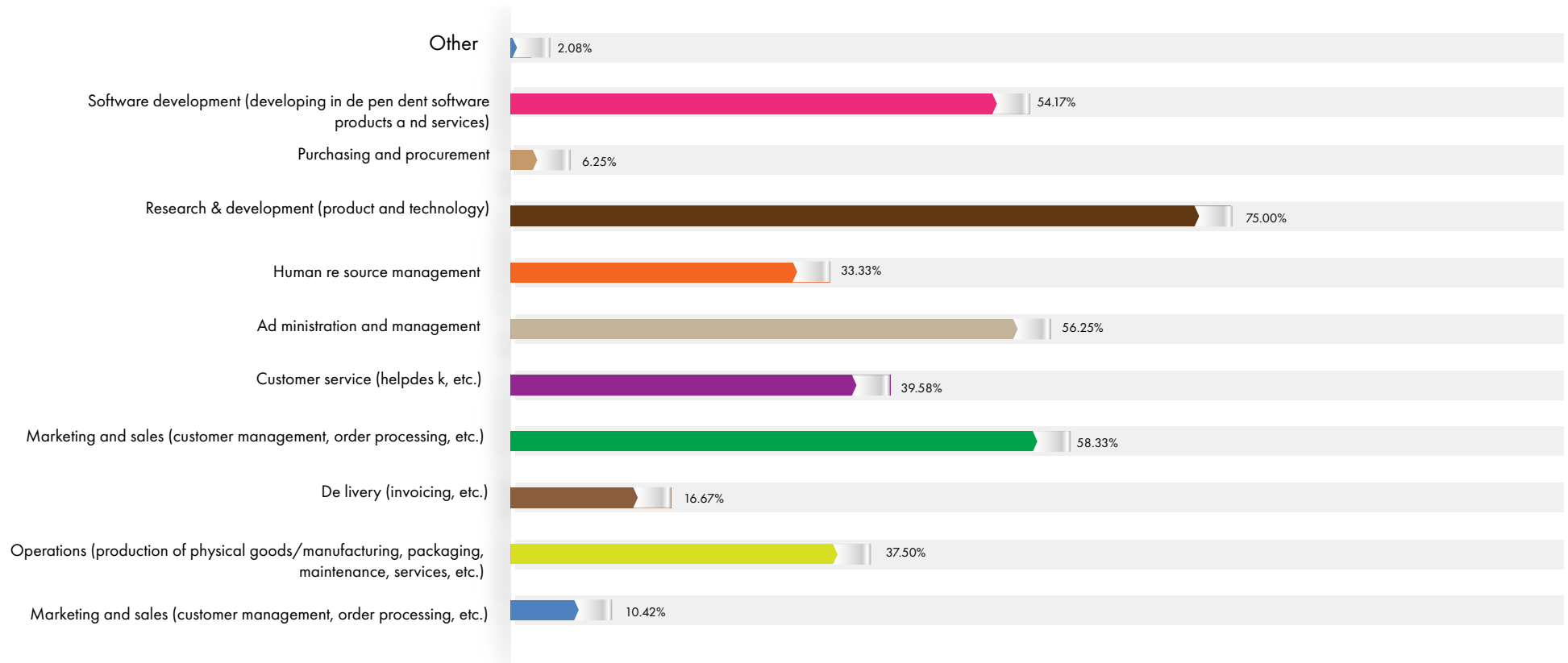
Key Insights

The highest expectation of embarking digitalisation process was to improve revenue streams , quality of goods and services as well as to improve internal process.

Others

- » Maintain retrievable digital records
- » Access to other markets
- » Provide new products/ services

ESO Digital Technologies Application Areas



ESO Digital Technologies Application Areas

Research & development
(product and technology)



75.00%

Marketing and sales
(customer management,
order processing, etc.)



58.33%

Key Insights

One of the highest business application areas is around Research and Development and Marketing and sales.

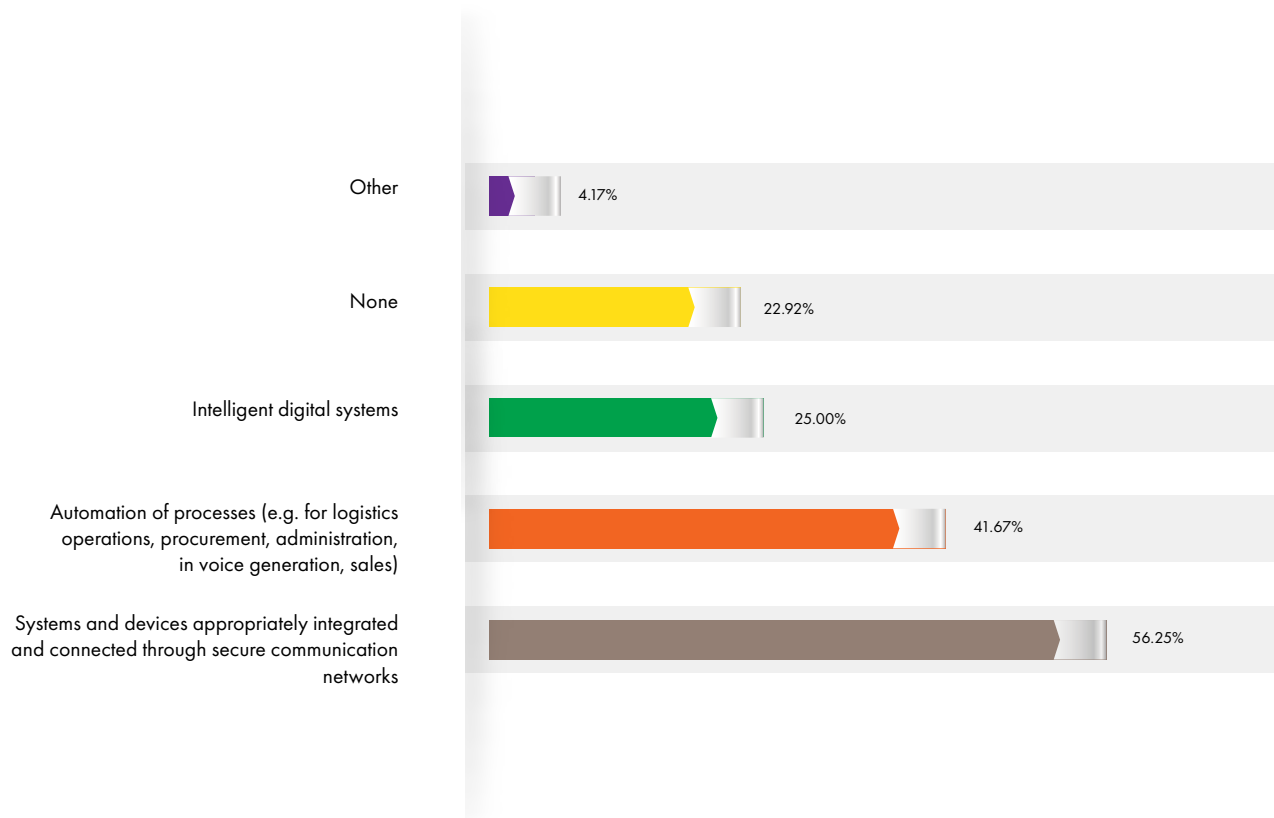
Others

- » Decision making to enhance human centred design and solutions process.

Entrepreneur Support Organizations (ESOs)

ESOs – Automation & AI

ESOs Digital Technologies Already in Place



Key Insights

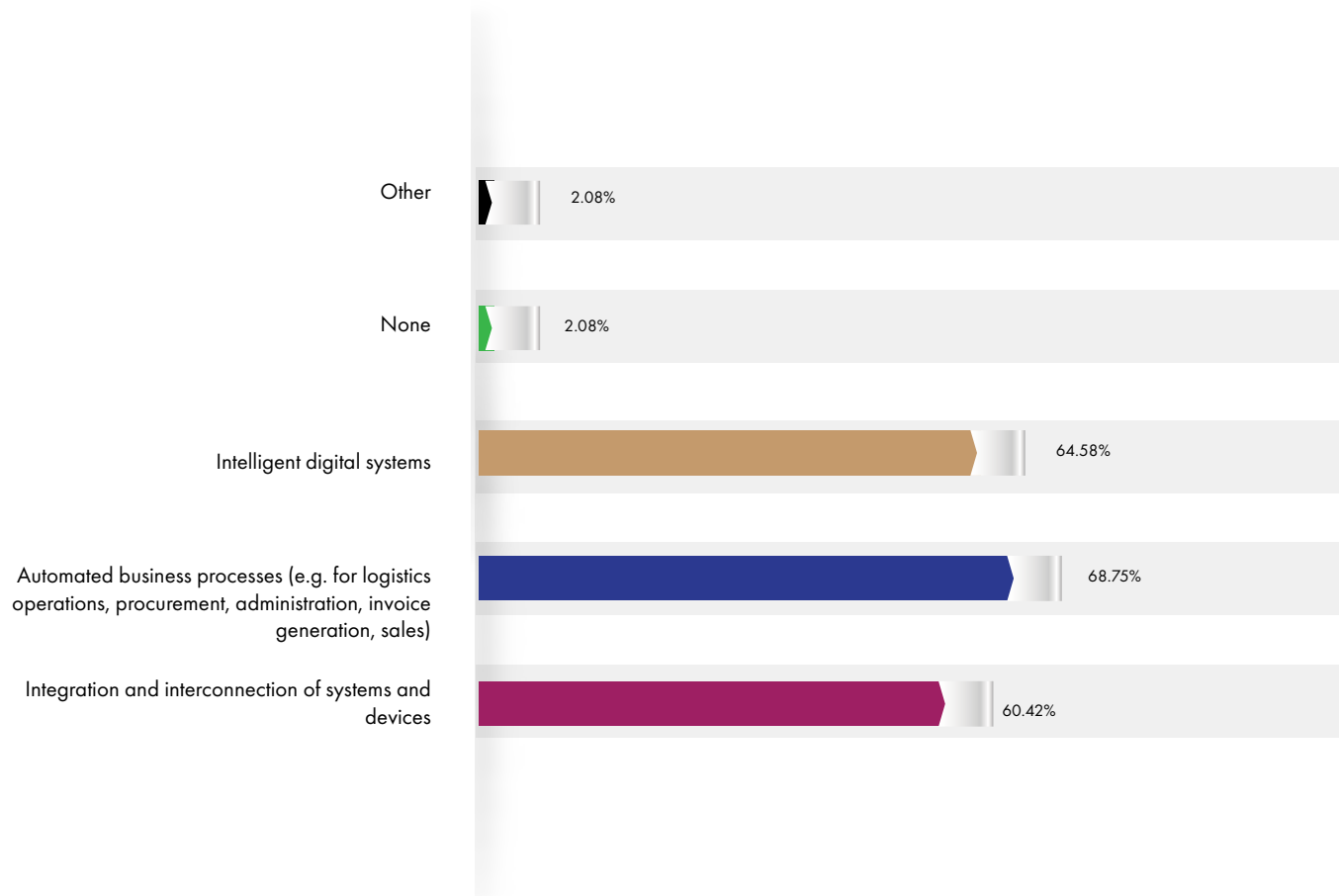
One of the highest business application areas is around Research and Development and Marketing and sales.

Others

- » Decision making to enhance human centred design and solutions process.

ESOs – Automation & AI

ESO Digital Technologies Adoption Areas/ Improvement



Key Insights

Automation & AI adoption is high with an average of at least 64% having automated their processes.

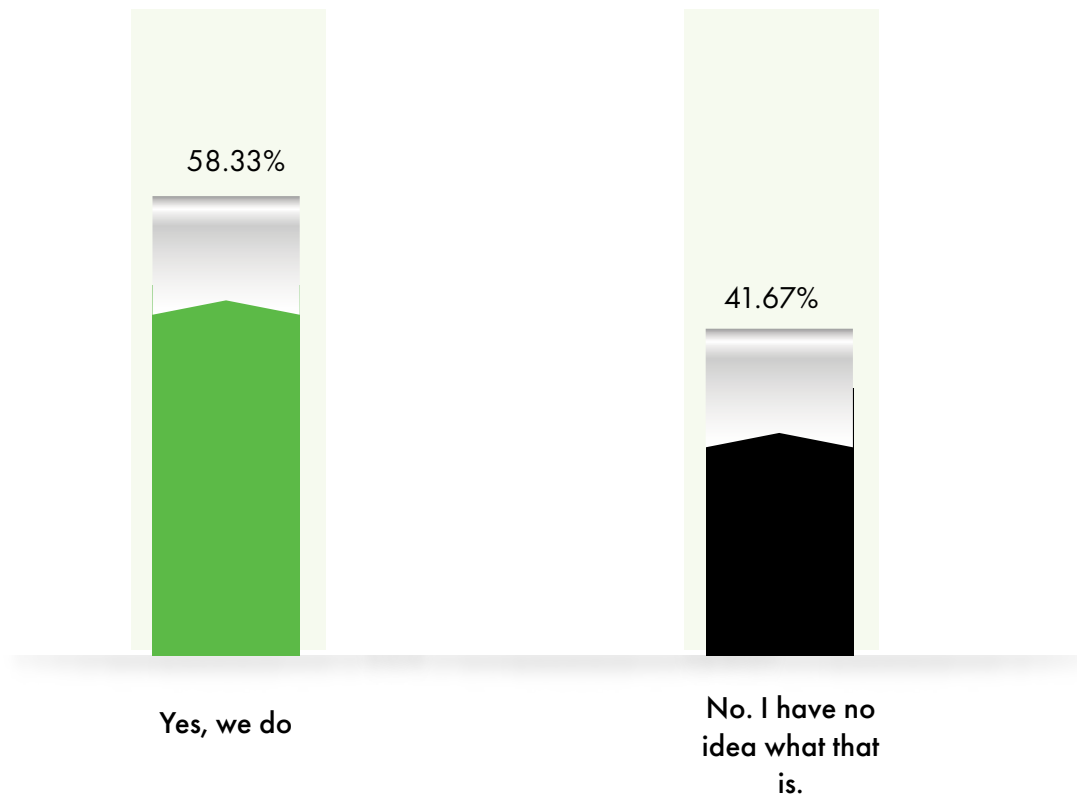
Others

- » CRM, data and insights tools for impact

Entrepreneur Support Organizations (ESOs)

ESOs – Green Business Practices

ESOs Internal ESG policies to guide green practices

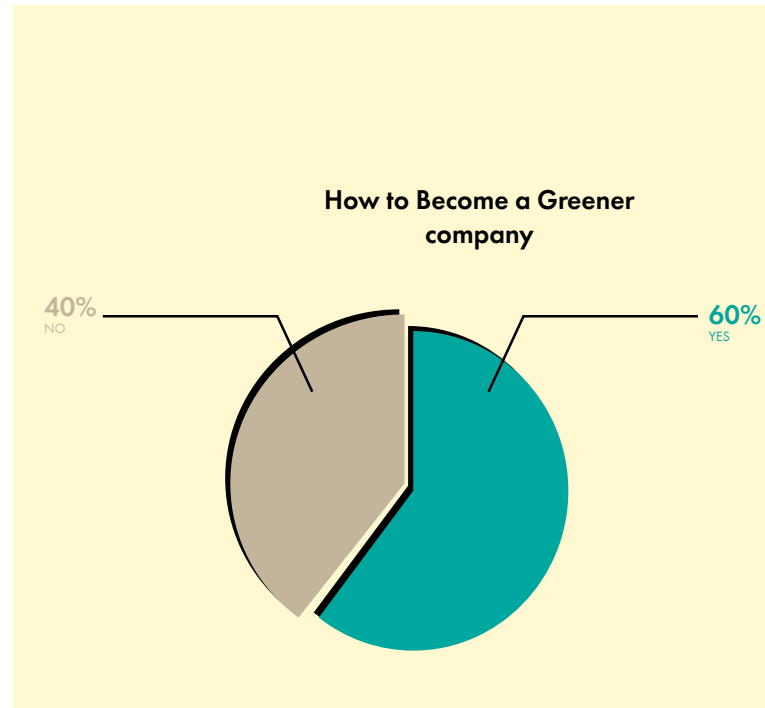
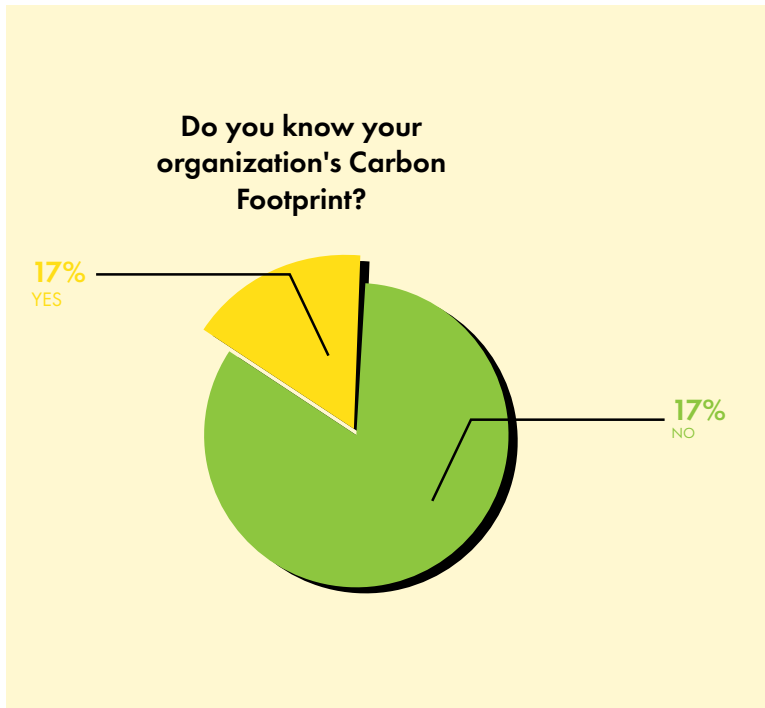


Key Insights

- » 41% have no ESG policies and have no idea what they are.

ESOs – Green Business Practices

ESOs – Green Business Practices



Key Insights

- » Most of the ESOs (83%) do not know their organization's carbon footprint even though 60% say they know on how they can become a greener company.

“Slide 67 on the original PPT is missing some data”

Entrepreneur Support Organizations (ESOs)

ESOs – Green Business Practices

DIH Services Useful to ESOs



Key Insights

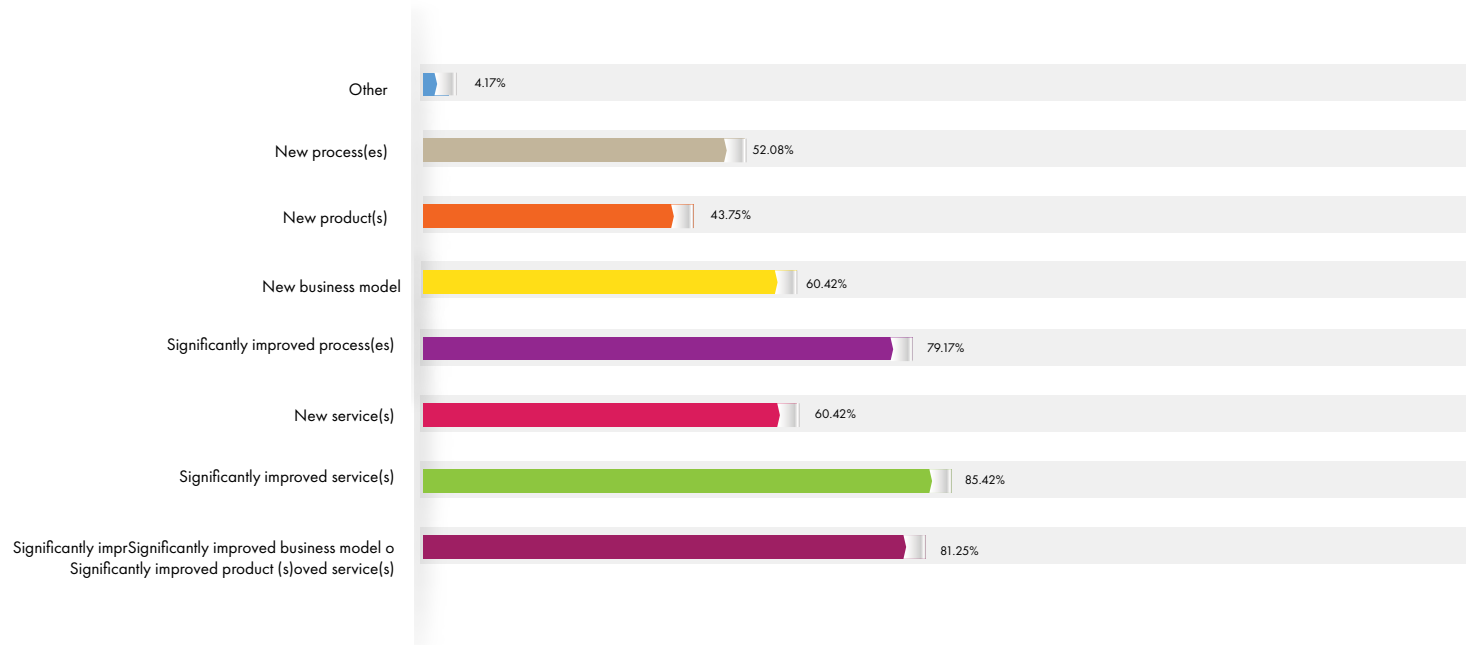
There is need for support in all the areas as shown from the findings. These are actually the 4 dimensions that the green digital innovation hub is seeking to address.

Others

- » Assist digitize existing businesses to help them expand and also unlock more opportunities for the tech survey youths
- » Establishing a Digital Innovation Hub
- » Help improves on green innovation
- » Business development support

ESOs – Digitalisation Support

ESO expectations from digitalisation



Key Insights

» ESOs have the expectations that digitalisation will significantly improve their business model and improve products, services and processes .

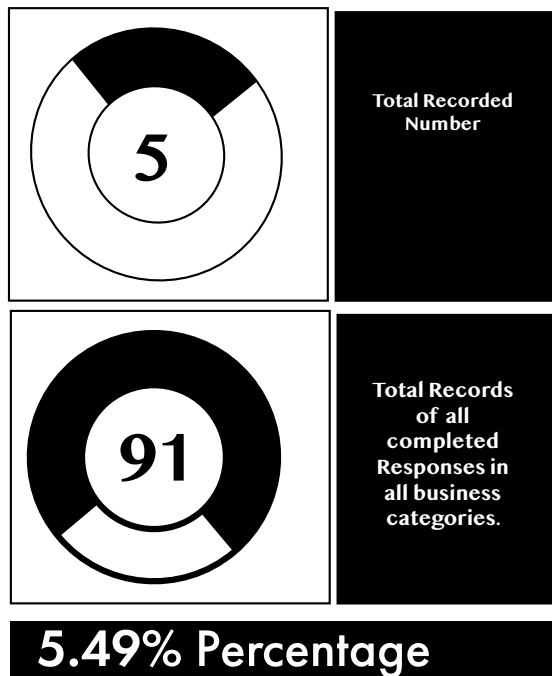
**The Micro, Small and
Medium Enterprises
(MSMEs)**

The Intermediaries

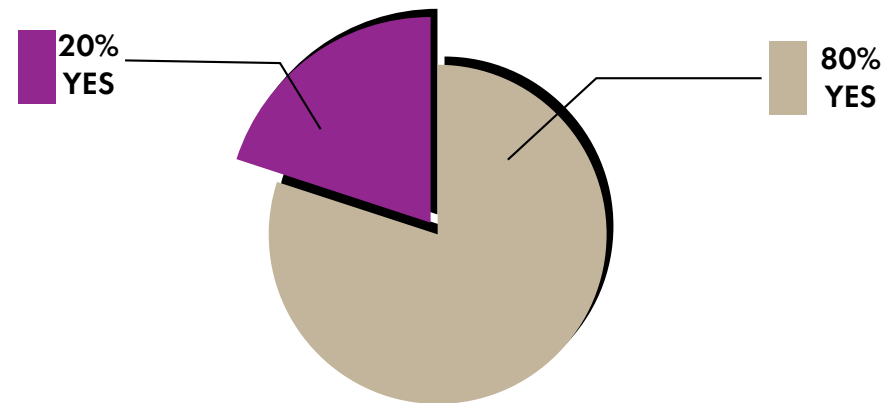
Nature of the Intermediaries

This section dives deeper to give the analysis of the intermediaries who included member-based association supporting entrepreneurs/start-ups. The section presents the specific findings in areas around Youth, Gender Representation, Location and Sector of Activity

Intermediaries Summary



Intermediaries - Youth Representation



The Intermediaries

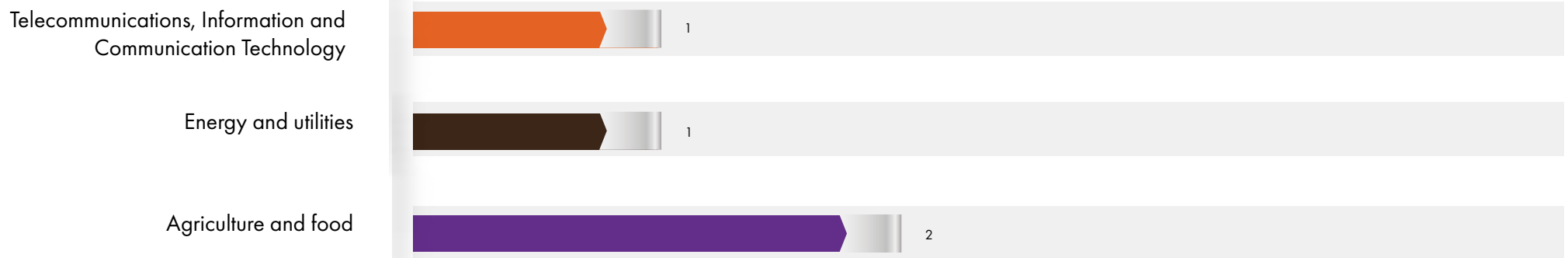
Intermediaries - Gender Representation



Key Insights

- » The findings indicate that none of the intermediaries have male –ownership with the percentages provided. These could have ever fall in the 20%. Female ownership in the given percentages took the lead..

Intermediaries - Sector of Activity

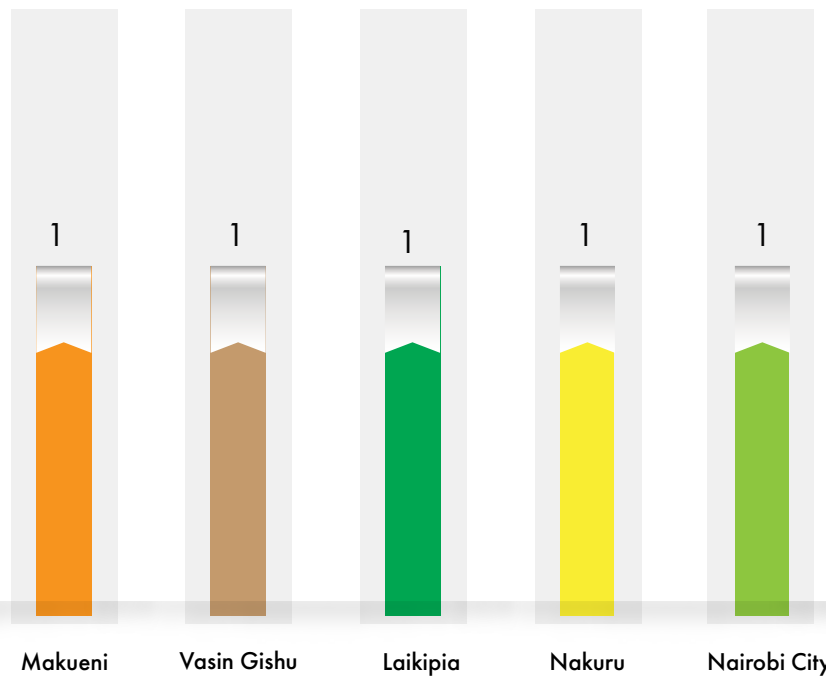


Key Insights

- » In terms of the 3 gDIH sectoral focus areas, Agriculture sector is the top sector while the Energy and ICT sectors are at par for the Intermediaries category.

The Intermediaries

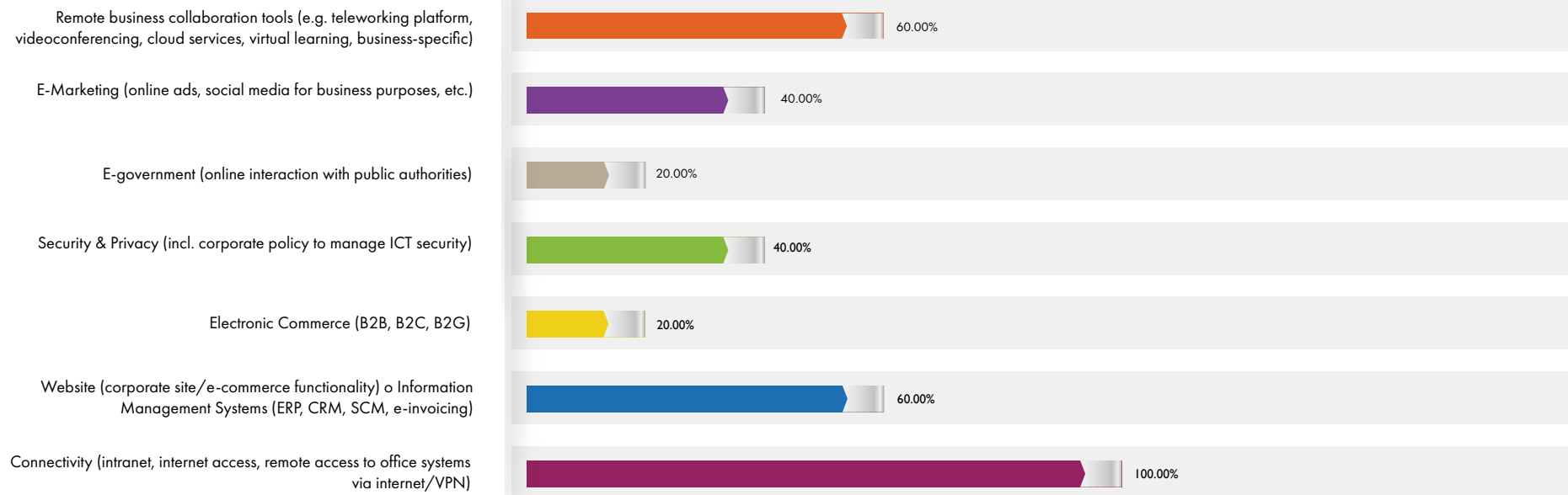
Intermediaries - Geographical Location- Count Per County



Key Insights

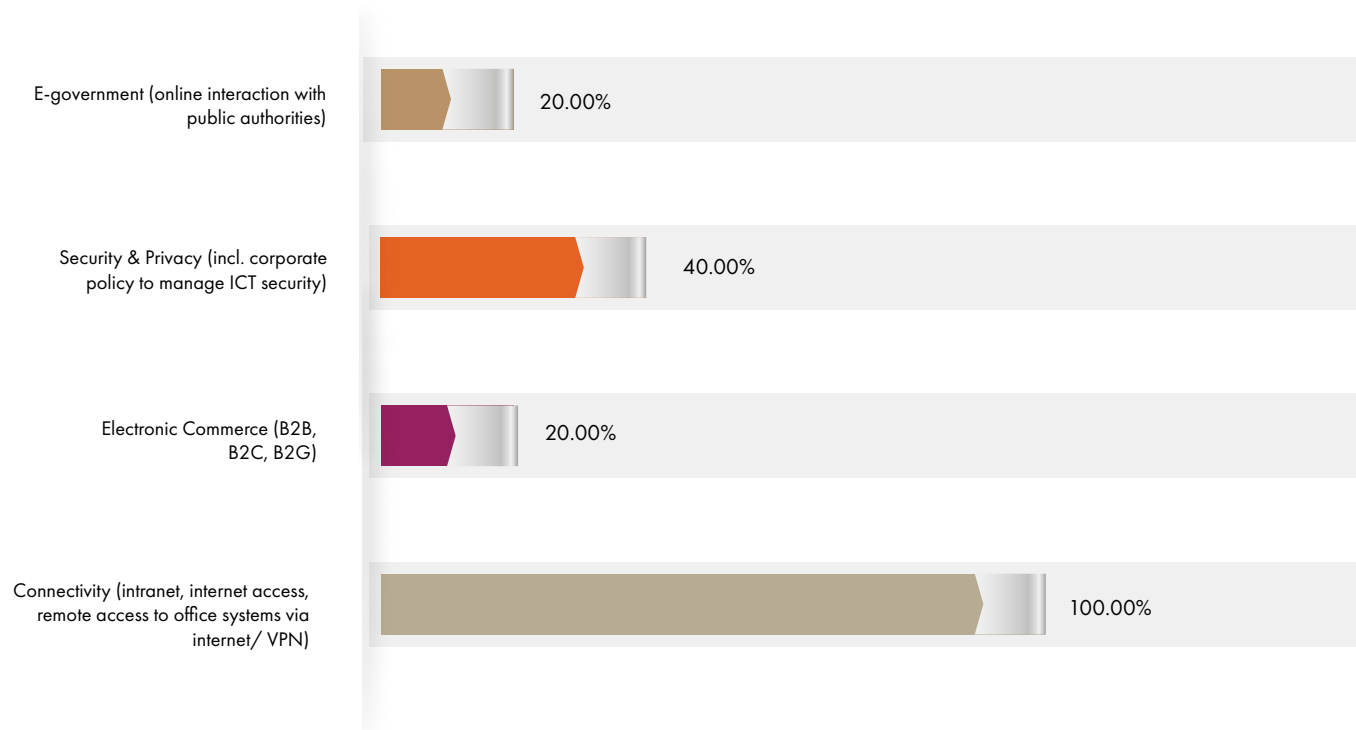
- » Out of the 47 counties in Kenya, only 5 counties were represented in the Intermediaries category. All the counties have equal count.

Intermediaries – Digital Readiness & Strategy



Intermediaries – Digital Readiness & Strategy

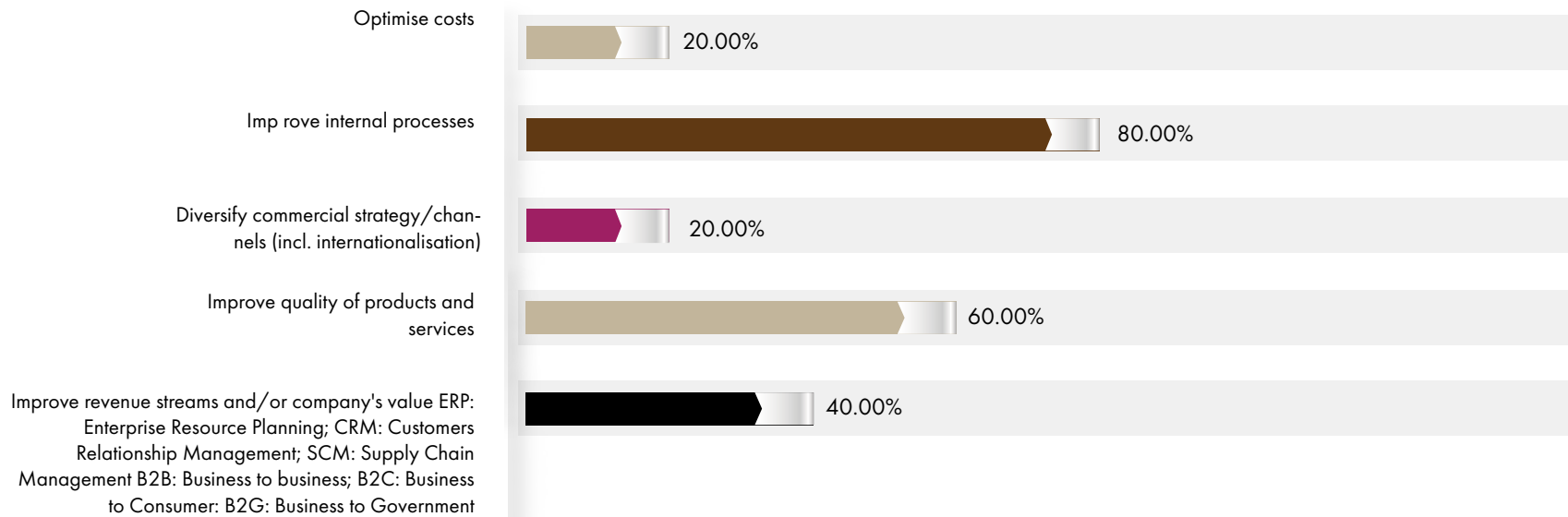
ESOs expectations in embarking on a Digitalisation process



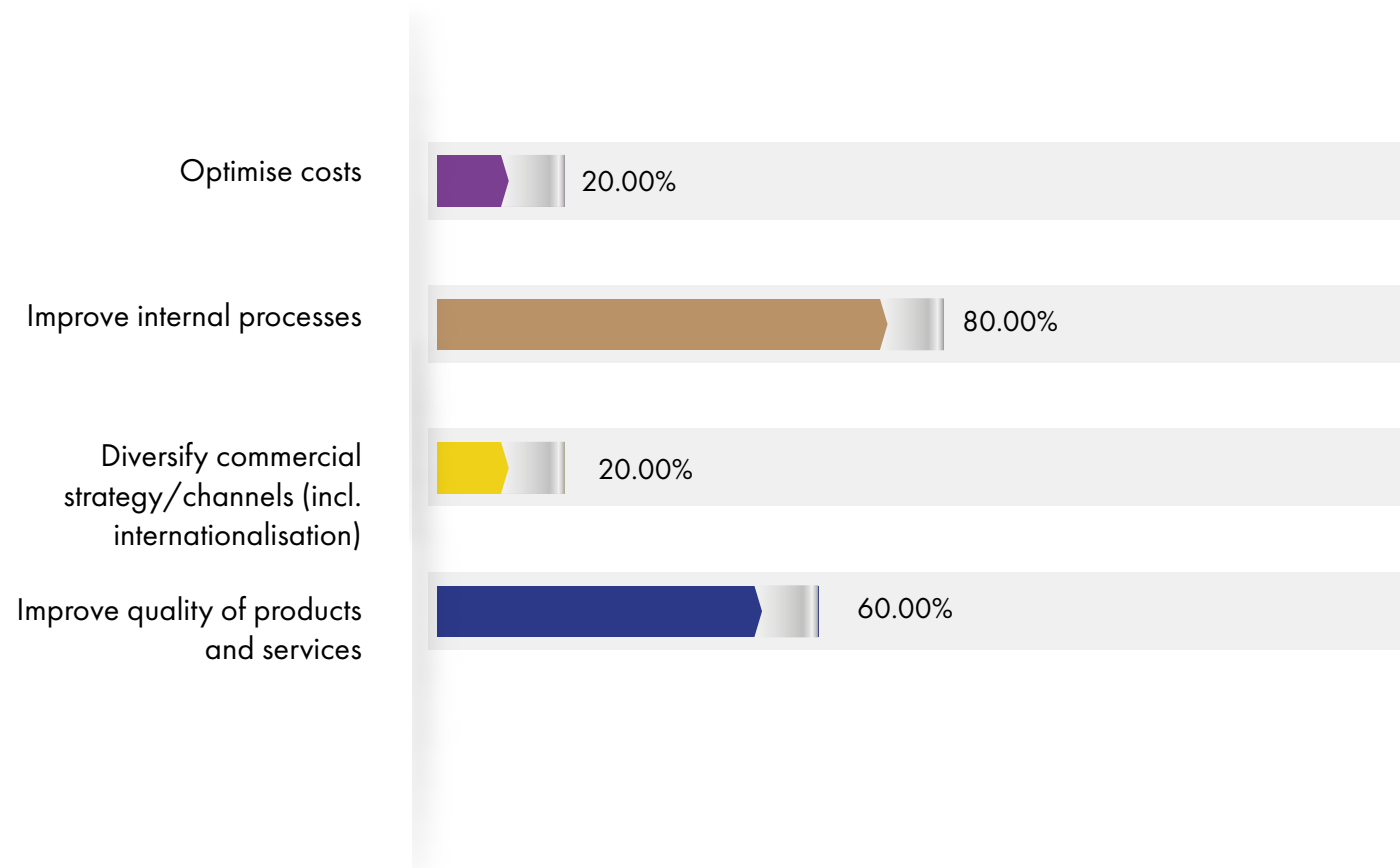
Key Insights

- » Digital tools around E-government and E-commerce were the least used. However, security and privacy tools are relatively more used compared to ESOs. The internet connectivity tools are the highest used at 100%.
- » The fact that majority of the digital tools are used implies that the intermediaries are digitally prepared in terms of culture and intensity.

Expectations to embark Digitalisation process



Expectations to embark Digitalisation process

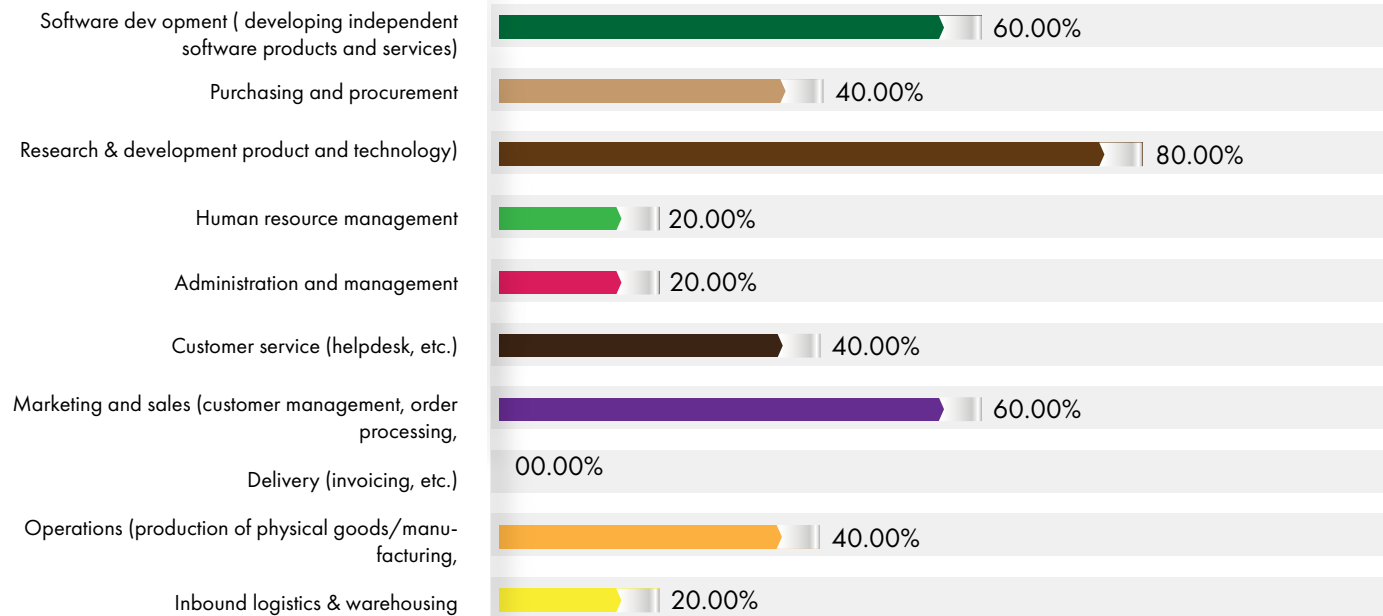


Key Insights

- » The highest expectation in embarking in a digitalisation process was to improve revenue streams , quality of goods and services as well as to improve internal process. Optimising costs and diversifying commercial are not the most key things for the intermediaries to embark on a digitalisation process.

The Intermediaries – Digital Readiness & Strategy

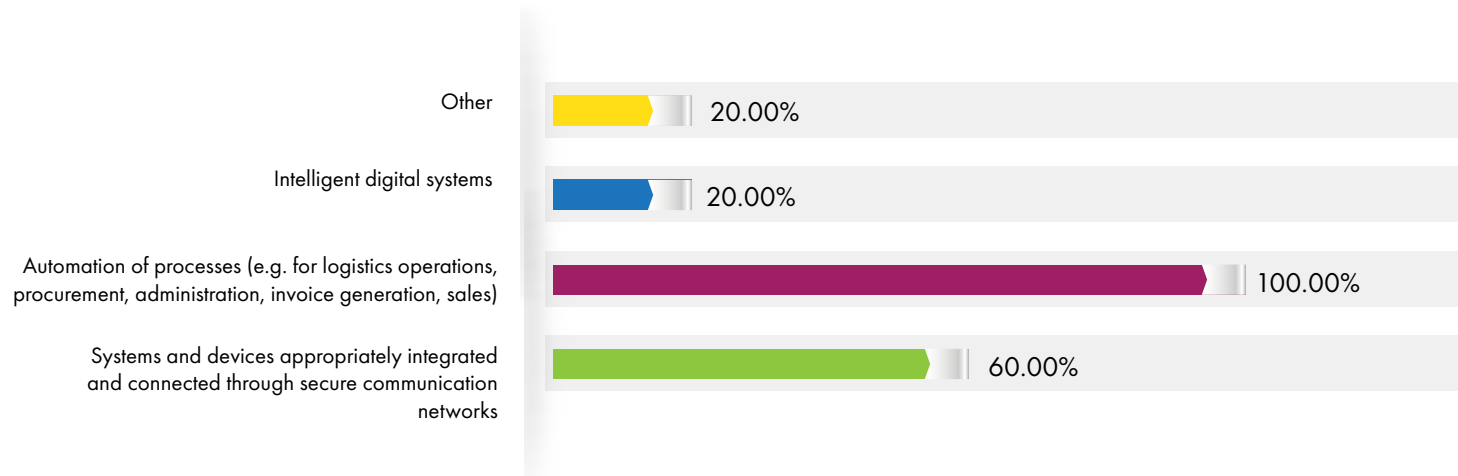
Digital Technologies Application Areas



Key Insights

- » One of the highest business application areas is around Research and Development at 80%.

Digital Technologies Already in Place



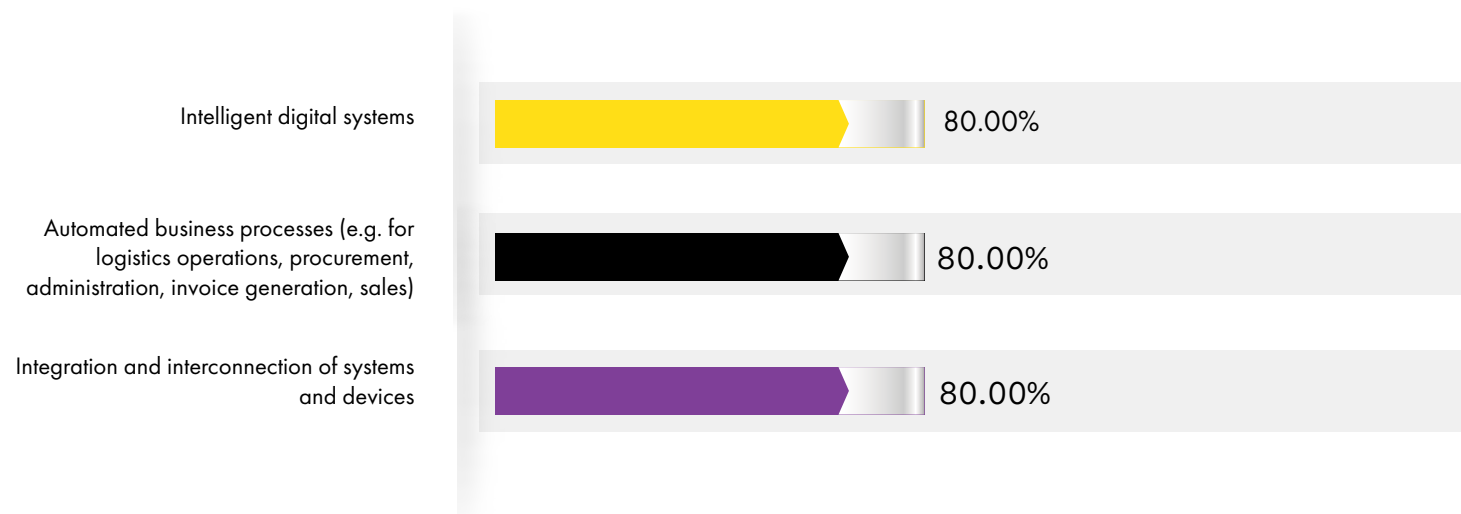
Key Insights

- » 100% of intermediaries have automation processes while 60% have systems and devices integrated and connected and automation of processes.

Others

- » Digital communication channels including social media, website, work planning, emailing and conferencing systems.

Which of the following does your company plan/expect/wish to adopt in the near future?

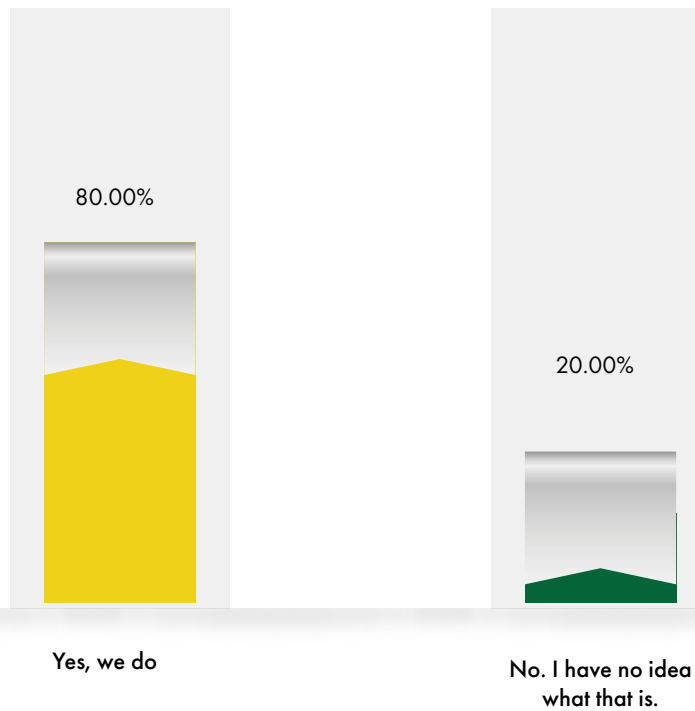


Key Insights

- » Automation & AI adoption is high at 80% in all 3 areas mentioned.

Intermediaries – Green Business Practices

Internal ESG policies to guide green practices

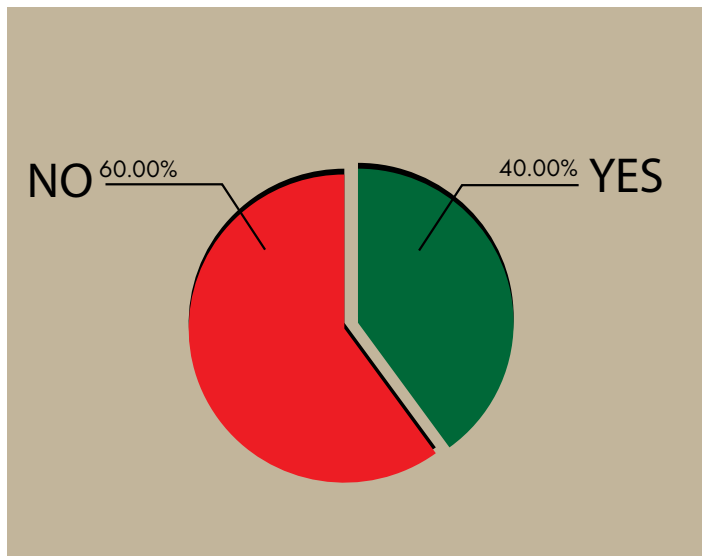


Key Insights

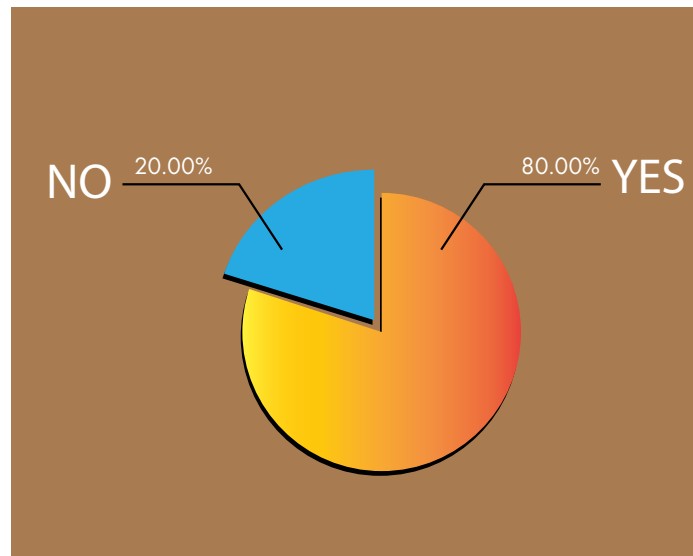
- » Most Intermediaries have the ESG policies

Intermediaries - Green Business Practices

Do you know about your Organization's Carbon Footprint?



Knowledge on how to become green company

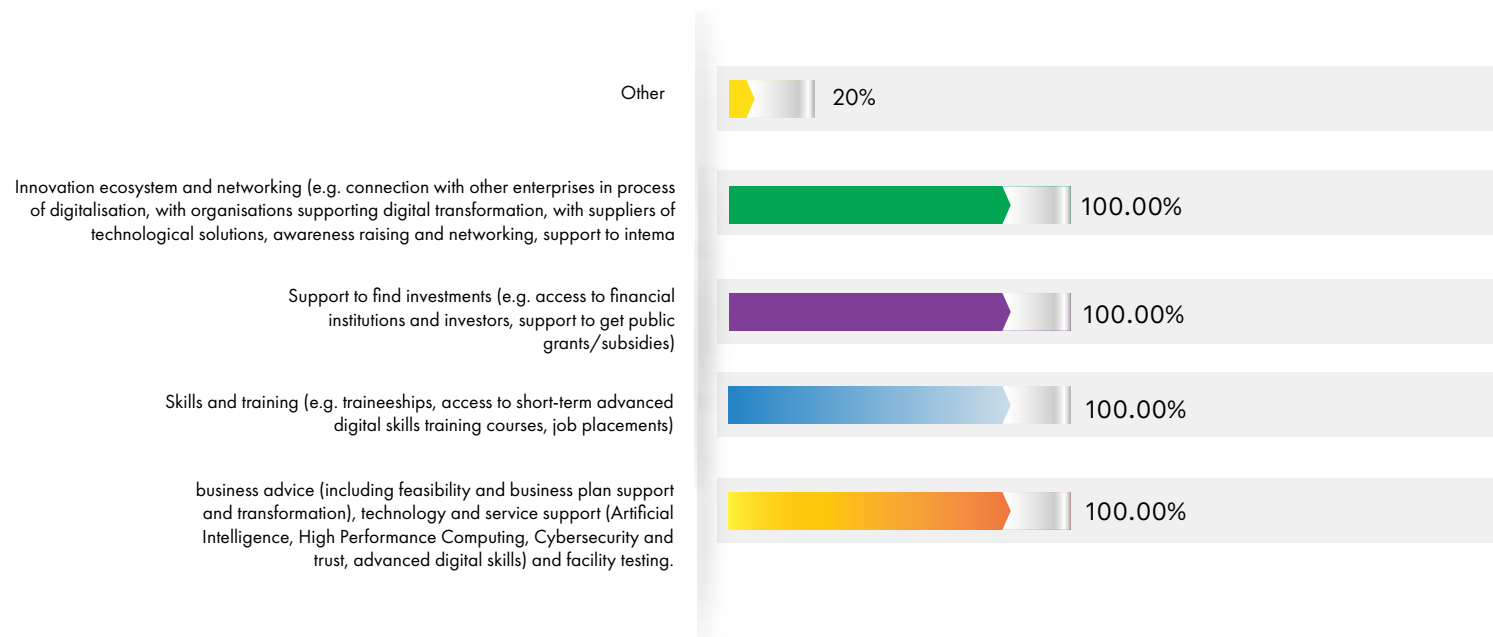


Key Insights

- » Most of the Intermediaries know their carbon footprint and they also know on how they can become a greener company.

Intermediaries – Digitalisation Support

DIH services useful to the Intermediaries



Key Insights

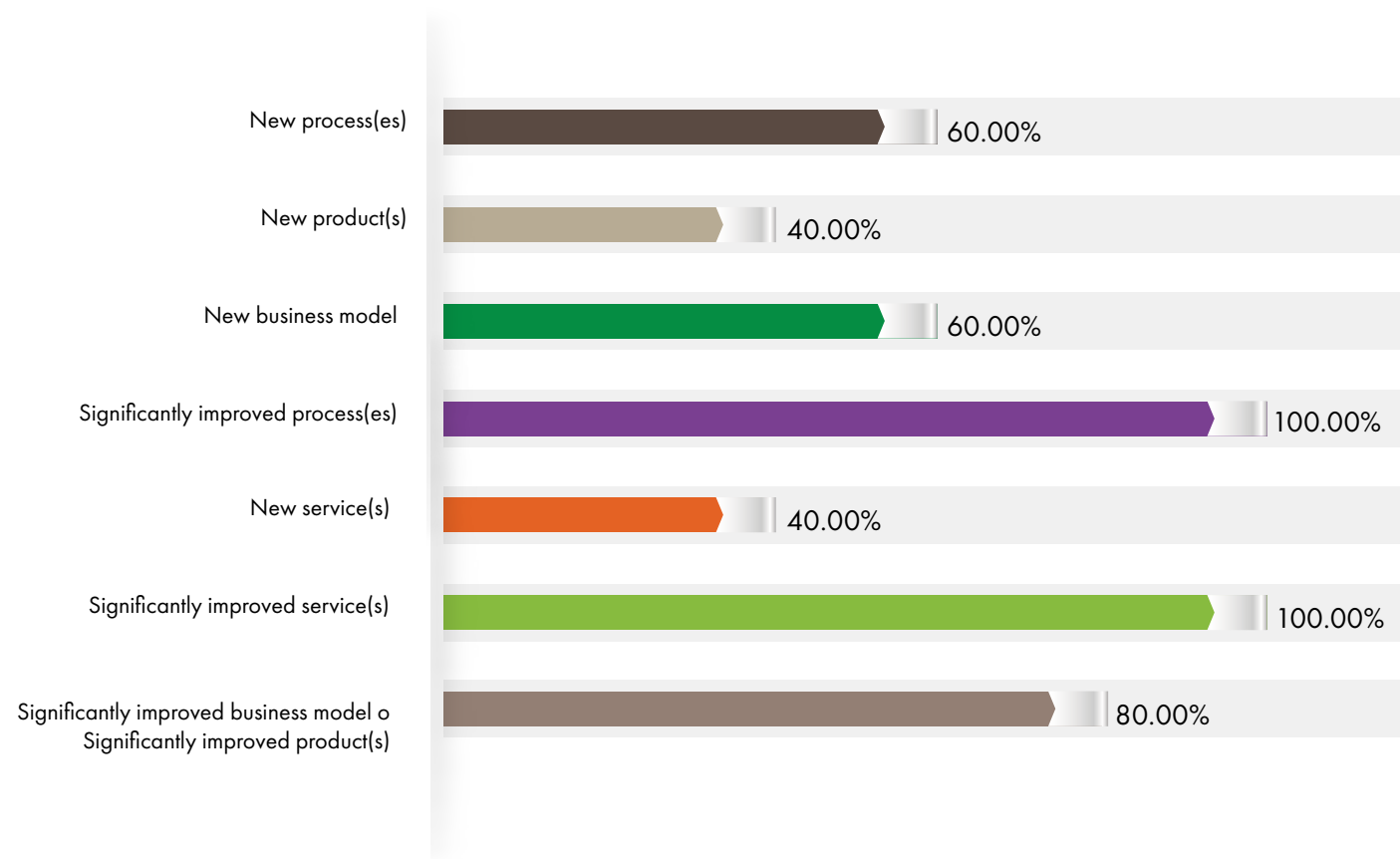
There is need for DIH support

Others

- » As a Government we would be keen in pursuing a partnership that would support strengthen the current county system

Intermediaries – Digitalisation Support

Intermediaries expectations from digitalisation



Key Insights

- » The Intermediaries have high expectations that the digitalisation will significantly improve their business model and improve products, services and processes. However, 40% expect that digitalisation will lead to new products and services.

Entrepreneur Support Organizations (ESOs)

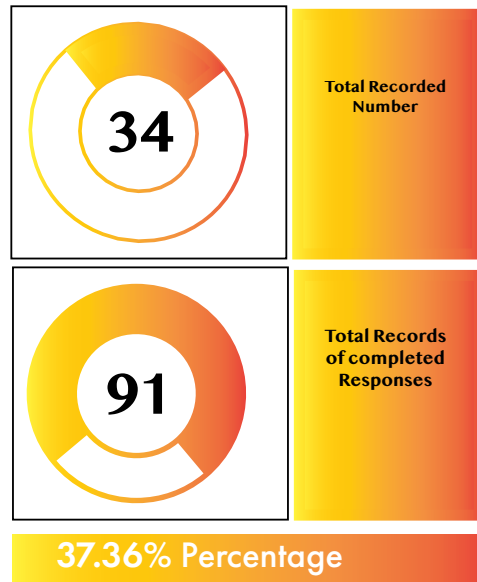
The Micro, Small and Medium Enterprises (MSMEs)

Nature of the MSMEs

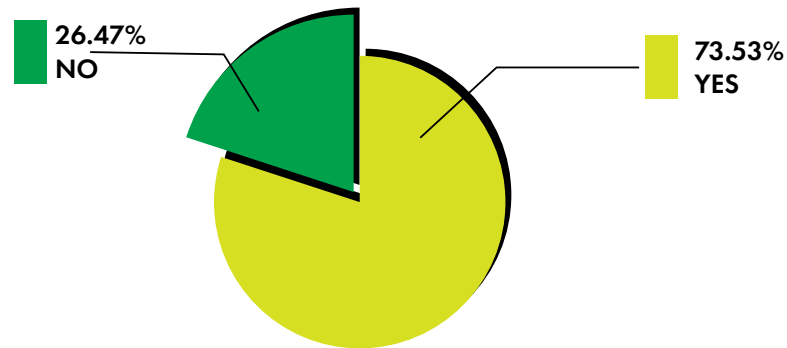
This section dives deeper to give the analysis of the MSMEs who include the Micro, Small and Medium Enterprises. The section presents the specific findings in areas around Youth, Gender Representation, Location and Sector of Activity.

MSMEs - Youth Representation

MSMEs Summary

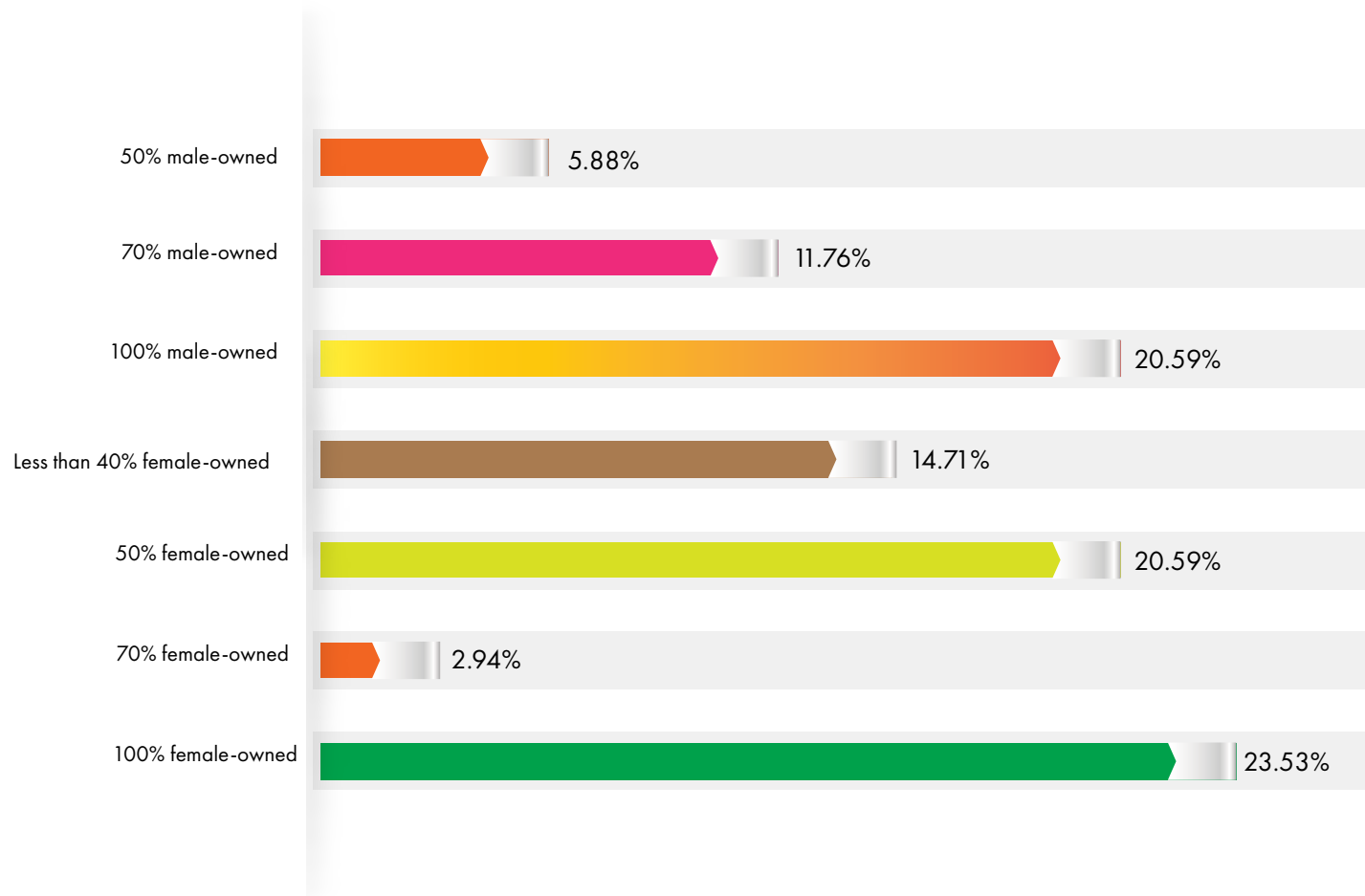


MSMEs Youth-Owned



MSMEs – Gender Representation on the ownership

MSMEs - Youth Representation



Key Insights

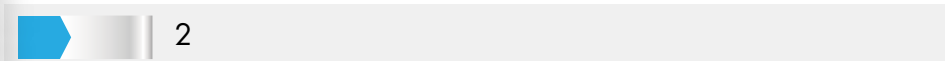
- » The 100% female and male owned are the highest.
- » But the gap starts to appear when the ownership is shared.

MSMEs – Sector of Activity

Telecommunications, Information and Communication Technology



Energy and utilities



Agriculture and food

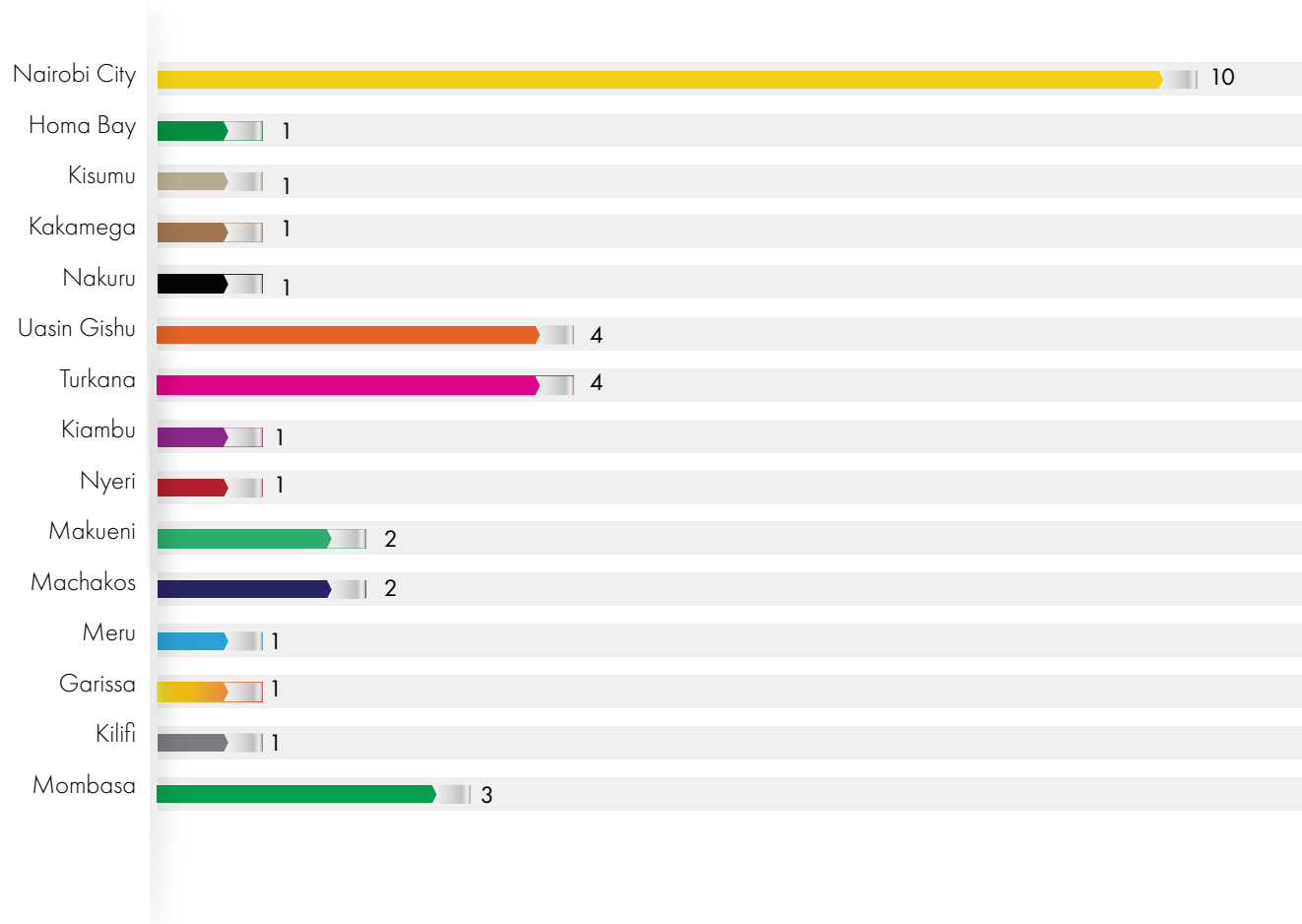


Key Insights

- » Agriculture and ICTs are doing well compared to Energy sector

MSMEs – Digitalisation Support

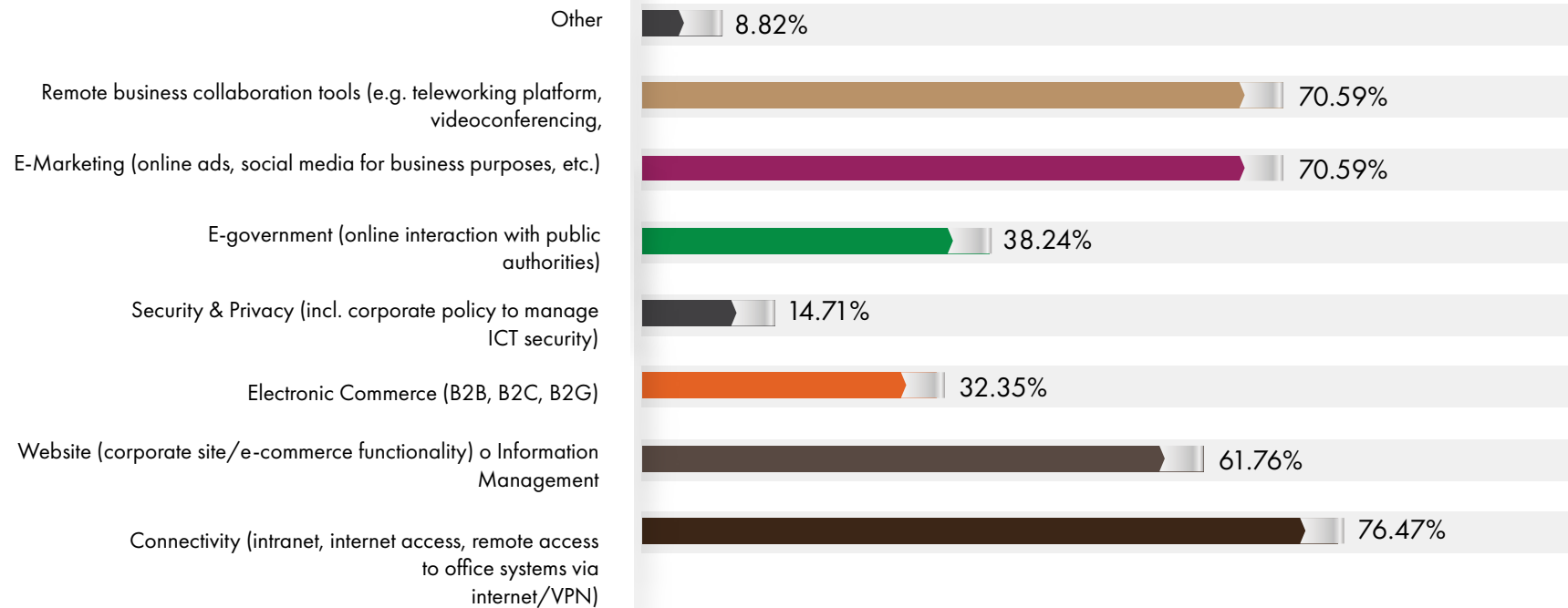
MSMEs – Geographical Location- Count Per County



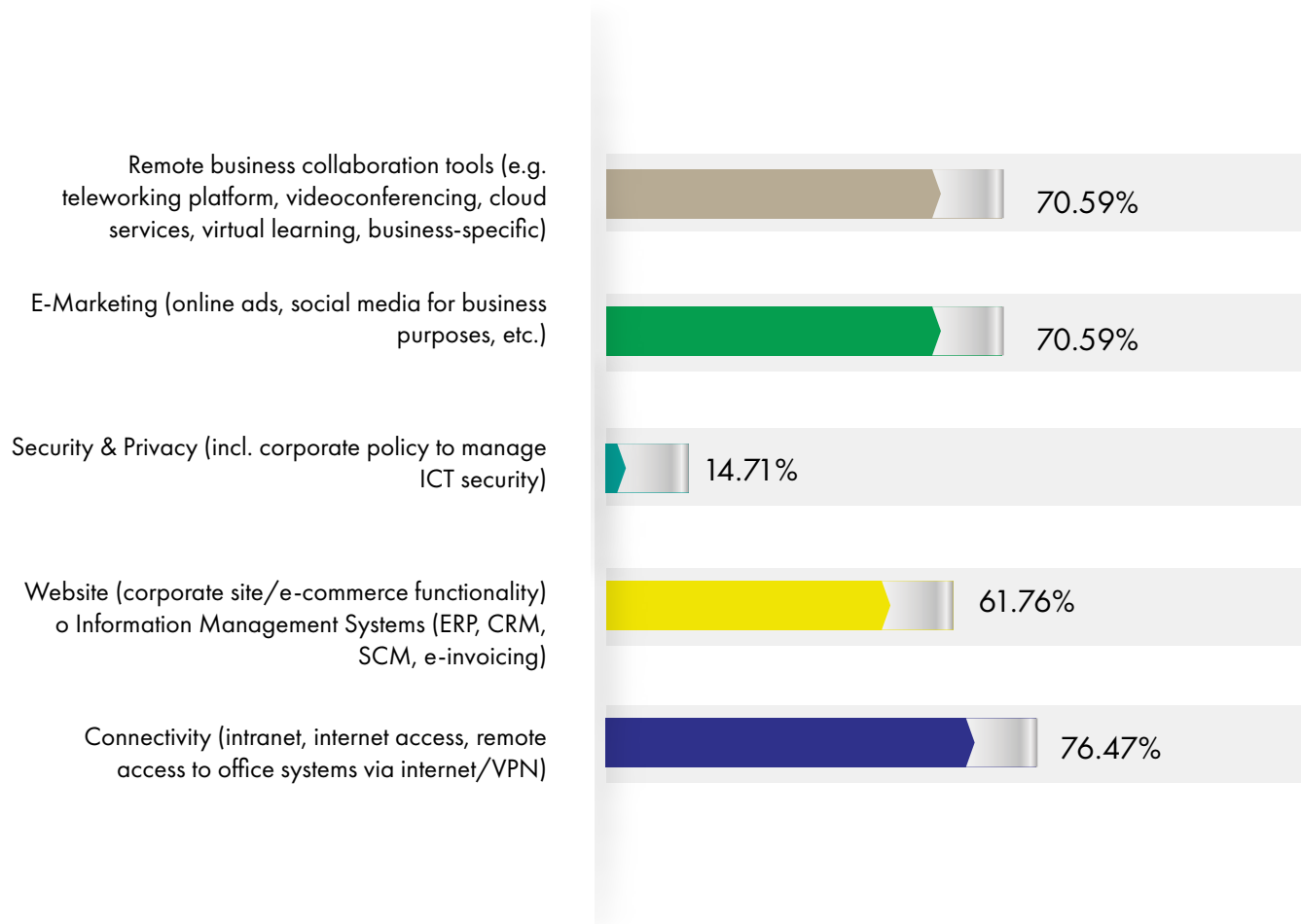
Key Insights

- » Out of the 47 counties in Kenya, only 15 counties is represented by the MSMEs categories. The Nairobi County has the highest Number.

MSMEs Digital Tools Used



MSMEs Digital Tools Used



Key Insights

Digital tools around security & privacy are not highly used, with internet connectivity, remote collaboration, E-marketing and website scoring highly used.

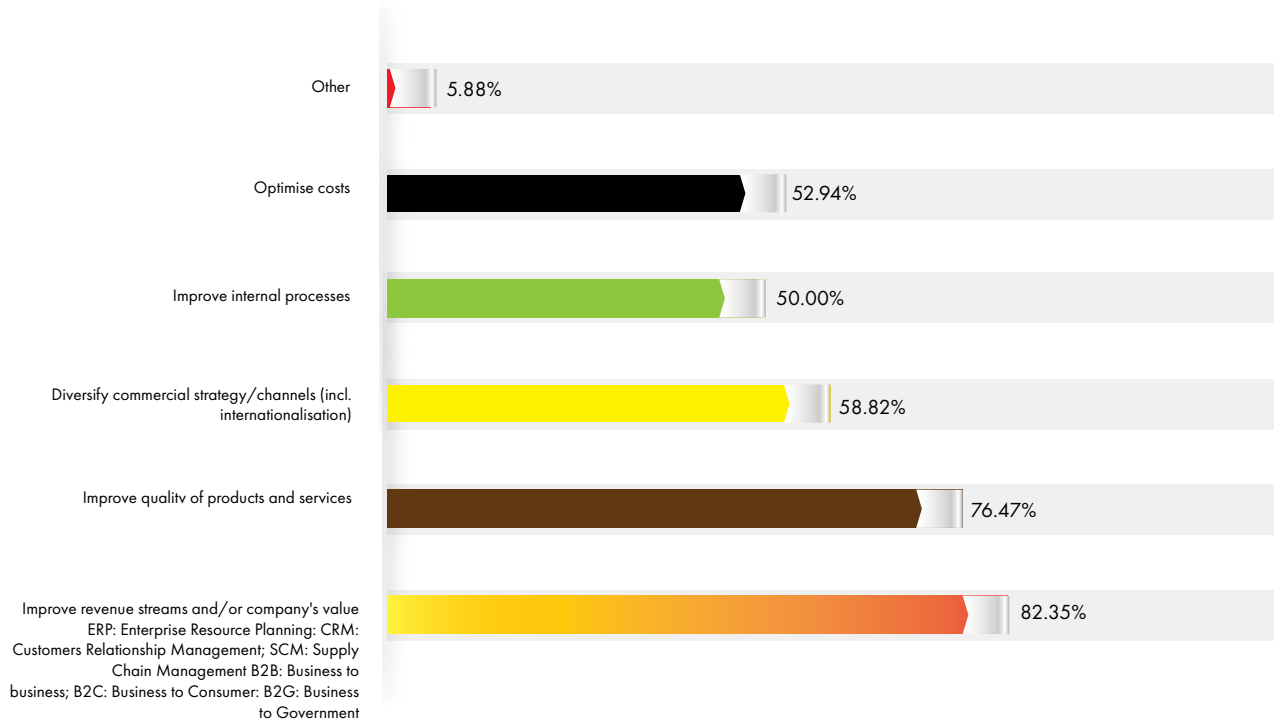
Majority of digital tools used show how the MSMEs are digitally prepared in terms of culture and strategy

Others

- » Digital waste reporting, waste collection records, digital waste collection incentivization (carbon credit)
- » Training of youth on IT skills in rural Kenya
- » CAD

MSMEs– Digital Readiness & Strategy

MSMEs Expectations to Digitalisation Process



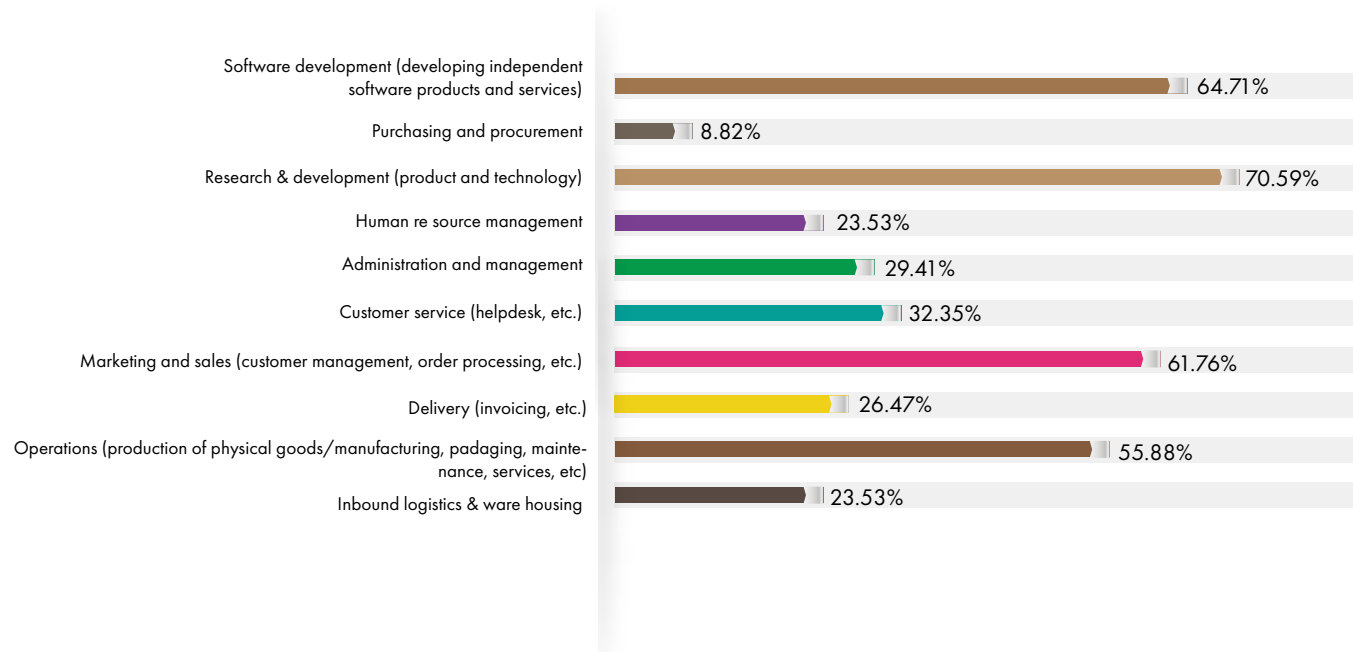
Key Insights

- » The highest expectations of embarking digitalisation process was to improve revenue streams , quality of goods and services as well as to improve internal process

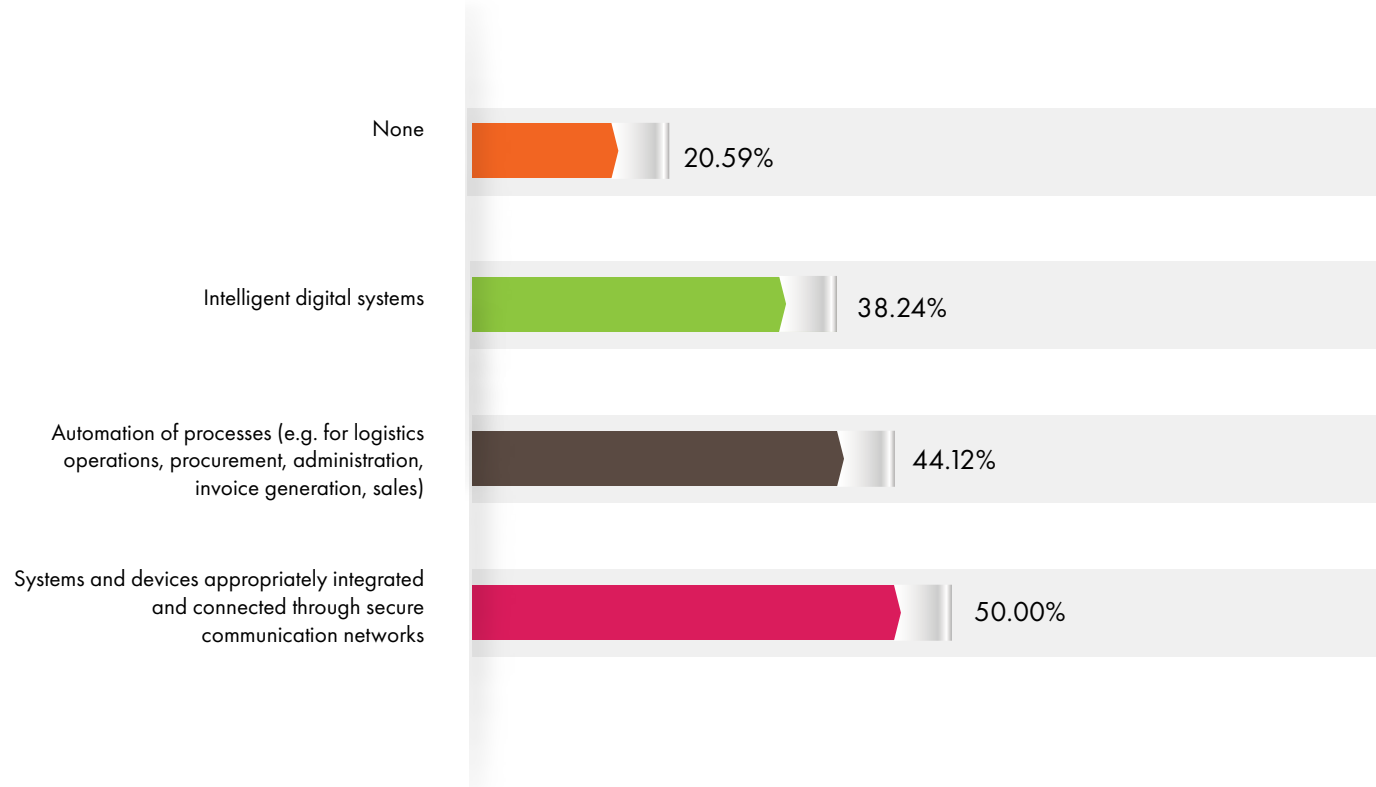
Key Insights

- » One of the highest business application areas is around Research and Development

Digital Technologies Application Areas



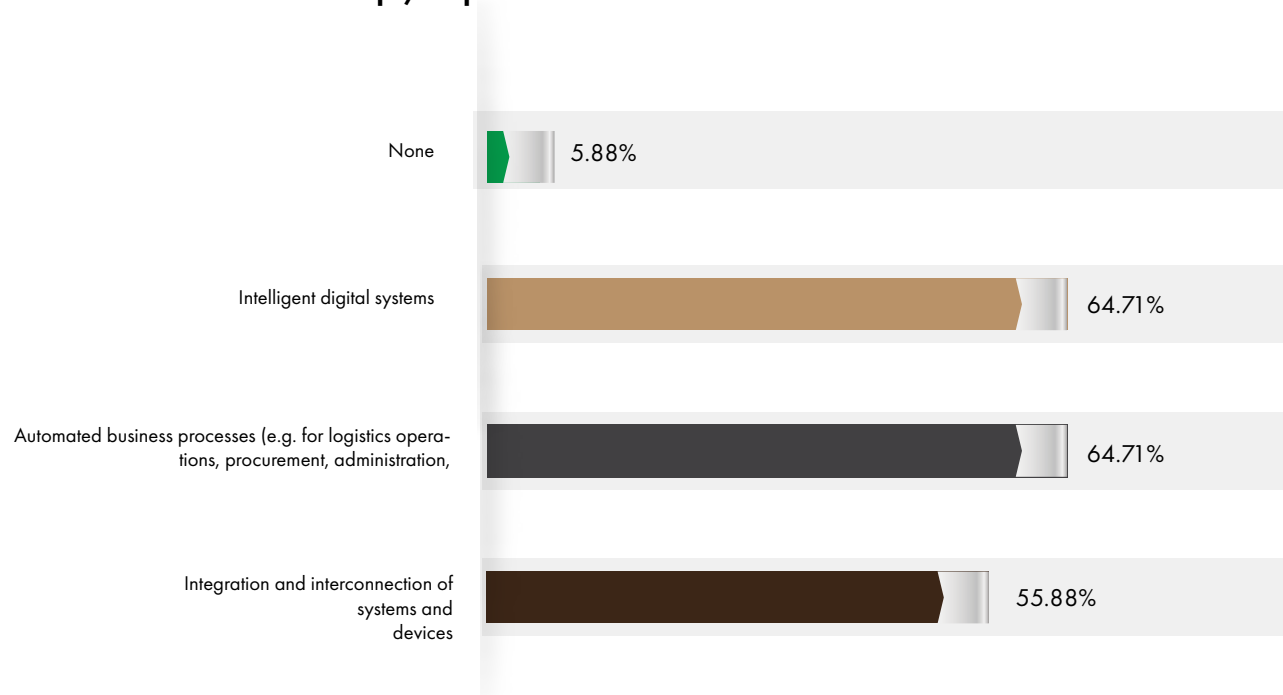
Digital Technologies Already in place



Key Insights

- » Most MSMEs have some level of systems and devices integration and connection and automation of processes is in place . Over 20% a have none.

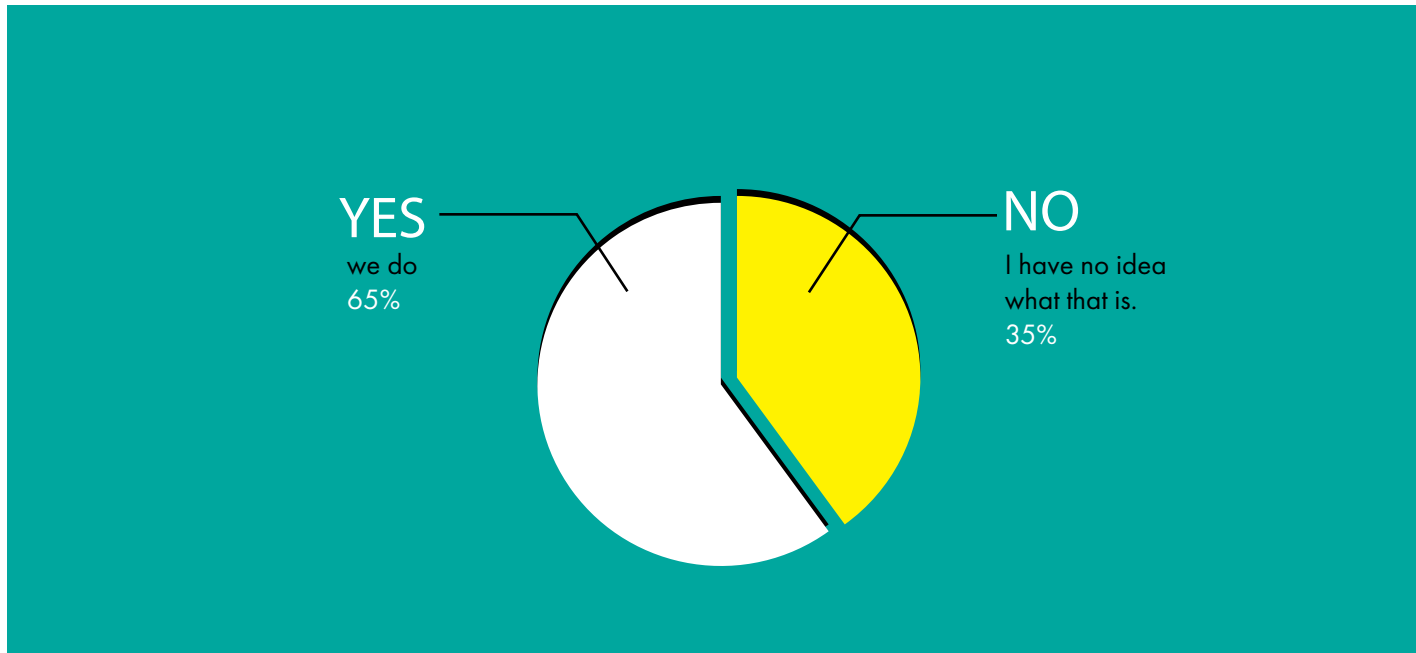
Which of the following does your company plan/expect/wish to adopt/improve in the near future?



Key Insights

- » Adoption of automation & AI is high among MSMEs considering only 5 per cent had none.

MSMEs internal ESG policies

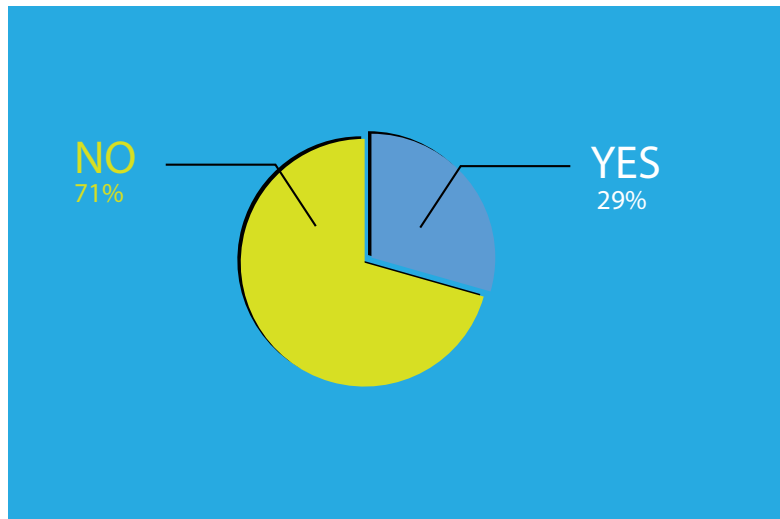


Key Insights

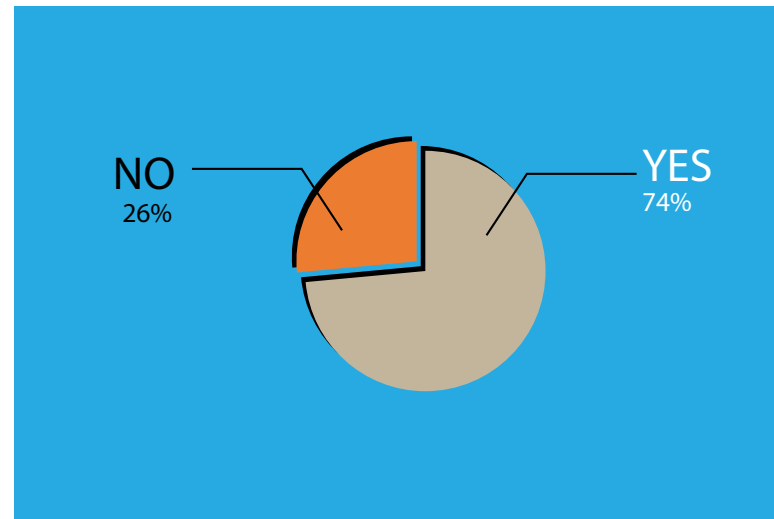
- » Most MSMEs have the ESG policies internally to guide green practices.

MSMEs – Green Business Practices

**Do you know your organization's
Carbon footprint**



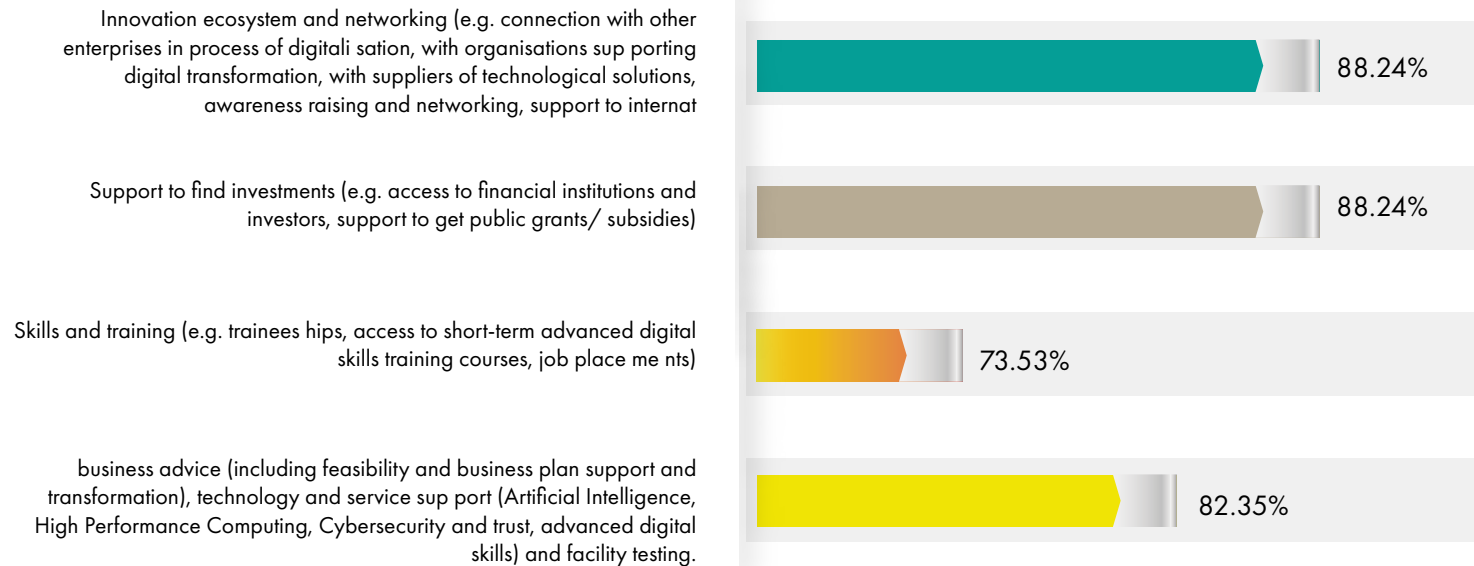
Knowledge on how to become green



Key Insights

- » Most of the MSMEs know their organization's carbon footprint and they well know on how they can become a greener company

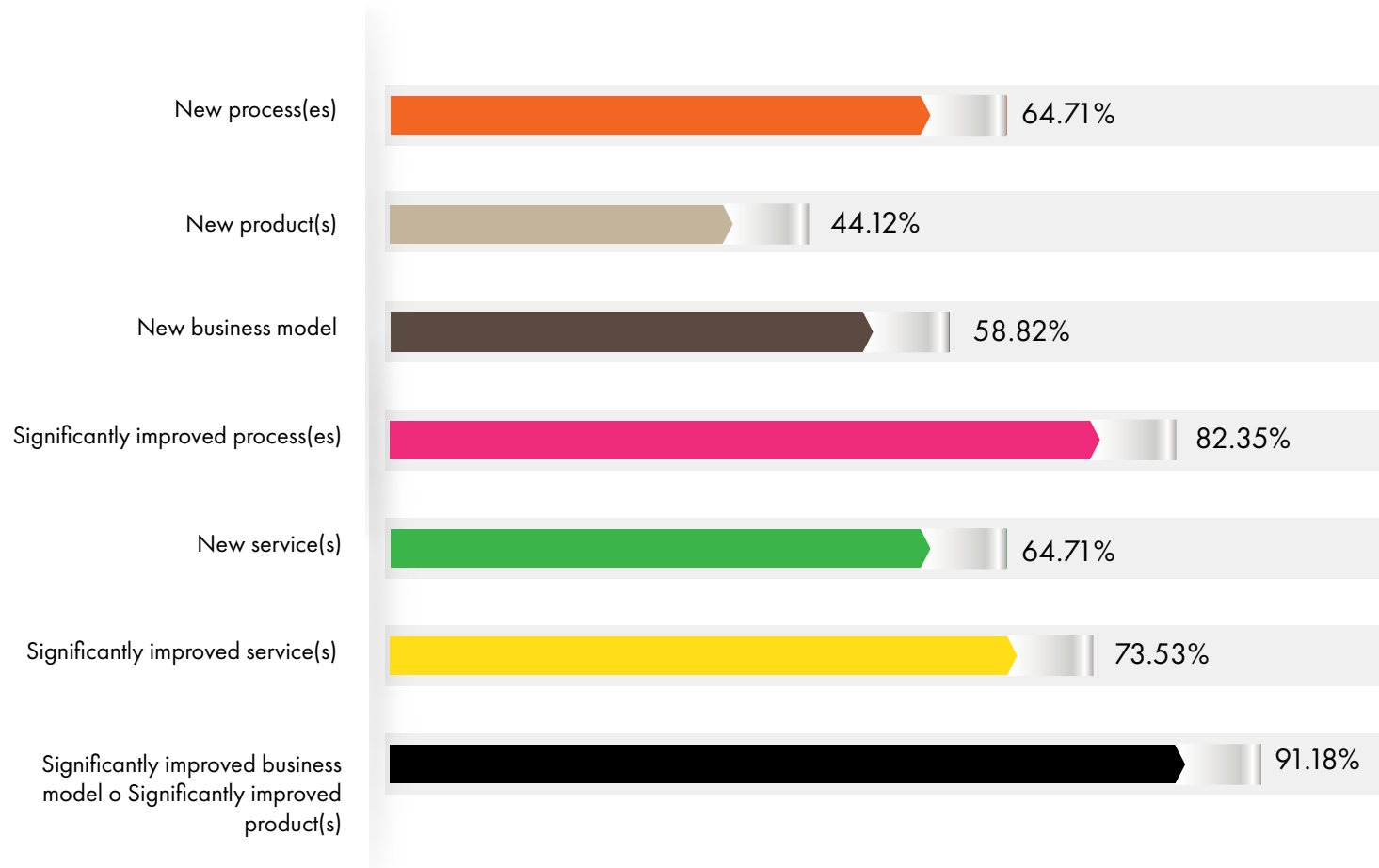
Are the Digital Innovation Hub Services useful to MSMEs?



Key Insights

- » Majority of participating MSMEs agree that it is useful to get support through the digital innovation hub (DIH).

What MSMEs expect from Digitalisation



Key Insights

» Majority of MSMEs expect that the digitalisation will significantly improve their business model (91%) and improve products, services and processes (82%) .

KEY INFORMANT INTER- VIEWS (KIIs) FINDINGS

Which data management tools do you use or plan to use in the near future?

The responses indicate that various data management tools are currently used or planned to be used in the near future such as AWS Data warehouse, Microsoft cloud service, relational and non-relational database management systems, cloud data management tools, data upgrading, reviews and regular analysis, ETR machines and laptops, Google forms and Microsoft forms for data collection, Power BI and Excel for analysis, visualization, and reporting, Microsoft OneDrive and Google Drive for storage, Google Cloud Platform and Heroku databases, basic free tools like Excel, MySQL, and plans to transition to Oracle for its efficiency. Some respondents have yet to identify specific tools.

Data Management and Connectedness

Data Management Tools

- » Microsoft cloud services
- » Data Warehouse
- » My SQL
- » Microsoft Excel

Data Storage

- » Microsoft One Drive
- » Google Drive
- » Google Platform
- » Heroku Database

Data Collection Tools

- » Google forms
- » Online surveys tools
- » Microsoft forms

Data Analysis, Visualisation and Reporting

- » Google forms
- » Online surveys tools
- » Microsoft forms
- » Microsoft Excel

Future Plans

- » Transition to Oracle for efficiency

Do you have any strategies or preparation steps towards transitioning to digital services? Which ones?

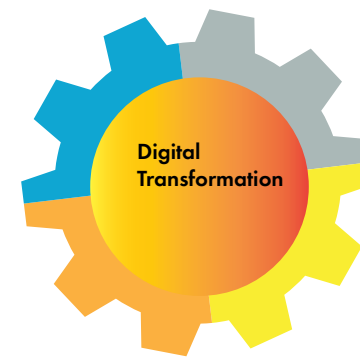
The responses indicate that various strategies and preparation steps are taken towards transitioning to digital services. Such as, learning and understanding trends in the business, focusing on research and development of technological tools, adding more features to online tools, providing trainings and capacity building, buying digital tools, identifying gaps, building solutions, piloting, and commercializing solutions to other parties. Additionally, digitizing payments and license issuing, aligning digital transformation to overall business strategy, mapping out technology implementation plan, working with partners and expertise, planning to partner with service providers for cloud services, acquiring automated milling and mixing equipment, developing an application for smartphones and voice command enabled, and creating a program/app that connects dairy farmers to the best deals in the market and eliminating traditional middlemen, scheduling pick-up timelines for boda-boda riders, reducing carbon emissions, and enabling outbreak detection. It is also noted that some respondents have no strategies or preparation steps in place.

Strategies/Preparations plans towards transitioning to digital services



Through;

- Learning & Understanding Business Trends
- Capacity Building and Training
- Middlemen Elimination
- Improving product and services
- Improving Client Relationships

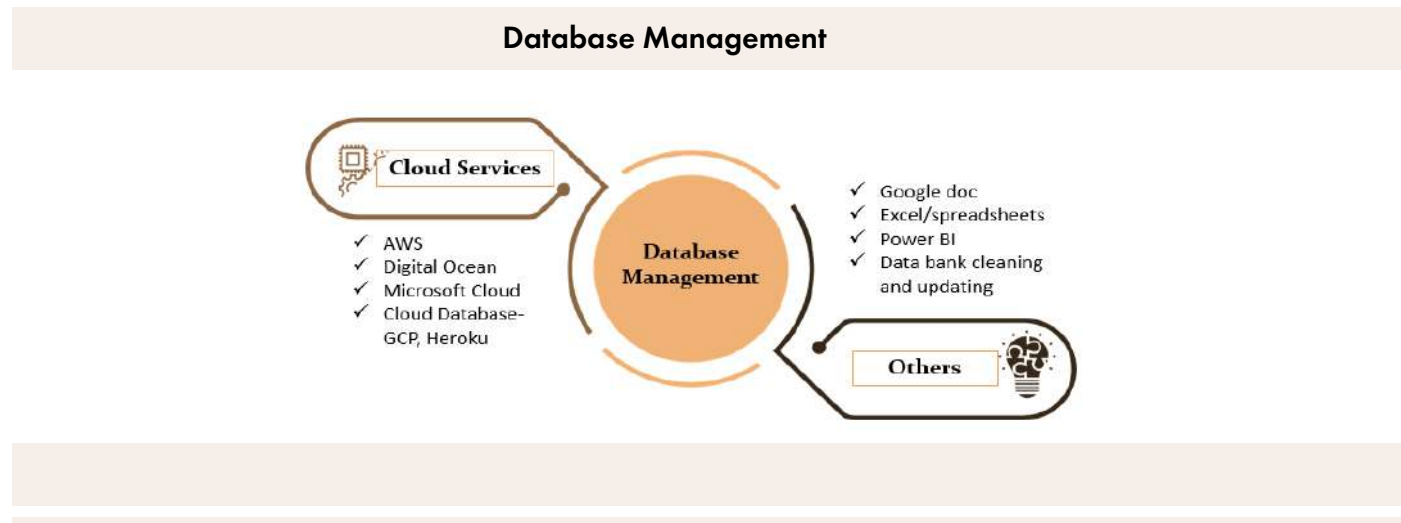



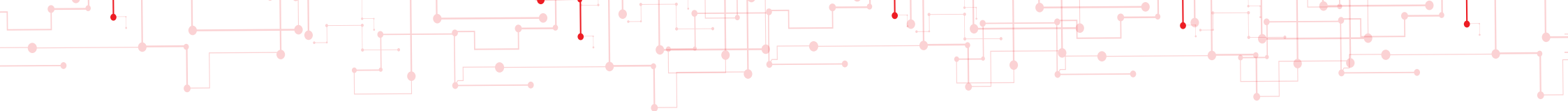
Through;

- Digitisation of transactions and processes
- Building and Strengthening Partnership Ecosystem
- Automation
- Applications Development

How do you manage your database?

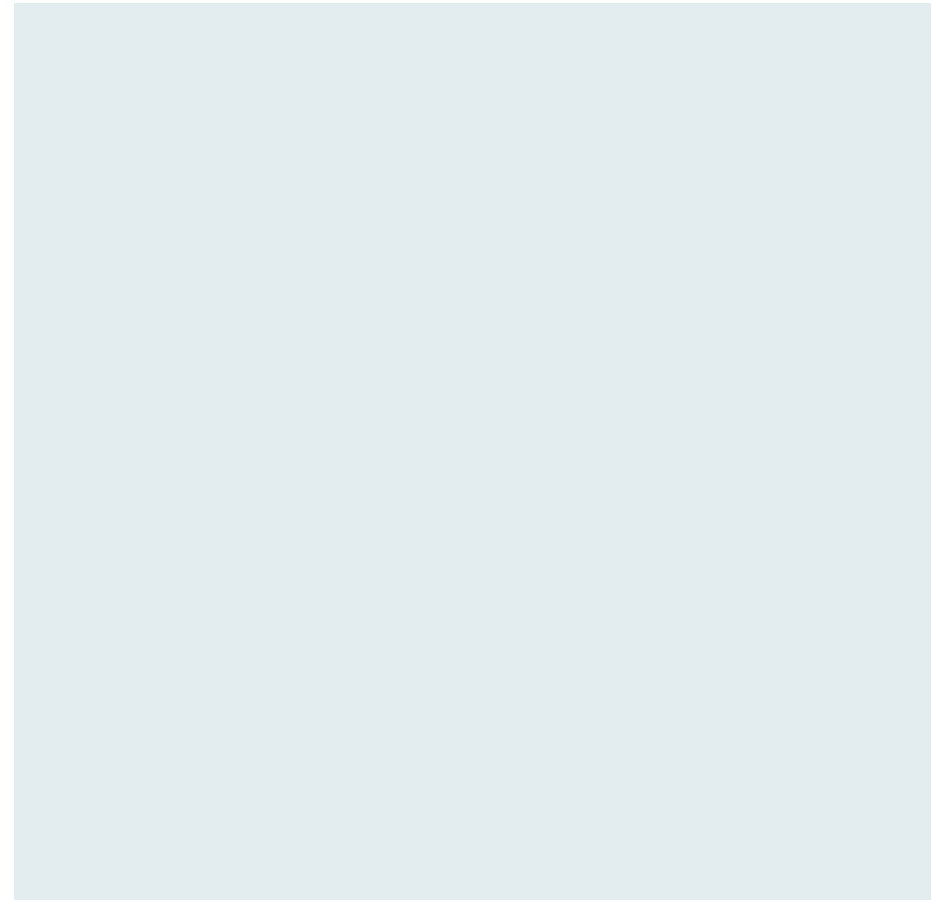
The responses to the question indicate that various methods are used to manage databases, such as using cloud services like AWS, storing data in the Microsoft cloud, hosting databases remotely with local backups, using online tools like www.pamskenya.com, maintaining a data bank and frequently updating it, manually managing databases which is considered inaccurate, using tools like Google Docs, Microsoft platforms, and Power BI, adopting cloud databases on GCP and Heroku, using cloud storage, establishing policies and procedures, setting business goals, using passwords and other security features, keeping duplicate copies away from the premises, using DBMS, using the Google platform, storing all data online, using both online and offline storage, using spreadsheet applications and using microservices to manage data independently, which improves scalability of the project.

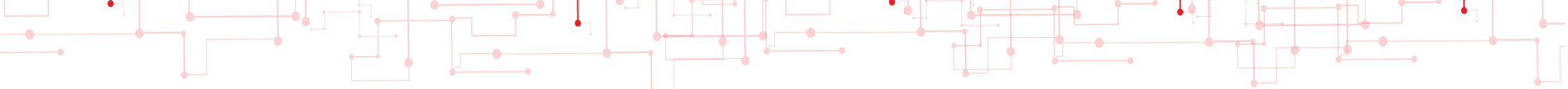




If you get the right support from the Digital Innovation Hub, what is your strategy for reaching out to and supporting MSMEs to go green?”

The participants indicated that in terms of strategies to enable MSMEs to go green, measures such as hosting domains, building a circular economy to reduce wastage and increase profitability, ensuring maximum waste management, and participating in national go green activities can be taken. Furthermore, conducting research and development, educating and informing businesses on how to minimize their digital carbon footprint, hosting workshops and capacity building events, and technology transfer can be done. Additionally, creating content and tools to learn and measure the environmental impact of their businesses, developing smart addresses, advocating for tools that are energy efficient such as cloud computing and free and open-source software, investing in green technologies, and increasing the usage of renewable and sustainable energy can be considered. Furthermore, creating and spreading awareness on the importance of going green, capacity building and mentorship, advertising digitally to reduce reliance on printed material, reducing carbon footprint through carbon credits, evolving the boda-boda industry to go green, partnering with small businesses in reaching out to learning institutions on a mentorship program, inspiring green innovations of the 21st century, transforming ideas to reality, motivating the next generation of business and government leaders, and partnering with other businesses to adopt smart solutions can be done.





Strategies to be used to reach out and supporting MSMEs go green

Strategies to support MSMEs go Green

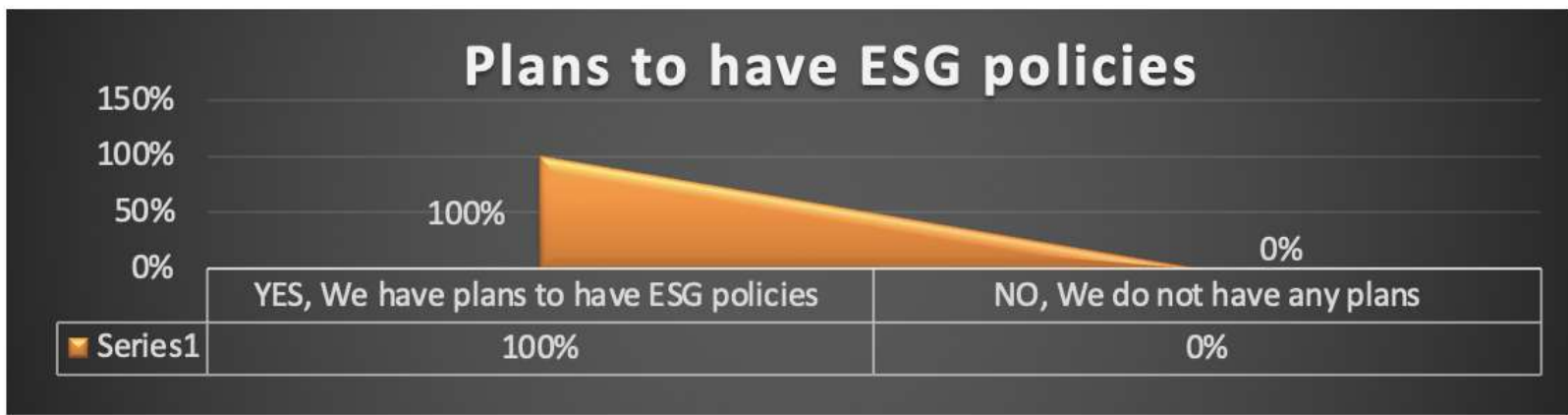
- » Maximizing on waste management
- » Participating in National go-green activities.
- » Training and education on MSMEs digital carbon footprint
- » Holding go green workshops and events
- » Advocating for tools that are energy efficient such as cloud computing and free and open-source software
- » Investing in green technologies and increasing usage of renewable and sustainable energy

Strategies to support MSMEs go Green

- » creating and spreading awareness on the importance of going green
- » Capacity building and mentorship
- » Advertising digitally to reduce reliance on printed material
- » Holding go green workshops and events
- » Reducing carbon footprint through carbon credits, reaching out to small holder farmers, completing the prototype, evolving the boda-boda industry to go green,
- » Partnering with small businesses in reaching out to learning institutions on a mentorship program

Are you planning in the near future to have ESG policies in your enterprises? Which support would you need?

The responses indicate that some enterprises are planning to have Environmental, Social, and Governance (ESG) policies in place in the near future, and some are already in place. The support needed for implementing ESG policies includes financial support and expertise, knowledge and skills, guidance on drafting and implementing policies, capacity development for staff, development of relevant policies, financial injection, technical support, mentorship, and advice on formulation, monitoring and evaluation. Some enterprises would like to be guided on responsible business for sustainability, while others would like to build a circular economy in the dairy industry to reduce wastage and increase profitability, some would like to reduce fuel consumption and carbon footprint through clear schedules for pick-up, others would like to increase profitability and maximize productivity for farmers and transport industry. Also, some enterprises would like to reduce the carbon footprint by adopting green energy, others would like to reduce wastage by making other by-products from spoilt products, such as ghee, and others would like to identify and find markets for products beyond their shelf life. Additionally, some enterprises would like to reduce the carbon footprint by adopting digital advertising, and others would like to reduce the carbon footprint by deducing data communicated by farmers through the chat box, and some enterprises would like to reduce the carbon footprint by arranging schedules for pick-up from the farthest points to the closest points to the factory. They would need funding support and help in networking with relevant authorities concerned such as state departments.





What are the factors that have made you not to have the carbon footprint? Which support would you need?

The responses indicate that various factors have made some enterprises not to have a carbon footprint, such as being an upcoming startup with less carbon emission, using public transport to serve clients, planting trees yearly to offset carbon emissions, selecting hosting and digital platforms that have little carbon emissions, unavailability of renewable options due to limited resources, using renewable (solar) energy in production, being fully digital in all operations, using alternative manufacturing processes, and manufacturing process that emit less carbon. Some enterprises need support to establish how their operations are leading to increased carbon emission and how to mitigate it, including education and support to start a digital carbon footprint, knowledge and skills, technical support to develop tools and strategies, support to develop their Environmental, Social, and Governance (ESG) policies, financial support to install technical equipment and pay experts, technical support in determining carbon footprint generated by their actions, technical support in investing further in developing the system to deliver best value to MSMEs, to help them go fully digital in advertising, and technical support which includes laptops and a working space where they can centralize operations and host servers to ensure they deliver the best services.

Factors resulting not to have that Carbon Footprint

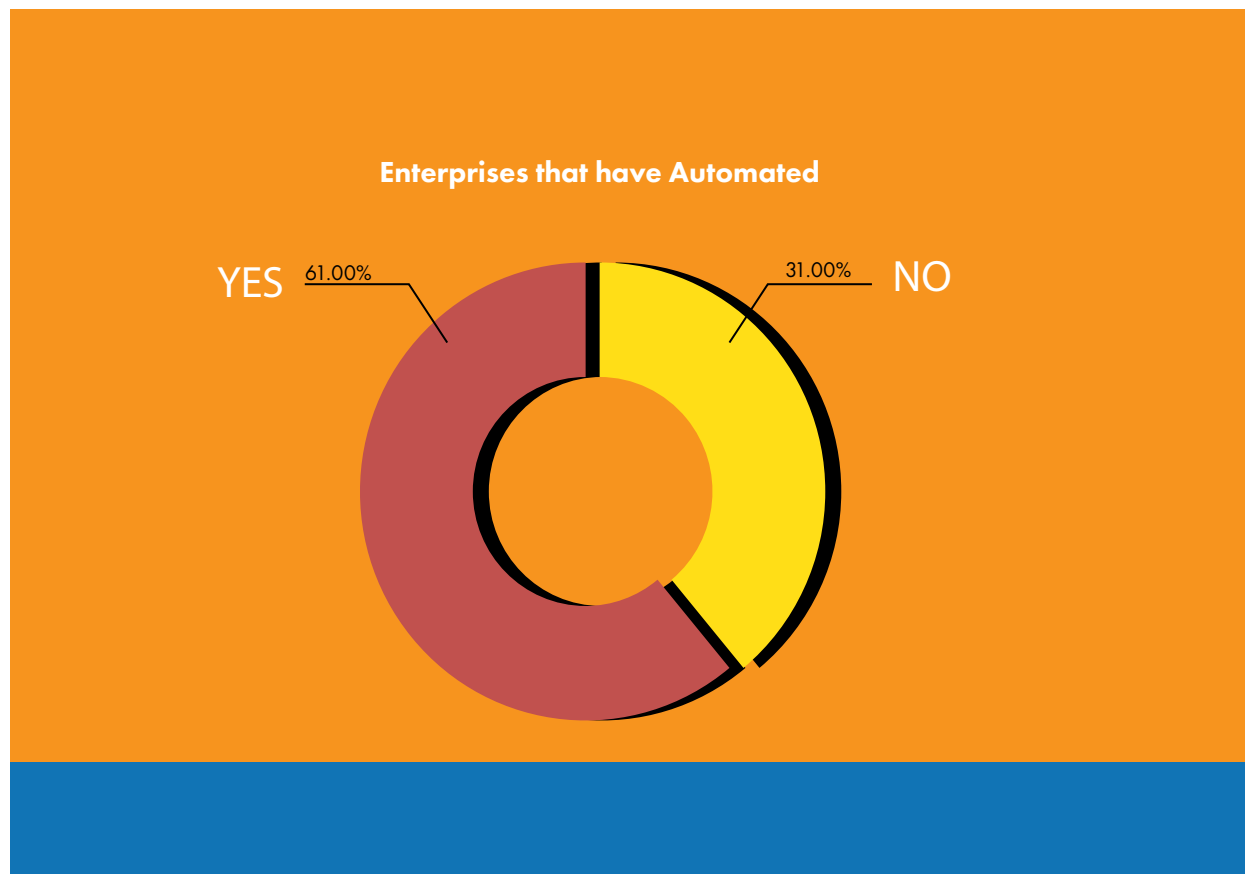
- » Unavailability of renewable options due to limited resources
- » They are upcoming digital enabled start-ups with less carbon emission

Support Needed

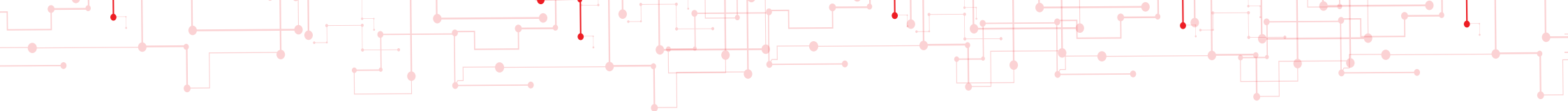
- » Education support
- » ESG policies development and implementation support
- » Financial support
- » Technical support to develop tools and strategies

Why have you/or not automated your services?

The responses indicate that some enterprises have automated their services to improve efficiency, scale, cut down on costs, improve user experience, increase productivity and accountability, create competitive advantage, and lower operational costs. Some have not automated their services due to lack of access to relevant devices, insufficient knowledge, lack of funds to purchase the right gadgets, technical and budgetary constraints, lack of systems and mechanisms for automation, being early to do so at the moment, and lack of finances. Some have partially automated their services but need more capacity support. Some have fully automated their services while others are in the process of fully automating their services and working on developing a fully functional prototype to launch in the market.



SUMMARY OF FINDINGS



Summary of The Findings

The total number of the complete responses were Ninety- One (91).

1. Customer Data

- Majority of the respondents are micro size (70.33%) and small size (24.18%).
- 65% the enterprises are owned by youth aged (18-35 years) with great gender balance.
- In terms of regional distribution, 23 counties out of 47 counties were covered by the survey. Nairobi City and Uasin Gishu counties were the most represented.
- When it comes to the sector of Activity, Agriculture and ICT were sectors with the highest representation. The sectors with the lowest representation of activity were construction, manufacture of rubber and plastic products and manufacture of beverages and tobacco from the responses.
- The respondents categorized themselves as ESOs (52.75%), MSMEs (37.36%), Intermediaries (5.49%) and others – advisory firms (4.40%).
- In terms of the affiliation, majority of the respondents were affiliated with the Association of Countrywide Innovation Hubs (65%). The respondents with ASSEK affiliation were 24% and others affiliation were 11%.

2. Digital Maturity

Digital readiness: The findings show that the majority of enterprises are digitally prepared. 80.22% of the total respondents consider digitalization as part of their business model, while 68.13% have plans to invest in digital technologies in the next 12 months. It is worth noting that on average, 60.44% of the workforce is digitally skilled.

- **Digital Tools:** According to the findings, 85.71% of the respondents chose connectivity (intranet, internet access, and remote access to office systems via internet/VPN) as the most commonly used business digital tools in their enterprises. Other tools used included Remote business collaboration tools (73.63%), E-Marketing (71.43%), and Website (68.13%). Of note is that security and privacy were the least used business digital tools, despite high adoption and use of digital tools.
- **Business Strategy:** Research and Development is an area where 72.53% of the respondents indicated a need for improvement. This is an application area where value addition from digital technologies is required. The second area where 60.44% of the respondents indicated a need for value addition

from digital technologies was Marketing and Sales.

- **Automation & AI:** The findings from both the Key Informative Interviews and the survey, indicated that majority of the enterprises have fully automated and that 47.25 % of the respondents consider automation or intelligent process as a vehicle to improve the quality of the enterprises. The respondents also indicated that they have plans to adopt, improve or be fully automated.
- **Data Management:** Digital data-driven services are integrated into businesses by 32.97% of respondents to a larger extent, 28.57% to a moderate amount, and 26.37% to a small extent, while 12.09% of respondents have none at all. From the KIIs data management tools used include: cloud services and Microsoft excel, data storage is on google drive and one drive.
- **Human-Centric Digitalisation-** Digital skills and workforce empowerment: Trainings and online tutorials on digital skills training are the most commonly used strategies for ensuring the workforce takes advantage of available digital tools. 82.42% of the respondents reported that there were plans to implement or improve digital skills empowerment strategies in the near future.
- **Green Digitalisation-** Generally, 64% of the respondents indicated that they have internal ESG policies and while 36% said that they do not have any ESG policies in their enterprises. However, those who do not have the ESG policies said that they were planning to adopt and to learn more about the ESG and how to become green in their business. Most of the ESOs (83%) do not know their organization's carbon footprint even though 60% say they know on how they can become a greener company. 41% have no ESG policies and have no idea what they are. Generally, most businesses (78%) do not know their carbon footprint. Only 42% of the respondents said their employees were educated to a moderate extent on green practices.

3. Digitalisation Support

- If given support by the Digital Innovation Hub (DIH), 86.81% of the respondents stated that they would, to a greater extent and 10.99% to a moderate extent, develop new markets, products, and service offerings. Some of the DIH services that were deemed useful by the majority of the enterprises were business advice (85.71%), support in finding investment (85.71%), innovation ecosystem and networking (84.62%), and skills and training (76.92%).

4. Innovation Maturity

- The digitalization expectations: 84.62% of the respondents expect digitalization to improve their business model and products, while 81.32% expect it to improve their services and processes. However, 61.54%, 59.34%, 58.24%, and 43.96% of the respondents expect digitalization to lead to the development of new services, new business models, new processes, and new products, respectively.
- From the Key Informant Interviews (KIIs), respondents indicated that the support they needed in implementing ESG policies includes financial support and expertise, knowledge and skills, guidance on drafting and implementing policies, capacity development for staff, development of relevant policies, financial injection, technical support, mentorship, and advice on formulation, monitoring and evaluation, guidance on responsible business

for sustainability, amongst others.

- The participants indicated that in terms of strategies to enable MSMEs to go green, measures such as hosting domains, building a circular economy to reduce wastage and increase profitability, ensuring maximum waste management, and participating in national go green activities can be taken. Furthermore, conducting research and development, educating and informing businesses on how to minimize their digital carbon footprint, hosting workshops and capacity building events, and technology transfer can be done. Additionally, creating content and tools to learn and measure the environmental impact of their businesses, developing smart addresses, advocating for tools that are energy efficient such as cloud computing and free and open-source software, investing in green technologies, and increasing the usage of renewable and sustainable energy can be considered. Furthermore, creating and spreading awareness on the importance of going green, capacity building and mentorship, advertising digitally to reduce reliance on printed material, reducing carbon footprint through carbon credits, evolving the boda-boda industry to go green, partnering with small businesses in reaching out to learning institutions on a mentorship program, inspiring green innovations of the 21st century, transforming ideas to reality, motivating the next generation of business and government leaders, and partnering with other businesses to adopt smart solutions can be done.

Summary of the survey questions elements (annex 1, detailed dma questionnaire)

- Current digital capabilities: Asked about the current digital tools and systems the organization uses, including software, hardware, and platforms.
- Digital strategy: Inquired about the organization's digital strategy, including goals, objectives, and overall direction.
- Organizational structure: Asked about the roles and responsibilities of employees within the organization, including those who are responsible for digital initiatives.
- Data management: Inquired about the organization's data management practices, including data security, data governance, and data analytics.
- Digital skills and training: Asked about the digital skills of employees and the training provided to improve those skills.
- Customer experience: Inquired about the organization's customer experience strategy, including how digital tools and platforms are used to engage customers.
- Business processes: Asked about the organization's business processes and how they are impacted by digital technologies.
- Performance metrics: Inquired about the metrics used to measure the performance of digital initiatives. These may include key performance indicators (KPIs) and return on investment (ROI).
- Future plans: Asked about the organization's plans for future digital initiatives, including new technologies and platforms.
- Challenges and barriers: Inquired about any challenges or barriers that the organization faces in its digital journey and how they plan to overcome them.

CONCLUSION



What conclusions can be drawn?

The Digital Maturity Assessment has presented great insights that will help the Digital Innovation Hub to best model its service needs and offerings to enterprises.

Of utmost importance, all participating enterprises indicated that they would benefit from all the 4 dimensions/pillars of the digital innovation hub, namely: Test-Before-Invest, Access to Finance, Skills & Training and Innovation and Ecosystem Building. Business advice was also indicated as very useful. 88.24% see the need for support to access finance and the same percentage for innovation ecosystem and networking. 73.53% would benefit in skills and training while 82.35% find business advice useful.

In terms of Digital Maturity, majority of the enterprises are using new digital technologies tool to improve their services, products and processes. They have shown preparedness in adopting and integrating digital technologies in their business models. However, they have indicated the need to invest in technologies that improve their efficiency, productivity and client relationships.

The Digitalization process has been considered to be part of the enterprises' business models. Majority of MSMEs expect that the digitalization will significantly improve their business model (91%) and improve products, services and processes (82%).The intermediaries have hope that the digitalization will significantly improve their business model and improve products, services and processes. It is therefore important to have clear guidance and formulation of business strategies around developing a digitalization framework for the enterprises.

The Digital Maturity Assessment got responses from Twenty-Three (23) out of Forty-Seven (47) Counties in Kenya. It is therefore of importance to think of ways to make sure that the twenty four (24) counties that did not get any responses are not left behind. Ways to ensure that the digital innovation hub services reach them need to be put into consideration. This can be through intermediaries and ESOs that have a nationwide reach.

On green business practices the main insights generated are that the enterprises that do not have ESG internal policies are willing and planning to adopt the policies. However, they have also requested to be supported in developing those policies through education, research and implementation.

Lastly, Majority of the enterprises are micro size and small size owned by youth aged 18-35 years with a balanced gender representation. To a greater extent they have indicated that support by the DIH, will help them develop innovative new market products and services offerings.

RECOMMENDATIONS



Target Groups

When selecting target groups for the green digital innovation hub targeting MSMEs, it is important to consider the following key factors:

- **Size:** Target small and medium-sized enterprises that are likely to benefit the most from digital innovation, as they may not have the resources or expertise to invest in these solutions on their own. Majority of the respondents are micro size (70.33%) and small size (24.18%). 65% the enterprises are owned by youth aged (18-35 years) with varied gender balances. In terms of regional distribution, 23 counties out of 47 counties were covered by the survey.
- **Location:** Focus on MSMEs that are located within the region where the innovation hub will be established, as they will have easier access to the services provided. It is also important to identify strategic digital innovation hub operators in areas/regions with a concentration of potential beneficiaries. Geographic regions with high potential for growth is a major factor: These are regions with a high concentration of MSMEs, such as rural or underdeveloped areas, as they may be more open to adopting new technologies. Nairobi City and Uasin Gishu counties were the most represented in the survey. It is however important that mechanisms to reach those counties that were not represented are devised so that no-one is left behind, such as working with intermediaries and ESOs that have regional representation across the country and MSME's with a presence in multiple locations.
- **Needs:** Identify the specific needs of the target MSMEs in terms of green digital innovations, such as skills, acceleration and incubation needs, energy efficiency, waste management, sustainable transportation, compliance or regulatory requirements.
- **Readiness:** Prioritize MSMEs that are already interested and motivated to adopt green digital innovations, as they will be more likely to actively engage with the innovation hub. Target/ focus on early adopters who want to adapt an existing technology but need business support services as well as prototyping and demonstrator activities. Target MSMEs that are already taking steps towards sustainability for instance.
- **Identify industries with high potential for energy efficiency improvements:** Target sectors that consume a significant amount of energy, such as manufacturing or transportation, as they may be prime candidates for digital solutions that improve energy efficiency.
- **Business Category:** The respondents categorized themselves as ESOs (52.75%), MSMEs (37.36%), Intermediaries (5.49%), and other (advisory firms) (4.40%). Identify and balance the best reach and impact through these categories



Recommendations for enterprises to improve their digital maturity

1. **Develop a digital strategy:** Develop a comprehensive digital strategy that aligns with the organization's overall business goals and objectives.
2. **Invest in digital technologies:** Invest in digital technologies that will help the organization improve its efficiency, productivity, and customer engagement.
3. **Develop a data-driven culture:** Create a data-driven culture that enables employees to make informed decisions based on data and analytics.
4. **Embrace digital transformation:** Embrace digital transformation by identifying and addressing the challenges and barriers that are preventing the organization from fully realizing its digital potential.
5. **Create a digital-savvy workforce:** Invest in digital skills and training to ensure that employees are equipped to work in a digital environment.
6. **Leverage customer insights:** Use customer insights to improve the organization's customer experience strategy and develop personalized digital experiences.
7. **Collaborate with partners and vendors:** Collaborate with partners and vendors to gain access to new digital technologies and expertise.
8. **Monitor and measure performance:** Monitor and measure the performance of digital initiatives to identify areas for improvement and to track progress.
9. **Continuously adapt and evolve:** Continuously adapt and evolve the organization's digital strategy and technology stack to keep pace with changing digital trends and customer needs.
10. **Foster a culture of experimentation:** Foster a culture of experimentation and encourage employees to try new technologies and digital approaches to drive innovation.
11. **Note:** It is important to bear in mind that each organization is unique, so individual organizations should aim to select, try and find what works best for them. This list is also not exhaustive but just a guide on possibilities.



Recommendations for enterprises to improve their green maturity

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Recommendations for enterprises to measure or get feedback on green performance

There are several ways to measure or get feedback on green performance: (Please note that the list is not conclusive but a list of a few examples that can be used.

1. **Energy Audits:** An energy audit is an assessment of a building or organization's energy use. It can identify ways to improve energy efficiency and reduce greenhouse gas emissions.
2. **Carbon Footprint Analysis:** A carbon footprint is a measure of the amount of greenhouse gases produced by an organization or individual. Carbon footprint analysis can help organizations identify their biggest sources of emissions and develop strategies to reduce them.
3. **Life Cycle Assessment:** A life cycle assessment (LCA) is a tool that helps organizations evaluate the environmental impact of a product or service throughout its entire life cycle, from raw materials to disposal.
4. **Environmental Management Systems:** An environmental management system (EMS) is a framework that organizations can use to manage their environmental performance. An EMS can help organizations identify and track their environmental impacts, set and achieve environmental goals, and demonstrate their commitment to sustainability.
5. **Sustainability reporting:** Organizations can report their sustainability performance using various frameworks such as Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) and Task Force on Climate-related Financial Disclosures (TCFD).
6. **Third-party certifications:** Organizations can get third-party certifications such as LEED, BREEAM, and Green Star, which are recognized by industry for sustainable building practices.
7. **Stakeholder engagement:** Organizations can engage with stakeholders such as employees, customers, and communities to understand their expectations and feedback on the organization's environmental performance.

Note: It is important to bear in mind that each organization is unique, so individual organizations should aim to select, try and find what works best for them. This list is also not exhaustive but just a guide on possibilities.


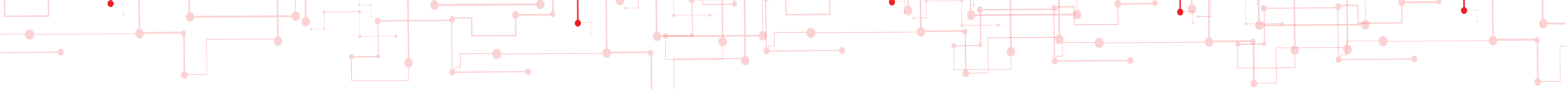


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Recommendations for enterprises to manage e-waste

The best way to manage e-waste (electronic waste) is through a combination of proper disposal and responsible recycling. Some specific steps that can be taken to manage e-waste include:

1. **Reduce:** Minimize the amount of e-waste generated by purchasing products with a longer lifespan and by repairing or upgrading existing equipment instead of replacing it.
2. **Reuse:** Extend the life of electronics by donating them to organizations or individuals who can use them, or by selling them in second-hand markets.
3. **Recycle:** Properly recycle e-waste through certified e-waste recyclers that follow environmental and safety standards. This ensures that materials such as metals, plastics, and glass are recovered and reused, and that toxic materials such as lead and mercury are properly disposed of.
4. **Proper disposal:** Proper disposal of e-waste can prevent the release of toxic materials into the environment. It is important to ensure that e-waste is not sent to landfills or incinerated. Instead, it should be sent to certified e-waste recyclers or collection points.
5. **Government regulations:** Government regulations play an important role in managing e-waste. In many countries, manufacturers are responsible for funding and managing the collection and recycling of their products at the end of their life.
6. **Extended producer responsibility:** This is a policy approach in which manufacturers are held responsible for the environmental impacts of their products throughout their life cycle, including end-of-life management.

Note: It is important to ensure that e-waste is handled by certified and reputable organizations that follow proper procedures for data destruction, material recovery and environmental protection.

It is also important to bear in mind that each organization is unique, so individual organizations should aim to select, try and find what works best for them. This list is also not exhaustive but just a guide on possibilities.

Digital Maturity Assessment Survey for Kenyan Enterprises- Questionnaire



Digital Maturity Assessment Survey for Kenyan Enterprises- Questionnaire

This is an online web-based lime survey that captures the two main modules of the **Digital Maturity Assessment (DMA)**, namely “**customer data**” and “**digital maturity**”.

What is the Digital maturity assessment?

This Digital maturity assessment evaluates a business’s or organisation’s **digital intensity and digital culture**. **Digital intensity** measures the use of digital technologies in the business’s operations. **Digital culture** is a workplace shaped and influenced by digital tools and technologies. In organizations with advanced digital cultures, most employees use digital tech to collaborate, innovate and offer customers access to products, services and support.

The DMA questionnaire therefore consists of questions assessing the different aspects of digital maturity like **digital business strategy, digital readiness, human-centric digitalisation, data management, automation & Artificial Intelligence, and green digitalization which looks at green maturity**.

This survey will inform the GFA project team and the thematic groups the current status of digital maturity of enterprises in Kenya to provide the planned Digital Innovation Hub in Kenya through GIZ’s Digital Transformation Centre, with the necessary data to identify the digitalisation services needed, as well as serve as a benchmarking exercise for the participating enterprises to have a better picture of their digital maturity position in relation to their peers.

Why should enterprises care about digital transformation?

A business running without a proper Digital Transformation Strategy risks being left behind as competitors successfully embrace digital transformation. Research done among small and mid-size businesses proves that having and implementing a Digital Strategy correlates to the success of the given business. The further ahead the organization is with digital transformation, the more growth it can expect.

Welcome to the Digital Maturity Assessment survey. Data Privacy:

We shall not disclose any of your data to a third party. All responses will be kept confidential and will only be used for research purposes to enable the setting up of the Digital Innovation Hub through GIZ’s Digital Transformation Centre, Kenya.

At the end of the exercise, we will avail a report of the findings to all participating enterprises to provide an overview of the digital maturity landscape in Kenya.

There are 49 questions in this survey.

MODULE 1: Customer Data

M1.1. General Data:

1. Date: *

Please enter a date

Name of the enterprise: *

Please write your answer here:

Contact person: *

Please write your answer here:

Contact person's role in the enterprise: *

Please write your answer here:

Email Address: *

Please write your answer here:

Telephone Number: *

Please write your answer here:

Website: *

Please write your answer here:

Enterprise's staff size: *

-Choose one of the following answers Please choose only one of the following:

- Micro-size (1-9)
- Small-size (10-49)
- Medium-size (50-249)
- Large-size (250 or more)

Does your business fall under one of the categories below? *

-Choose one of the following answers Please choose only one of the following:

- Self-employed
- Family firm
- Partnership
- Association
- None of the above

Is your business legally registered? *

-Choose one of the following answers Please choose only one of the following:

- Yes
- No

Full address/Physical Address *

Please write your answer here:.....

Which County is your business located in? *

Choose one of the following answers Please choose only one of the following:

- | | | |
|---------------------|---------------------|--------------|
| 1. Mombasa | 20. Kirinyaga | 39. Bungoma |
| 2. Kwale | 21. Murang'a | 40. Busia |
| 3. Kilifi | 22. Kiambu The | 41. Siaya |
| 4. Tana River | 23. Turkana | 42. Kisumu |
| 5. Lamu | 24. West Pokot | 43. Homa Bay |
| 6. Taita Mak Taveta | 25. Samburu | 44. Migori |
| 7. Garissa | 26. Trans-Nzoia | 45. Kisii |
| 8. Wajir | 27. Uasin Gishu | 46. Nyamira |
| 9. Mandera | 28. Elgeyo-Marakwet | 47. Nairobi |
| 10. Marsabit | 29. Nandi | |
| 11. Isiolo | 30. Baringo | |
| 12. Meru | 31. Laikipia | |
| 13. Tharaka-Nithi | 32. Nakuru | |
| 14. Embu | 33. Narok | |
| 15. Kitui | 34. Kajiado | |
| 16. Machakos | 35. Kericho | |
| 17. Makueni | 36. Bomet | |
| 18. Nyandarua | 37. Kakamega | |
| 19. Nyeri | 38. Vihiga | |

Is your business youth-owned (18-35 years)? *

Choose one of the following answers Please choose only one of the following:

- Yes
- No

What is the gender-representation of the ownership of your business? *

Choose one of the following answers Please **choose only** one of the following:

- 100% female-owned
- 70% female-owned
- 50% female-owned
- Less than 40% female-owned
- 100% male-owned
- 70% male-owned
- 50% male-owned
- Less than 40% male-owned
- Other

Please use the "other" option for genders not listed in the options. How would you best classify your organisation?

Pick all that apply. * Check all that apply Please choose all that apply:

- Intermediary (e.g member-based association supporting entrepreneurs/start-ups)
- Entrepreneur Support Organizations (ESOs) e.g maker-spaces, hubs, accelerators, incubators, innovation centre/ house, University or College Hub/Lab, Consultancy, co- working space Micro, Small and Medium Enterprises (MSMEs)
- Other

From the list, which organization do you have an affiliation with? * Choose one of the following answers Please choose only one of the following:

- ASSEK
- Association of Countrywide Hubs
- Other

MODULE 1: Customer Data

M1.2. Sector of Activity

Which is your sector of activity? Please select a max. 3 options. *

-Please select at most 3 answers Please choose all that apply:

- Aeronautics & Space Agriculture and food
- Community, social and personal service activities Construction
- Consumer goods/products Culture and Creative industries Defence and security Education
- Energy and utilities Environment Financial services
- Life sciences & healthcare
- Manufacture of basic metals and fabricated metal products
- Manufacture of chemicals, chemical products and man-made fibres
- Manufacture of coke, refined petroleum products and nuclear fuel
- Manufacture of electrical and optical equipment
- Manufacture of food products, beverages and tobacco
- Manufacture of leather and leather products
- Manufacture of machinery and equipment
- Manufacture of other non-metallic mineral products
- Manufacture of pulp, paper and paper products; publishing and printing
- Manufacture of rubber and plastic products
- Manufacture of textiles and textile products
- Manufacture of transport equipment
- Manufacture of wood and wood products Maritime and fishery
- Mining and quarrying Mobility (incl. Automotive) Public administration
- Real estate, renting and business activities Professional, Scientific and Technical Activities
- Telecommunications, Information and Communication Technology
- Tourism (incl. restaurants and hospitality)
- Wholesale and retail

MODULE 2: Customer Data

M2.1. Digital readiness:

Which of the following business digital tools/means are actually used by your enterprise? *

Check all that apply Please choose all that apply:

- Connectivity (intranet, internet access, remote access to office systems via internet/VPN)
- Website (corporate site/e-commerce functionality) o Information Management Systems (ERP, CRM, SCM, e-invoicing)
- Electronic Commerce (B2B, B2C, B2G)
- Security & Privacy (incl. corporate policy to manage ICT security)
- E-government (online interaction with public authorities)
- E-Marketing (online ads, social media for business purposes, etc.)
- Remote business collaboration tools (e.g. teleworking platform, videoconferencing, cloud services, virtual learning, business-specific)
- None of them

Which of the following expectations lead your enterprise willingness to embark in a digitalisation process? *

Check all that apply Please choose all that apply:

- Improve revenue streams and/or company's value ERP: Enterprise Resource Planning; CRM: Customers Relationship Management; SCM: Supply Chain Management B2B: Business to business; B2C: Business to Consumer; B2G: Business to Government
- Improve quality of products and services
- Diversify commercial strategy/channels (incl. internationalisation)
- Improve internal processes
- Optimise costs
- Other:

Which of the following conditions currently applies to your enterprise? *

Check all that apply Please choose all that apply:

- Digitalisation is considered in the enterprise's business model
- Increased investments in digital technologies and systems is planned for the next 12 months
- Enterprise top management is ready to chair organisational and process changes associated to digitalisation
- A devoted change management team/leader is/will be appointed
- IT as well as non-IT staff participate in business decision-making associated to digitalisation
- Workforce is on average digitally skilled
- Change of business/operational model precipitated by COVID consequences
- Other:

MODULE 2: Digital Maturity

M2.2. Application areas

In which business areas would you like to see added value from digital technologies? *

Check all that apply Please select at most 5 answers Please choose all that apply:

- Inbound logistics & warehousing
- Operations (production of physical goods/manufacturing, packaging, maintenance, services, etc.)
- Delivery (invoicing, etc.)
- Marketing and sales (customer management, order processing, etc.)
- Customer service (helpdesk, etc.)
- Administration and management
- Human resource management
- Research & development (product and technology)
- Purchasing and procurement
- Software development (developing independent software products and services)
- Other:

MODULE 2: Digital Maturity

M2.3. Automation facilitated by interconnected and intelligent digital systems

With regards to your enterprise's business areas where digital technologies can provide added value, which of the following are already in place? * Choose one of the following answers Please choose only one of the following:

- Systems and devices appropriately integrated and connected through secure communication networks
- Automation of processes (e.g. for logistics operations, procurement, administration, invoice generation, sales)
- Intelligent digital systems
- None

Since their adoption, have connected, automated and/or intelligent processes improved your enterprise's business? * Choose one of the following answers Please choose only one of the following:

- Not really
- Yes, by supporting commercialisation
- Yes, by increasing production
- Yes, by improving quality
- Yes, by increasing efficiency
- Yes, by reducing waste Other
- Other

Which of the following does your company plan/expect/wish to adopt/improve in the near future? * Choose one of the following answers Please choose only one of the following:

- Integration and interconnection of systems and devices
- Automated business processes (e.g. for logistics operations, procurement, administration, invoice generation, sales)
- Intelligent digital systems

MODULE 2: Customer Data

M2.4. Digital Services/Customisation and new Business Models:

Is your enterprise featuring any of the new (digitally driven) business models listed below? * Check all that apply Please choose all that apply:

- None
- Free-Models (free offerings based of personalised ads; freemium: basic functions for free, additional ones for a fee; open-source: software for free, services for a fee)
- E-Commerce Model
- Marketplace Model (matchmaking platform for sellers, buyers and peers)
- Subscription Model (periodical fee)
- Access-Over-Ownership / Sharing Model
- On-demand Model (immediate access at premium price)
- Experience Model (quality services generate loyalty that is monetised)
- Ecosystem (bind customers to a brand ecosystem)
- Other type of business model (digital/non-digital) (free text to specify)

Is your enterprise's business offer service-oriented rather than product-oriented? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Are Digital ("smart") data-driven services an integrated part of your enterprise's business processes? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

(checkboxes where 1 option can be selected)

Is data collected on the use of products by customers for possible customisation/new services? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Does your enterprise plan a transition towards digital services and/or customizable processes thanks to their digitalisation in the near future? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Does your enterprise plan to feature any of the new (digitally driven) business models listed below in the near future? *

Check all that apply Please choose all that apply:

- None Free-Models (free offerings based of personalised ads; freemium: basic functions for free, additional ones for a fee; open-source: software for free, services for a fee)
- E-Commerce Model
- Marketplace Model (matchmaking platform for sellers, buyers and peers)
- Subscription Model (periodical fee)
- Access-Over-Ownership / Sharing Model
- On-demand Model (immediate access at premium price)
- Experience Model (quality services generate loyalty that is monetised)
- Ecosystem (bind customers to a brand ecosystem)

MODULE 2: Digital Maturity

M2.5. Green Business Practices:

As an organization, do you have any environmental, sustainability and governance (ESG) policies internally to guide your green practices? *

Choose one of the following answers Please choose only one of the following:

- Yes, we do
- No. I have no idea what that is.

If you have adopted green business practices, which ones? *

Please write your answer here:

How educated and engaged are your employees on green practices? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Do you know your organization's carbon footprint? *

Choose one of the following answers Please choose only one of the following:

- Yes
- No

Do you know how you can become a greener company? In other words, do you know/understand how you can innovate and offer greener products and services? *

Choose one of the following answers Please choose only one of the following:

- Yes
- No

Are there any organisations you can, or need to partner with to enable you go green? This could be sustainability NGOs, environmental companies, government departments etc. If yes, which ones and what is your need? *

Please write your answer here:.....

How do you measure or get feedback on your green performance? *

Please write your answer here:.....

Do you know how your competitors fare in terms of green practices? *

Choose one of the following answers Please choose only one of the following:

- Yes
- No

MODULE 2: Digital Maturity

M2.6. Eco-sustainability facilitated by digitalisation:

Are digital technologies supporting the sustainability of your business model and/or its products and services? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Where does your enterprise use digital technologies for its eco-sustainability? *

Check all that apply Please choose all that apply:

- Product design
- Reduction of pollution and recovery of waste
- Production process
- Emissions management
- Sustainable energy generation in own facility
- Raw material consumption/cost optimisation
- Reduction of transport and packaging costs
- Packaging
- Certified sustainable product: ISO 14006,
- Eco-label
- Other, please specify (free text for specification)

Does your enterprise plan to adopt/increase the use of digital technologies to improve its sustainability in the near future? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

MODULE 2: Digital Maturity

M2.7. Digital Skills and Workforce Empowerment

How does your enterprise ensure that the workforce is capable to take full advantage of the available digital tools? *

Check all that apply Please choose all that apply:

- Internal communication strategy
- Trainings attended by employees in digital skills
- Online tutorials and other self-learning options to acquire/increase digital skills
- Devoted digital support team/service (internal/external)
- Traineeships & job placements

Is your enterprise's staff willing to use/learn to use the available digital tools? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Does your enterprise's staff use digital tools to streamline the workflow? *

Choose one of the following answers Please choose only one of the following:

- Yes, by automatizing repetitive tasks
- Yes, by offloading or being assisted in dangerous or delicate tasks
- Yes, by deriving actionable insights from data to improve processes
- No, digital tools are perceived as a burden in accomplishing tasks

Do you plan to implement/expand digital skills and empowerment strategies in the near future? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

MODULE 3: Digitalization Support

M3.1. Potential need of support services:

If support is provided, would you plan to or develop innovative new market products or service offerings? *

Choose one of the following answers Please choose only one of the following:

- Not at all
- To a small extent
- To a moderate extent
- To a great extent

Which DIH services would you consider useful for your enterprise? *

Check all that apply Please choose all that apply:

- Business advice (including feasibility and business plan support and transformation), technology and service support (Artificial Intelligence, High Performance Computing, Cybersecurity and trust, advanced digital skills) and facility testing.
- Skills and training (e.g. traineeships, access to short-term advanced digital skills training courses, job placements)
- Support to find investments (e.g. access to financial institutions and investors, support to get public grants/subsidies)
- Innovation ecosystem and networking (e.g. connection with other enterprises in process of digitalisation, with organisations supporting digital transformation, with suppliers of technological solutions, awareness raising and networking, support to internationalisation, incubation or accelerator programs for digital/tech start-ups, etc.)
- Other:

MODULE 4: Innovation Maturity

What do you expect from digitalisation? (checkboxes where several options can be selected) *

Check all that apply Please choose all that apply:

- Significantly improved business model o Significantly improved product(s)
- Significantly improved service(s)
- New service(s) Significantly improved process(es)
- New business model
- New product(s)
- New process(es)
- Other:

Thank you very much for taking the time to complete this survey.

We look forward to helping your organization's digital transformation journey.

Submit your survey.

Thank you for completing this survey.

Email to Participants

Dear Participant,

You have been invited to participate in a survey by GFA Consulting Group as implementers of GIZ project aimed at strengthening the intermediaries of the Kenyan Digital Innovation Ecosystem (SKIIVE project).

The survey is titled: Digital Maturity Assessment of Enterprises in Kenya

The Digital maturity assessment evaluates a business's or organization's digital intensity and digital culture.

Digital intensity measures the use of digital technologies in the business's operations. Digital culture is a workplace shaped and influenced by digital tools and technologies. In organizations with advanced digital cultures, most employees use digital tech to collaborate, innovate and offer customers access to products, services and support.

The survey will inform the GFA project team and the thematic groups the current status of digital maturity of enterprises in Kenya to provide the planned green Digital Innovation Hub (gDIH) in Kenya through GIZ's Digital Transformation Centre, with the necessary data to identify the digitalisation services needed, as well as serve as a benchmarking exercise for the participating enterprises to have a better picture of their digital maturity position in relation to their peers.

The green digital innovation hub (gDIH) aims at supporting Enterprises or MSMEs go green.

The gDIH is a one-stop shop that will contribute to the digital transformation while promoting sustainable development, circular economy, environmental protection, and tackling climate change. The gDIH is driven by the twin transition, where the green and digital transitions reinforce each other. The twin transition is the key to decarbonising the economy and adopting a circular development model, transforming linear industrial value chains to minimise waste and pollution, making better use of the waste generated and guaranteeing environmental standards.

The closing date for the survey is on 22nd December, 2022. The survey takes approximately 20-30 minutes to complete. Thank you for participating!

Click here to do the survey:

<https://gfasurvey.limequery.com/278313?lang=en> (Please note the Link is now expired and no longer active)



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