

Promoting SME Competitiveness in Chad

Building business fundamentals
through digital adoption



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About the paper

Small and medium-sized enterprises (SMEs) are the backbone of Chad's economy, and their competitiveness is essential to build a diversified and competitive economy.

Drawing from the International Trade Centre's (ITC) SME Competitiveness Survey, this report reveals how efficient management practices, collaboration and innovation can increase competitiveness and resilience among Chadian firms. Digital technologies are vital to reinforce many of these business fundamentals.

The report recommends policy reforms to accelerate digitalization, improve access to finance, enhance skills matching and provide better business support services. These steps are crucial to create an enabling environment where SMEs can thrive and strengthen Chad's economy.

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For more information on SME Competitiveness Survey, see: <https://intracen.org/resources/data-and-analysis/research-and-data>

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Foreword

Small and medium-sized enterprises (SMEs) are the linchpin of Chad's economic future, offering immense potential to drive growth, innovation and job creation. While the SME sector is still in the early stages of development, its success will be instrumental to unleash the country's full economic potential and foster inclusive prosperity in the long term. Empowering SMEs across various sectors will also ensure that Chad can reduce its dependence on oil, diversify its economic base, achieve greater economic stability, and create new growth opportunities.

Aligned with Chad's national development vision, the Government has made it a priority to ensure that small and medium-sized enterprises have a conducive environment to operate, grow and compete. Its National Development Plan and related policy initiatives have helped improve access to finance, promote entrepreneurship, and stimulate SME growth in key sectors of the economy.

Despite these efforts, SMEs in Chad continue to face significant challenges. To support them effectively, it is crucial to understand what their operating environment looks like, including the specific challenges they face, the factors influencing their success, and the opportunities they can use to their advantage.

To this end, the International Trade Centre (ITC) and the Chamber of Commerce, Industry, Agriculture, Mines, and Crafts of Chad (CCIAMA) partnered to conduct a comprehensive assessment of SME competitiveness in the country. The SME Competitiveness Survey, conducted in 2023 and 2024, gathered data from 601 businesses, providing valuable insights into their performance, challenges, and prospects, that form the basis of this report.

This report delivers an in-depth analysis of SME competitiveness in Chad. It identifies key areas for improvement and offers practical recommendations to enhance access to finance; strengthen technical and managerial skills, including for youth; and expand market opportunities. It also makes clear that the future of Chadian SMEs depends largely on their ability to thrive in an increasingly digitalized global economy—meaning their ability to connect to the internet, adopt digital technologies, and innovate in their daily work will be paramount for success.

ITC, the CCIAMA and the Ministry of Commerce and Industry share a common vision of bolstering SME competitiveness to ensure their success in domestic, regional, and global markets. When well-crafted and targeted policies are in place, trade can drive the structural transformation of the economy and contribute to poverty reduction, alongside other critical economic, societal, and environmental goals. We view this report as an essential tool to translate that vision into concrete action.

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Carolina Lemos Rego, Teny Nebie and Khadija Zaidi wrote this report under the guidance of Floriana Borino of ITC. Aishwarya Nahata and Feiyang Shi provided valuable inputs. Valentina Rollo, Head of Research, and Barbara Ramos, Chief of the Strategies and Policies for Trade and Investment section, supervised the project.

The implementation of this study was orchestrated by the leaders of the CCIAMA. Under the guidance of its President, Ali Adji Mahamat Seid, and the leadership of Saleh Moussa Mikerbi, Director General, the project reached its full potential. The operational excellence of this survey owes much to the combined expertise of Mahamat Allahou, Director of Communication, Action, and Economic Information, as well as the insights of consultant Benazir Ali Abbas. We wish to extend our deepest gratitude to these contributors, whose commitment to data collection and valuable recommendations enriched the quality of this report, giving it an exceptional dimension.

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About ITC

ITC was established in Geneva, Switzerland, as a joint agency of the United Nations and the World Trade Organization dedicated to strengthening the competitiveness of small and medium-sized enterprises to build vibrant, sustainable export sectors that provide entrepreneurial opportunities, particularly for women, young people and poor communities.

About CCIAMA

The Chamber of Commerce, Industry, Agriculture, Mines and Crafts of Chad is a public institution established by Law No. 26/PR/94, adopted on 6 July 1994. Its missions include representing, promoting and defending the commercial, industrial, agricultural, mining and artisanal interests, as well as acting as an interface between public authorities and the private sector. The CCIAMA falls under the purview of the Ministry of Commerce and Industry of Chad.

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Acronyms

Unless otherwise specified, all references to dollars (\$) are to United States dollars. Figures may not add up to 100% due to rounding.

BSO	Business support organization
CCIAMA	Chamber of Commerce, Industry, Agriculture, Mines, and Crafts of Chad
GDP	Gross domestic product
ICT	Information and communications technology
IFC	International Financial Corporation
ISO	International Organization for Standardization
ITC	International Trade Centre
ITU	International Telecommunication Union
MSMEs	Micro, small and medium-sized enterprises
OECD	Organisation for Economic Co-operation and Development
R&D	Research and development
SMEs	Small and medium-sized enterprises
SMECS	SME Competitiveness Survey
UNDP	United Nations Development Programme



Executive summary

Small and medium-sized enterprises (SMEs) are key to unlocking Chad's economic potential. Constituting 97% of all businesses in the country and employing more than half of the population, SMEs hold a prominent place in Chad's economic structure. In an economy dominated by the oil sector, Chadian SMEs, which operate across a variety of non-oil sectors, also play a critical role in helping build a more diverse and competitive economy.

These firms, however, face several challenges that undermine their growth. Underdeveloped infrastructure, as well as limited access to major factors of production, including electricity, land and skilled labour, hinder the development of non-oil firms. As a result, the informal sector looms large in the economy, providing 90% of employment across the country.

Higher-level challenges, such as macroeconomic vulnerabilities, caused by oil price volatility and high external debt, as well as an undeveloped competition framework, have also created uncertainty and inhibited private-sector

investment. Chad's vulnerability to crises such as conflict and climate change means that many businesses are further exposed to significant risks to their operations – and increasingly so, as the impacts of climate change are projected to grow in the future.

These factors underscore the need for Chadian SMEs to build resilience and adapt to an evolving economic landscape. Strengthening the competitiveness of these firms is the first step towards building this resilience. This requires a thorough assessment of their strengths and weaknesses, as well as a clear understanding of the barriers they face in the local business environment.

To this end, the International Trade Centre (ITC) partnered with the Chamber of Commerce of Industry of Agriculture of Mines and Crafts (CCIAMA) to assess the competitiveness of SMEs in Chad. Under this collaboration, the SME Competitiveness Survey (SMECS) was administered to 601 businesses across the country between December 2023 and July 2024.

The data collected from the interviews were analysed based on ITC's analytical framework to assess firm competitiveness. This framework consists of three pillars – compete, connect and change – that drive the capacity of an enterprise to be competitive. Each chapter of this report focuses on one of these three pillars.

The survey findings shed light on the external barriers that Chadian businesses face, as well as key practices that are driving the competitive advantage of certain firms. They show how efficient management practices, including inventory and cash flow management, as well as inter-firm collaboration and regular innovation can boost competitiveness and resilience among Chadian firms. The results also highlight the central role digital technologies play in reinforcing many of these business fundamentals that SMEs need to compete, connect and change over time.

Leveraging digital technologies to forge connections

The connect pillar captures the capacity of a firm to create strong links with other actors in the business ecosystem, including buyers, suppliers and business support organizations. Survey findings indicated that deploying digital technologies and collaborating with other businesses can strengthen these connections and improve information flows among Chadian firms.

More than half (53%) of surveyed companies do not use the internet for business operations, with the lack of connectivity more prevalent among smaller firms. This was largely due to the poor quality and costliness of internet services as well as high costs of internet-enabled devices. Lack of stable electricity access also makes it difficult for firms to benefit from unhindered access to the internet.

Affordable, high-speed internet access is particularly important for firms advertising their products or services online. Survey data revealed that Chadian firms – and especially women- and youth-led ones – use digital technologies primarily to advertise their offerings on online platforms. Such platforms are valuable not only in helping firms access larger markets more easily and cheaply, but also in enabling them to gather information on customers that can allow them to better tailor their goods and services to customer needs.

Having information is paramount for firms. Besides employing digital technologies to boost information,

companies can also engage in information sharing and cooperation with peers in their sector. The survey findings demonstrated that more than a third of companies that reported collaborating extensively with other firms in the sector said they have both good availability and high-quality information on potential suppliers, while 18% and 23% that collaborate to a lesser extent reported so, respectively.

Firms with larger, diversified supplier networks are less vulnerable to shocks and tend to be more agile in the face of unpredictable changes in market conditions. Higher degrees of collaboration were also found to be influential in helping businesses develop a stronger supplier network. Businesses in Chad that extensively cooperate with one another are 32 percentage points more likely to have four suppliers or more compared to companies that collaborate little (62% vs. 30%).

Good management practices drive firm competitiveness

The compete pillar encapsulates a firm's ability to deliver output of appropriate quantity, quality, cost and timeliness, to meet market expectations. The results of the SME Competitiveness Survey in Chad revealed that digital solutions, efficient management practices and certification can help companies meet these expectations and become more competitive.

On average, around half of Chad's firms used more than 75% of their productivity capacity in the last year. However, smaller and primary-sector firms were operating far below their full production potential, compared with their larger and manufacturing and services sector counterparts.

Using digital technologies can help firms attain their full productive potential. More than three-quarters (78%) of companies that had integrated digital tools in their production processes reported increased efficiency of production. This is in stark contrast to only one-third of firms that used digital technologies for other purposes.

Another key factor driving greater efficiency among Chadian firms, especially in terms of timely delivery of goods and services, is strong management practices. The survey findings indicated that among firms that rated their inventory management as efficient, 47% often delivered on time – almost double the share of those that rated their inventory management as average or weak (25%). Similarly, companies with robust cash flow management were almost



30 percentage points more likely to report timely delivery than those with weaker cash flow practices.

Such practices provide businesses with up-to-date visibility into their stock and cash flow levels. This not only enables them to meet customer demand in a timely fashion, it also better positions them to withstand market fluctuations, such as input shortages and drops in demand.

For firms seeking to gain a competitive advantage in the market, obtaining certification can be transformative. Survey analysis showed, for example, that while only half of firms in the sample were certified, those with certification were much more likely to export to international markets. Sustainability standards are increasingly necessary to access markets. Companies with sustainability certificates were far more likely than those without certificates to invest in measure to reduce the environmental impact of their activities.

Despite its many advantages, the costs of obtaining certification can be substantial, especially for small and women-led businesses. Effective financial management is crucial in this context. Companies that maintain accurate financial records, manage their cash flow efficiently and use banking services are better equipped to absorb these costs and invest in the certification process.

As Chad seeks to diversify its production, encouraging businesses to certify can provide a significant boost to new players in the market and send a compelling signal of quality, reliability and sustainability to international buyers.

Better skills and access to finance stimulate innovation

The change pillar assesses the ability of a business to evolve with new market trends and adapt to changes in market conditions. The results of the survey highlighted that frequent innovation, powered by a skilled, well-matched workforce as well as secure and reliable access to finance, can enable firms to evolve and adapt and, in turn, stay competitive in the market.

Chadian firms that succeeded in recruiting their required talent benefited considerably in terms of efficiency and management. More than a third (35%) of companies reporting that their employees had skills that matched their business needs also displayed high-capacity utilization, against only 15% of companies with poor skills match. Similarly, firms with good skills match were substantially more likely to report highly efficient inventory and cash flow management, compared with firms with poor skills match.

To engage the right talent, survey findings highlighted two key steps that firms can take. First, establishing formal recruitment processes allows firms to assess potential employees' skills beforehand and ensure they are right for the job. Second, providing on-the-job training can enable workers to further adapt their competencies to enterprise needs.

In both cases, the data indicated that companies using these practices were much more likely than those that did not to report a good skills match. Such practices are particularly important to engage workers with digital skills, for which demand is high and growing in Chad.

Access to finance is also vital to firm growth. More than half (55%) of surveyed firms said access to finance is an obstacle and only a quarter had made a loan application within the last three years. Among companies that did not apply for a loan, common reasons were that they did not think their applications would be approved or that application procedures were too complex.

Bolstering firms' financial knowledge and skills as well as simplifying credit application procedures – for example, through digital technologies – are important ways to encourage and facilitate firms' access to funding. Targeting these policies towards women-led enterprises, in particular, is essential as survey data show these businesses tend to be almost 30 percentage points more disadvantaged than their men-led counterparts when it comes to accessing finance.

Both skilled employees and unrestricted access to finance are imperative to firm-level innovation, as survey analysis revealed. And innovation, in turn, is key to opening new opportunities for Chadian firms. Companies in the sample that were frequent innovators were around 20 percentage points more likely to trade internationally and 10 times more likely to invest in climate change mitigation measures, compared to companies that did not innovate frequently.

Policy recommendations

SMEs hold considerable promise to elevate the competitiveness and resilience of the Chadian economy. SMECS analysis spotlighted five areas where policy and institutional reforms would be needed to harness the full potential of these firms.

- Creating a suitable environment for digital technology use is crucial to enable Chadian firms to be part of and to benefit from the digital transformation. This is even more important, considering the role digital technologies play for building their fundamentals of competitiveness. The focus should be on universalizing access to electricity, widening coverage of internet networks and lowering the costs of internet services and devices.
- Adequate access to finance is needed to improve firms' growth opportunities. Simplifying loan application procedures – for example through digital solutions – and enhancing financial literacy skills among businesses are important steps to increase the likelihood of Chadian firms applying – and being accepted – for loans.
- Investing in the development of skills of the population is necessary. Programmes that offer vocational training opportunities to youth and upgrade competencies – especially digital competencies – among employees are important tools to increase the supply of skilled individuals in the labour market.
- Promoting certification among Chadian firms can help them access new markets and become more competitive globally. Disseminating information on how to become certified and providing financial support to help businesses afford certification is essential.
- Business support organizations can be important agents for change in the Chadian private sector. Offering financial and technical support to these organizations and promoting coordination and cooperation among them can help expand their services.



Chapter 1

Unleashing the potential of small businesses

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Unleashing the potential of small businesses

Small and medium-sized enterprises (SMEs) are at the heart of Chad's economic potential. The country depends heavily on oil, which accounted for 86% of export earnings and 62% of government revenue in 2022.¹ This reliance on a single sector makes the economy highly vulnerable to fluctuations in global oil prices, leading to major economic instability.

Diversification is essential to build a more resilient economic structure in Chad, and SMEs are key to achieving this goal. By operating across non-oil sectors such as agriculture, services and manufacturing, Chadian SMEs are well-positioned to contribute significantly to a more diverse and inclusive economic foundation. Their role is even more crucial, as they constitute 97% of all businesses in the country and employ more than half of the population.²

Chad's private sector requires substantial development to fully harness the potential of smaller firms in driving economic diversification and resilience. The informal sector dominates the economy, providing 90% of employment across the country.³

The formal sector has considerable growth potential, but faces several challenges that need to be addressed. Streamlining the regulatory environment, expanding access to finance and improving infrastructure are key areas for development.⁴ Enhancing economic stability will also help create a more favourable climate for both domestic and foreign investment.⁵ Additionally, aligning the education system more closely with the needs of the private sector can support the sector's advancement and enable more sophisticated business operations.⁶

Recognizing the private sector's critical role in economic development and the challenges it faces, the Government of Chad has initiated several measures to support the development of the SME sector (see Box 1). While these initiatives represent great progress, further efforts are required to ensure that policies are tailored to the specific needs of SMEs. To increase their effectiveness, it is essential to identify both the bottlenecks that companies face and the areas of greatest potential that could drive the diversification and export success of the country.

To this end, the International Trade Centre (ITC) partnered with the Chamber of Commerce of Industry of Agriculture of Mines and Crafts (CCIAMA) to assess the competitiveness of SMEs in Chad.

This report provides a diagnostic of the current state of SMEs in the country, offering valuable insights into their strengths and weaknesses. By identifying these key factors, the report aims to equip policymakers with the information necessary to craft targeted interventions that will enhance SMEs' performance. These insights will help to prioritize areas for support, optimize resource allocation and ultimately contribute to a more resilient and diversified economy.

Under this collaboration, the ITC SME Competitiveness Survey (SMECS) was administered to 601 businesses across the country between December 2023 and July 2024. The findings of this report on SME competitiveness are grounded in the data generated by that survey and the partnership that facilitated it.

Box 1: Government policies for small and medium-sized enterprises

The Chadian Government has established long-term development objectives within its Vision 2030 framework. This vision aims to foster inclusive economic growth, reduce poverty and promote sustainable development. To achieve these objectives, the vision has been translated into three national development plans, with the first plan (2017–2021, extended until 2023) serving as the initial step towards realizing this ambitious agenda. One of the key strategic pillars of this plan is to transform Chad into a diversified and competitive economy.

To drive this transformation, the Government introduced the National Private Sector Development Strategy (2018–2021), aimed at fostering a more favourable business environment. Key initiatives include regulatory reforms, improved access to financing and strengthening entrepreneurial capacities. These efforts are designed to stimulate innovation, develop critical infrastructure and better integrate Chad's private sector into regional and international markets.

Recognizing that access to financing is vital for SMEs to expand into these markets and seize new opportunities, the government has launched several initiatives to address this challenge. For instance, in partnership with the IFC, the Ministry of Planning and International Cooperation introduced a leasing system in 2014 to support small businesses, especially those lacking the collateral or credit history needed for traditional loans.

Young entrepreneurs have been supported since 2020 through a youth entrepreneurship fund established by the Ministry of Finance and Budget in collaboration with local banks, providing a 70% state guarantee for the loans. This initiative is designed to foster inclusiveness: a portion of the loans is allocated to young people from each province (at least 1% per province, with a cap of 8%) and 30% of the loans are reserved for women.

Further support for youth comes through the National Youth Support Fund, which provides financial assistance to projects

that promote their economic integration. The Government also approved a National Strategy for Women's Entrepreneurship in 2022, specifically designed to address the challenges faced by women entrepreneurs.

On the fiscal front, the government has adopted measures to reduce the tax burden on businesses and strengthen their competitiveness. The 2024 finance law includes provisions to reduce the corporate tax rate from 35% to 30% for most companies, excluding those in the oil and mining sectors. Businesses in the local product transformation and energy industries benefit from a further reduction, with the tax rate lowered to 25%. In addition, the tax exemption period for new firms has been extended from five to 10 years, giving even more support to start-ups.

Beyond tax reforms, other measures have been introduced to streamline business creation. The number of procedures required to start a business has been reduced from 19 to four, and the associated costs have been lowered. The minimum capital requirement was abolished in 2017. The Business Formalities Centre also offers entrepreneurs a one-stop service to handle all administrative procedures related to business creation.

The Business Formalities Centre is overseen by the National Investment and Export Agency, which helps SMEs improve their productivity and competitiveness on the global stage. The agency provides an exporter's guide, offering detailed information on customs procedures, export-import formalities and guidance on identifying viable export markets.

The institutional landscape supporting the private sector includes several other entities. The Ministry of Commerce and Industry plays a central role, alongside the Enterprise Development Centre, the CCIAMA and the National Employment Promotion Office. Through its self-employment programme, the National Employment Promotion Office supports the creation of microenterprises and independent jobs for youth with financial assistance.

Source: Agence nationale des investissements et des exportations, n.d.; Embassy of Chad in Belgium, n.d.; IFC, 2014; International Labour Organization, 2018; Ministry of Finance and Budget of Chad, 2020; Ministry of the Economy and Development Planning of Chad, 2017a, 2017b; Office national pour la promotion de l'emploi, n.d.; Republic of Chad, 2023; United Nations Development Programme (UNDP), 2020; UNDP Chad, 2022.

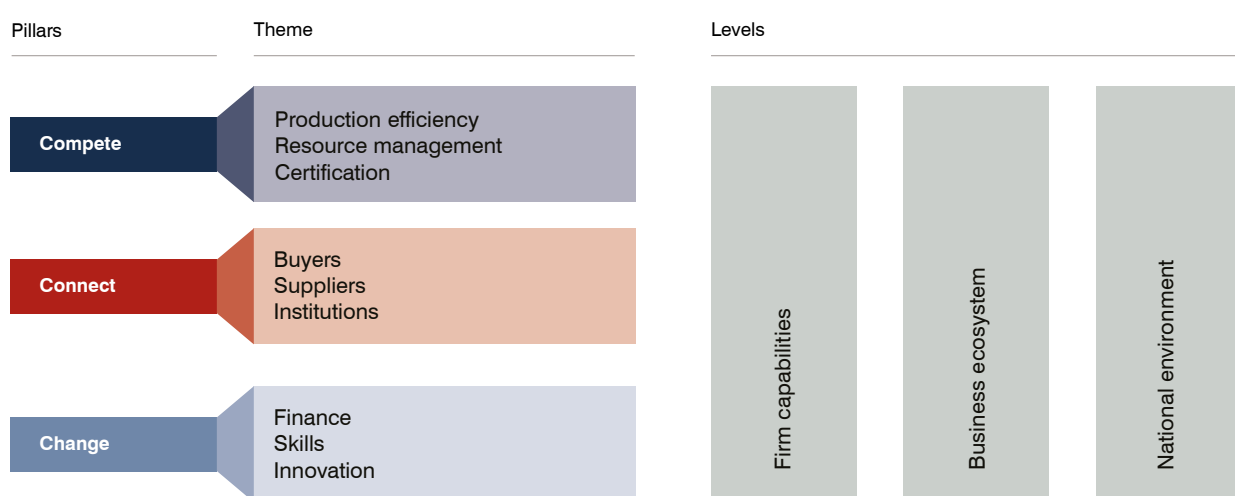
Assessing the competitiveness of small and medium-sized firms

ITC developed the SME Competitiveness Survey⁷ to help countries collect the data needed to assess the competitiveness of their enterprises. As of August 2024,

more than 49,000 firms had been surveyed in 58 countries, including Benin, Burkina Faso, South Sudan and Zambia.

The tool is designed to combine information at the micro level (firm capacity) and meso level (local support ecosystem for businesses) to provide a nuanced picture of the capacity of a country's private sector to compete in international markets.

Figure 1 SME Competitiveness Grid



Source: ITC.

Small and medium-sized enterprises are defined as firms with fewer than 100 employees (see appendix). The term SME, therefore, includes microenterprises. Although the focus is on small and medium-sized enterprises, some large companies⁸ are included in the survey so the competitiveness of SMEs and bigger firms can be compared.

ITC has developed an analytical framework to understand firm competitiveness and how it can be improved over time. The framework is built around three pillars – compete, connect and change – that drive the capacity of a company to be competitive across three levels of the economy: the firm (micro level), the business ecosystem (meso level) and the national environment (macro level) (Figure 1). Each pillar is further subdivided into themes that are the subject of the analysis in this report.

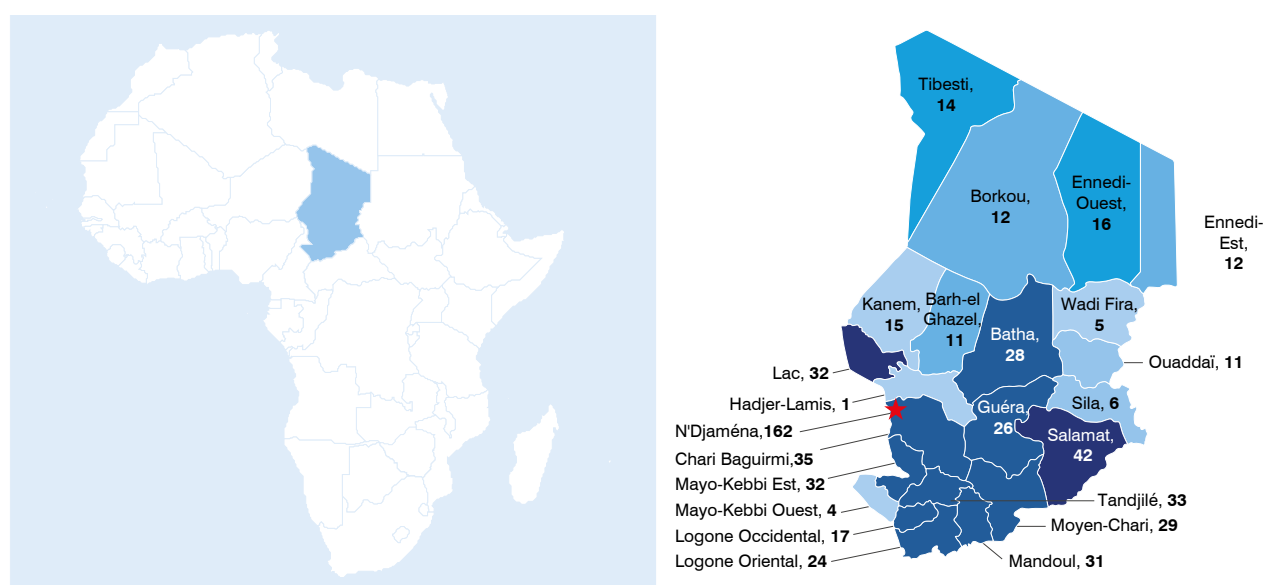
SME Competitiveness Survey in Chad

CCIAMA, with the support of ITC, collected data for the SME Competitiveness Survey from 601 Chadian enterprises between December 2023 and June 2024.

A sample of firms was randomly selected from a list of companies compiled by CCIAMA. Data were gathered in the 23 provinces of the country: Barh El Gazel, Batha, Borkou,

Chari-Baguirmi, Ennedi Est, Ennedi Ouest, Guéra, Hadjer Lamis, Kanem, Lac, Logone Occidental, Logone Oriental, Mandoul, Mayo-Kebbi Est, Mayo-Kebbi Ouest, Moyen-Chari, N'Djaména, Ouaddaï, Salamat, Sila, Tandjilé, Tibesti and Wadi Firaa. Figure 2 highlights the surveyed provinces, with the corresponding number of firms interviewed in each province. This distribution reflects the country's economic landscape, with N'Djaména, the capital city, being home to most businesses.⁹

Figure 2 Surveyed provinces of Chad



Source: ITC based on SME competitiveness data collected in Chad.

The sample included firms of different sizes (micro, small, medium-sized [MSMEs] and large) from all sectors (primary, manufacturing and services). To the extent possible, the sample in each province was composed of exporting and non-exporting firms.

Among the companies interviewed, 99% were SMEs, with 46% being micro and 45% being small firms (Figure 3). This is consistent with evidence showing that SMEs dominate the business landscape in Chad.¹⁰ Forty-two percent of the firms operated in the primary sector, 32% were in the services sector and the remaining 25% were in manufacturing. These figures reflect the limited industrialization of Chad's economy, where the primary and tertiary sectors contribute most significantly to gross domestic product (GDP).¹¹

Furthermore, while Chad's economy is characterized by a high level of informality, the sample primarily consists of formal businesses (93% of surveyed firms), which may not fully represent the broader informal sector that plays a central role in the country's economic activity. Therefore, the findings of the report focus on the formal sector.

Managers under the age of 35 lead only 15% of firms in the sample. However, in Chad, young people's income is predominantly derived from self-employment.¹² The scarcity of formal job opportunities leads many young people to entrepreneurship.¹³ According to survey data, 80% of youth-led businesses were created in the last 10 years. In contrast, only 39% of non-youth-led businesses started their activities during the same period, with most having been operational for more than a decade.



While entrepreneurship presents a promising alternative, it also brings major challenges. Many young entrepreneurs operate in the informal sector,¹⁴ and numerous obstacles impede the sustainability and growth of their ventures, keeping them small-scale. Data show that 64% of youth-led firms are microenterprises, employing fewer than four workers, compared to 43% of non-youth-led companies. The challenges most frequently cited by young Chadian entrepreneurs are the lack of technical training, skilled labour, limited access to finance and credit, and the absence of networking opportunities.¹⁵

Businesses led by women also face many challenges. Only 19% of the companies surveyed were women-led, a finding consistent with previous surveys showing that women constitute a small minority among Chadian entrepreneurs.¹⁶ Additionally, these firms often operate on a smaller scale, with 79% classified as microenterprises compared to just 38% of men-led firms. The obstacles to female entrepreneurship in Chad include limited access to assets, such as land, due to sociocultural burdens, higher rates of illiteracy, difficulties in accessing finance and insufficient technical or managerial training.¹⁷

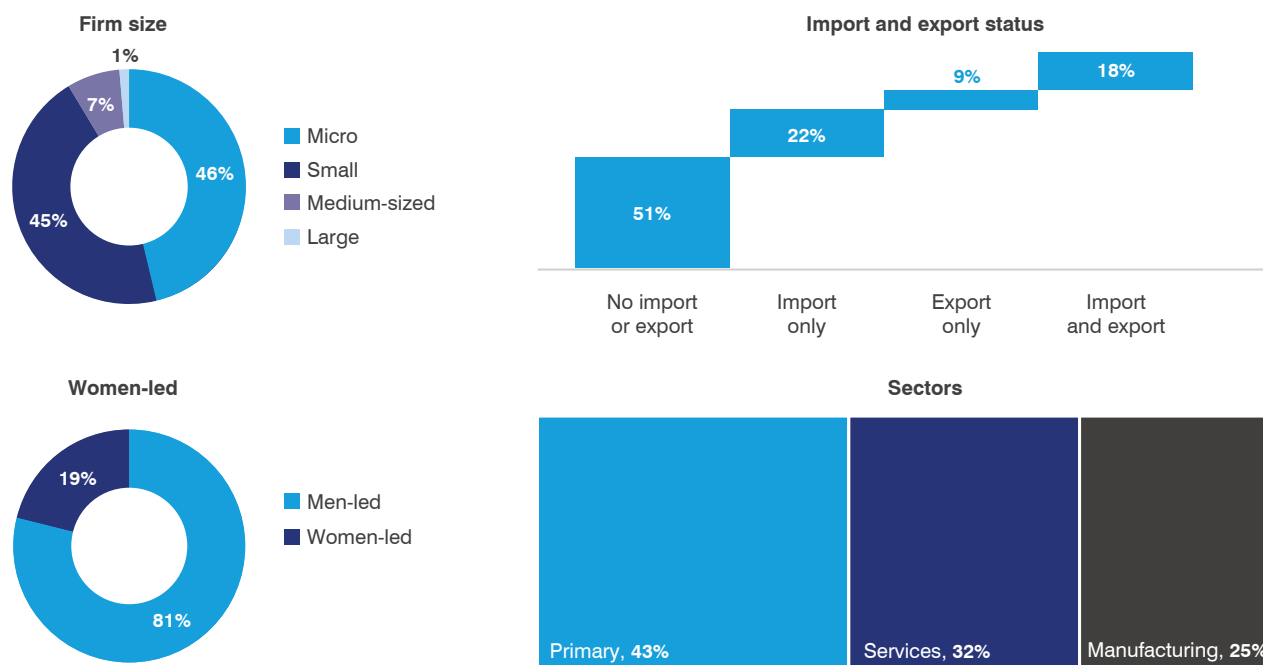
However, when women successfully overcome these obstacles and establish their firms, they play a key role in empowering other women. Survey data show that they tend to hire a markedly higher proportion of women. On average, 89% of employees in women-led firms are female, compared to just 12% in men-led firms.

With regard to the international exposure of the companies in the sample, 49% imported, exported or did both. However, just one in four exported – underscoring the unrealized export potential of Chad. ITC (Export Potential Map)¹⁸ estimates that the products with the highest export potential from Chad to the global market are unwrought gold for non-monetary purposes, sesame seeds and natural gum arabic.

These products play a pivotal role in Chad's national strategy for private-sector development,¹⁹ with priorities set on enhancing infrastructure and regulatory frameworks to support their production and export. This includes modernizing the regulatory environment, particularly in the mining sector, to align with international standards and promote safe, sustainable practices. The strategy also focuses on developing the value chains for sesame seeds and natural gum arabic through targeted projects aimed at improving access to inputs, financing and building infrastructure for storage, processing and marketing in critical production areas.

By strengthening these key sectors and enhancing the overall business environment, Chad will position its SMEs to become key drivers of economic growth. This will not only enhance their competitiveness, but also enable them to contribute more effectively to the country's broader development goals, ensuring long-term economic resilience and prosperity. The rest of this report delves into the specific challenges and strengths of Chadian SMEs, offering insights that will be crucial for empowering them to reach their full potential.

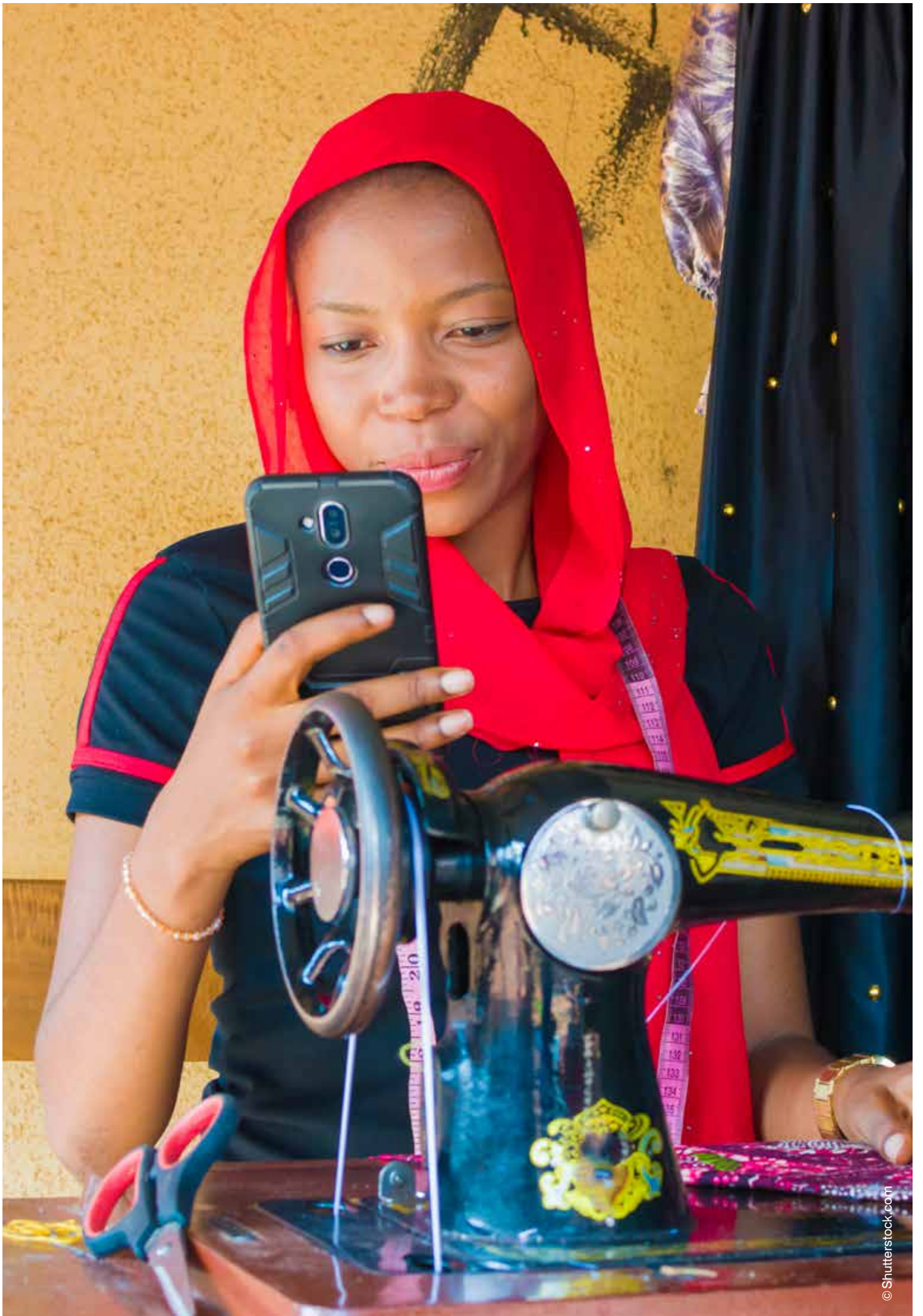
Figure 3 Characteristics of firms that participated in the survey



Note: Microenterprises are defined as those with four or fewer employees; small firms have 5–19 employees; medium-sized ones have 20–99 employees and large companies have 100 or more employees. Women-led firms are managed by a woman and at least 25% owned by women. Exporters are defined as firms whose direct export sales represent more than 1% of their sales. Importers are defined as firms whose foreign inputs represent more than 1% of their inputs.

Source: ITC, calculation based on SME competitiveness data collected in Chad.





Chapter 2

Strengthening connections through digital technologies

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Strengthening connections through digital technologies

Digitalization is an important driver of Chad's economic growth, playing a crucial role in the promotion of structural change and in facilitating the country's integration into the global economy.²⁰ Digital transformation is essential for realizing Chad's Vision 2030,²¹ as it enables the modernization of industries, enhances competitiveness and creates new opportunities for sustainable development. Adopting digital technologies is particularly important for businesses in a landlocked country such as Chad as it strengthens their connections with stakeholders beyond geographical constraints.

However, digital adoption in Chad is still nascent. The SME Competitiveness Survey finds that most firms do not use the internet for business purposes, as they find internet connections to be of poor quality and costly. Nevertheless, Chadian companies connected to the internet use it to communicate more efficiently with existing and potential customers and suppliers, as well as with other firms in their sector. Connected companies gain considerably from the use of digital technologies: they report higher sales, lower costs and improved access to both new customers and international markets, compared to the unconnected.

Despite low digital adoption, the survey finds that firms advertise through social media and other internet-based platforms more than non-digital forms of advertising. And companies engaged in online advertising are better informed about existing and potential clients than those that rely solely on traditional channels to advertise their products or services, or that do not advertise at all.

Collaboration among business can also serve as an important source of information. Businesses that work together extensively report having better access to higher quality information on potential suppliers, promoting a favourable environment for firms to expand their supplier networks and consequently become more resilient to external shocks. Leveraging digital technologies can strengthen connections among firms, fostering collaboration and stimulating growth, especially in the case of companies managed by women.

Connectivity is key for businesses to grow

Digital technologies help companies lower transaction costs, expand market reach and visibility, and connect with existing and new buyers and suppliers, as well as with other firms in their business ecosystem.²² Building and maintaining such connections is key to firms' competitiveness.²³

Benefits of digitalization notwithstanding, access to the internet in Chad remains very limited.²⁴ Diffusion of digital technologies in the country has been among the slowest across African economies in the last two decades.²⁵ As of 2023, only 12.2% of the population in the country used the internet – about a third of the reported use rate of African countries, 37.1%.²⁶

The SME Competitiveness Survey in Chad echoes these findings: more than half of the surveyed companies do not use the internet for business operations (Figure 4, left panel). Relative to other African countries, the online presence of Chadian companies is extremely low. On average, only 20% of surveyed businesses in other African countries do not use the internet for business purposes.²⁷

Smaller companies are often at most disadvantage concerning access to the internet.²⁸ Past research has shown that factors such as limited access to finance, information and training make smaller firms less likely to adopt digital tools and technologies.²⁹

In Chad, 55% of the micro and small companies surveyed do not use the internet for business purposes, compared to 25% of medium-sized and large firms. On the other hand, companies managed by youth are more likely to be connected, with 53% reporting that they use the internet for business purposes, relative to 46% of non-youth-led firms. Firms led by younger managers are more likely to adopt digital technologies for business purposes, as they are often more familiar with information and communications



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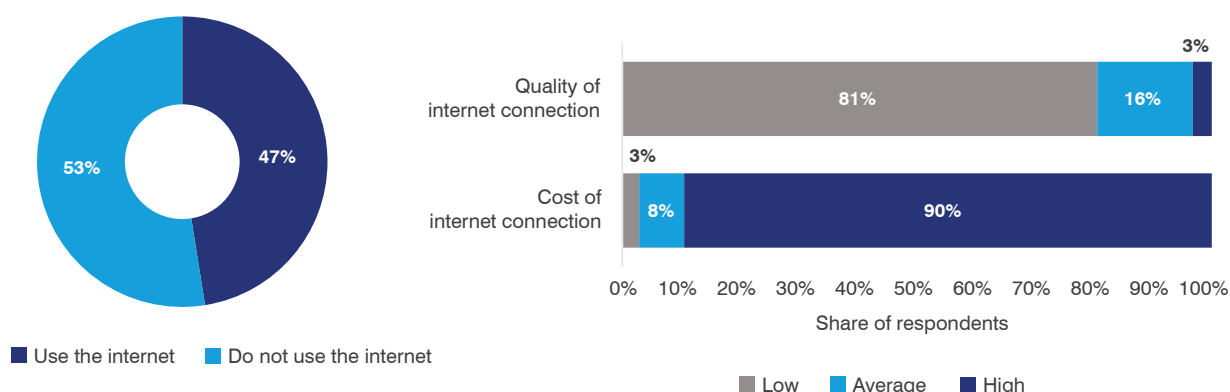
technology (ICT) and more willing to embrace new technologies than older managers.³⁰

The limited use of internet in Chad can be partly explained by the country’s low electrification rate, as well as the poor quality and high cost of internet services.³¹ Evidence from the SME Competitiveness Survey shows that among connected businesses, 81% of respondents find the quality of internet

services to be low, while 90% report facing high costs to connect to the internet (Figure 4, right panel).

Devices are also essential tools for digital engagement, with access to computers and smartphones playing pivotal roles in a firm’s digital trajectory. However, 60% of respondents in Chad find the high costs of devices to be a major obstacle to the adoption of digital solutions in their companies.

Figure 4 Low quality and high cost of internet access keep most firms offline



Note: Respondents were asked: ‘Is your company using the internet for business operations and interactions?’ and ‘Please rate the quality of your internet connection’ and ‘Please rate the cost of your internet connection’. For the latter two questions, options ranged from 1 (low quality or low cost) to 6 (high quality or high cost): answers of 1 or 2 were allocated to the ‘low’ category, 3 or 4 to the ‘average’ category, and 5 or 6 to the ‘high’ category.

Source: ITC calculation based on SME competitiveness data collected in Chad

Internet speed in the country is slow, ranking 192nd out of 229 countries, with an average download speed of 10.5 Mbps.³² Moreover, the cost of a fixed-broadband internet basket in 2016 represented 577% of gross national income per capita – almost 300 times higher than the 2% target set by the 2025 Broadband Advocacy Targets.³³

The type of device and broadband subscription chosen by companies to connect to the internet reflect these high costs. Among connected firms, 40% of respondents use a computer and 14% use fixed-broadband subscriptions to connect their businesses online. On the other hand, 86% of respondents use a smartphone and four of five companies use mobile-broadband subscriptions, the costs of which are considerably lower.³⁴

The high cost of digital technologies does not necessarily hinder digitalization, but it does make it difficult for Chadian firms to engage in more sophisticated activities using digital technologies. Indeed, most companies use digital technologies for basic purposes. Companies report using these technologies the most to advertise their products and services through social media, marketplaces and e-commerce platforms (49% of respondents), communicate with customers and suppliers (38%), and manage logistics and transport (27%).

Despite the basic use of digital technologies, the findings of the survey show that 95% of businesses that adopt digital technologies experience positive outcomes from their use. Companies benefit the most from improved access to new customers (63% of respondents) and international markets (46%); increased sales (45%); reduced costs (44%) and improvements in production efficiency and product quality (40%).

Nevertheless, past studies show that real gains in competitiveness and efficiency come with integrated uses of more advanced digital tools. ITC surveys in francophone Africa, for example, revealed that companies using intermediate or advanced digital technologies – such as cloud-based data storage, digital accounting or computerized inventory management – were twice as likely to report improved production efficiency than firms that only used e-mail or social media, and almost 40 percentage points more likely to report lower operating costs, thereby highlighting the benefits of deeper digitalization.³⁵

The potential benefits of improving connectivity in Chad are clear. Indeed, 64% of non-connected companies report

that they would use the internet for business purposes if conditions for access were improved. This underscores the importance of government investment in digital infrastructure, which has the potential to significantly boost the adoption of digital technologies by companies. Additionally, partnerships between the government and the private sector can help alleviate investment costs, so improvements in the country's digital infrastructure can be achieved with relative speed and efficiency.

Connecting to customers through advertising

As noted, Chadian companies mainly use digital technologies to advertise their products and services. Effective advertising strategies can strengthen a company's relationship with its customers, allowing it to adapt its goods or services to meet customer preferences. Information obtained from advertising can also expand a company's reach beyond its natural market environment and attract new customers.³⁶

The SME Competitiveness Survey shows that 43% of companies in Chad engage in some form of advertising, either online or through traditional channels. Smaller firms are at a disadvantage when it comes to advertising: they are often more financially constrained than their larger counterparts and therefore have fewer resources available to invest in marketing strategies.³⁷ The survey shows that smaller firms are 28 percentage points less likely to engage in any form of advertising than larger firms – 41% of micro and small firms advertise compared to 69% of medium and large firms.

Firms with younger managers, on the other hand, are more involved with marketing strategies, with 52% of youth-led firms saying they advertise (compared to 42% of non-youth-led firms). Past research confirms that younger managers are more innovative and dynamic in their business decisions, and therefore more likely to connect with customers using innovative marketing strategies, especially through digital channels.³⁸

The use of online platforms and social media for advertising has become globally pervasive, especially from the onset of the COVID-19 pandemic, when government restrictions severely disrupted the use of traditional marketing strategies. Companies have increasingly resorted to digital technologies to connect to and communicate with customers.³⁹ Evidence from the survey in Chad shows that 42% of firms increased their use of digital technologies during the pandemic. The

number of social media users in Chad almost tripled between 2020 and 2024, from 330,000 to 973,000 users.⁴⁰

The survey also found that the internet and social media platforms rank first as the most frequently used form of advertising in the country, irrespective of firm size or the age or gender of management. More than a quarter (28%) of companies say they advertise their products or services online, with 16% advertising exclusively online. However, companies in Chad remain behind companies in other African countries, where on average one in two companies advertise online.⁴¹

The growing reliance on online advertising can in part be linked to its considerably lower costs, which provide more equal opportunities for firms to connect with customers. Online advertising strategies can especially benefit SMEs and firms managed by more vulnerable groups, such as women and youth.⁴² Online tools allow companies to more easily and cheaply access larger markets and services, overcoming geographical limitations. Businesses can therefore engage directly with a wider customer base, better showcase their products and services, and increase credibility, levelling the playing field with larger companies.

In Chad, companies led by women and youth are the most active in online advertising: 39% of women-led and 42% of youth-led businesses advertise online, compared to 25% of men-led and 26% of non-youth-led businesses. Moreover, 30% of both women- and youth-led businesses advertise exclusively online, almost three times more than men- and non-youth-led firms, for which the figures are 12% and 13%, respectively.

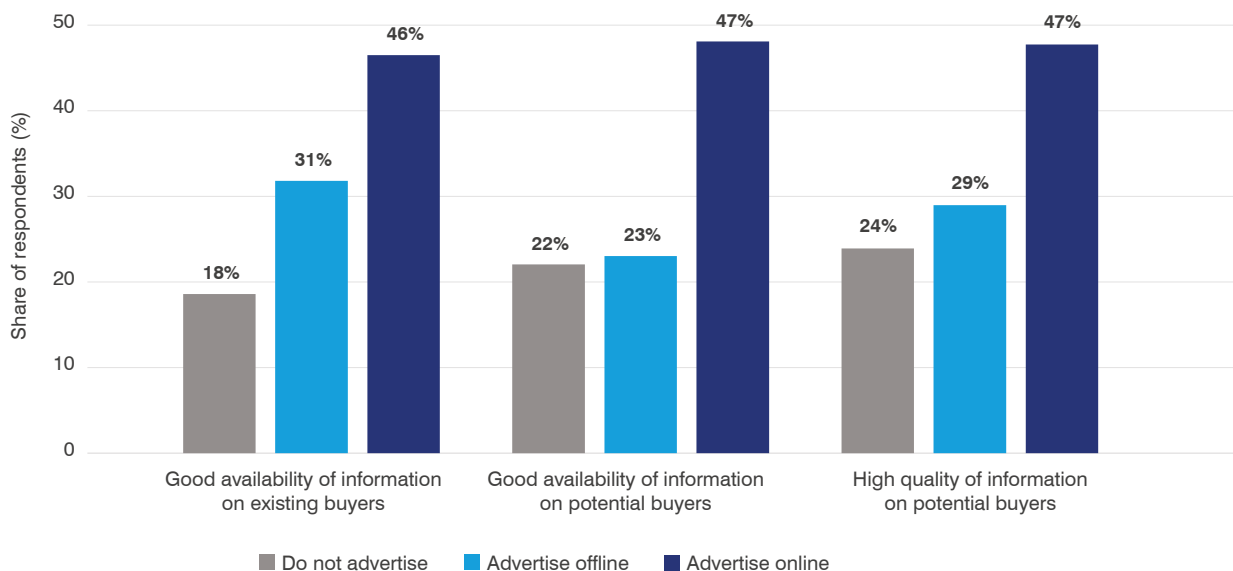
Online marketing strategies are useful for gathering customer information. They enable firms to better assess the effectiveness of their promotional campaigns on specific customers and adapt with targeted advertisements.⁴³ The survey finds that firms that advertise online have higher availability and better-quality information on both existing and potential customers than companies that only advertise through traditional channels or that do not advertise at all (Figure 5).

Almost half (46%) of the firms that advertise online in Chad report having good availability of information on existing customers compared to 31% of the companies that only advertise offline (using traditional channels such as leaflets, posters, radio or television) and 18% of the companies that do not advertise at all. Businesses that advertise online are also twice as likely to report having good availability and high-quality information on potential customers than those that either only advertise offline or do not advertise at all.

Advertising can therefore be a powerful tool for firms to connect with customers. By investing in effective marketing strategies, companies can gather valuable insights into customers' needs, enabling them to operate more efficiently and retain their competitiveness in the market. The use of digital technologies in advertising can further strengthen companies' understanding of their customers and industry, offering smaller and more vulnerable firms a platform to compete on a more equal footing with larger corporations.



Figure 5 Companies that advertise online have better information on customers



Note: Respondents were asked: 'Please rate the completeness of this company's profile information on its buyers (e.g. information on age, gender, employment background)' and 'Please rate the availability of market information on potential buyers' and 'Please rate the quality of market information on potential buyers'. Options ranged from 1 (poor availability or low quality) to 6 (good availability or high quality): answers of 5 or 6 were allocated to the best category (good availability or high quality). These responses were then linked with the question: 'In the last year, did this company engage in any of the following forms of advertising: (i) leaflet, poster or newspaper advertising; (ii) radio or television advertising; (iii) internet or social media advertising'. Responses were allocated to three categories: respondents who provided negative responses to all three forms of advertising were allocated to the category 'do not advertise'; respondents who provided positive responses to options (i) and/or (ii) but not (iii) were allocated to the category 'advertise offline'; respondents who provided any positive responses to (iii) were allocated to the category 'advertise online'.

Source: ITC calculation based on SME competitiveness data collected in Chad.

Collaboration boosts supplier information and resilience

Firms need a strong and diversified supplier network to succeed. Those that rely on just a few suppliers are more vulnerable to shocks, as a lack of diversification in inputs for production renders them more dependent on their main suppliers and more susceptible to supply-chain disruptions and volatility in markets.⁴⁴

By expanding their supplier network, domestically or internationally, companies become more flexible to adapt to changing market conditions and customer needs,⁴⁵ rendering them more resilient to shocks such as climate change, conflicts, health crises or pest outbreaks.⁴⁶ For instance, survey evidence in developing countries shows that businesses with a diversified supplier network had less difficulty accessing inputs during the COVID-19 pandemic than those relying on fewer suppliers.⁴⁷

Evidence from the SME Competitiveness Survey in Chad shows that most businesses in the country rely on a small number of suppliers: 49% have between one and three suppliers, 39% have between four and 10 suppliers, and only 12% have more than 10 suppliers. Companies with just a few suppliers are more likely to rely heavily on their main supplier and less likely to assess supplier performance frequently than companies with a larger number of suppliers.

The survey finds that SMEs and companies managed by women and youth rely on a smaller number of suppliers and are therefore more at risk. One in two micro and small firms have between one and three suppliers compared to 38% of the medium-sized and large firms surveyed. They are also almost three times more likely to not perform frequent supplier assessments than larger firms (31% vs. 12%).

Women- and youth-led companies tend to have fewer suppliers than men-led and non-youth-led companies: 73% of women-led and 68% of youth-led businesses have between one and three suppliers, compared to 43% and

46% of men-led and non-youth-led businesses, respectively. Women-led and youth-led companies are also less likely to perform supplier assessments frequently.

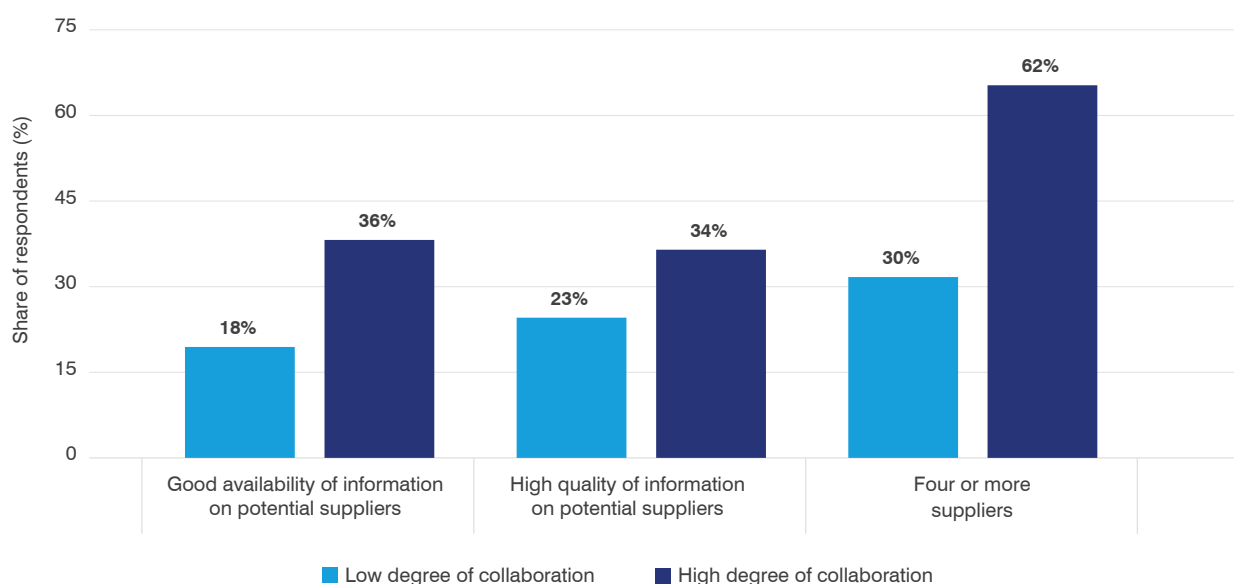
When companies collaborate with industry partners, they can exchange reliable information to diversify their supplier networks and invest in solutions to promote firm growth, boost competitiveness and become less exposed to fragility and economic uncertainty, increasing resilience.⁴⁸

The findings of the SME Competitiveness Survey show that businesses that collaborate extensively with other firms are up to two times more likely to have good availability of

high-quality information on potential suppliers. More than one-third of companies that collaborate extensively also say they have good availability of and high-quality information on potential suppliers, compared to 18% and 23%, respectively, of the firms that report limited collaboration (Figure 6).

As a result, companies that collaborate more also rely on a larger number of suppliers than those that do not collaborate as much. Businesses in Chad that cooperate extensively with one another are 32 percentage points more likely to have four suppliers or more than companies that collaborate little (62% vs. 30%).

Figure 6 Collaboration improves knowledge on and access to suppliers



Note: Respondents were asked: 'Please rate the availability of market information on potential suppliers' and 'Please rate the quality of market information on potential suppliers' and 'How many suppliers do you currently have?'. For the first two questions, options ranged from 1 (low availability or low quality) to 6 (good availability or high quality): answers of 5 or 6 were allocated to the best category (good availability or high quality). For the latter question, answers of four or more were allocated to the same category. These responses were then linked with question: 'To what extent do companies in your sector cooperate to solve common problems which may be beneficial to the sector as a whole?'. Options ranged from 1 (no extent) to 6 (great extent): answers of 1 or 2 were allocated to the 'low degree of collaboration' category, and 5 or 6 to the 'high degree of collaboration' category.

Source: ITC calculation based on SME competitiveness data collected in Chad.

The survey shows that collaboration across Chadian companies is widespread. Two out of three firms in the country say they extensively share information and cooperate with other firms in their sector to solve common problems. Relative to other African economies, businesses in Chad are almost twice as likely to extensively exchange information and help other firms – 67% of respondents in Chad compared to 36% of companies in other African countries.⁴⁹

Women-led firms collaborate less, however. Factors such as legal discrimination, social and cultural norms, and limited access to resources and networking opportunities may contribute to this.⁵⁰ Indeed, the SME Competitiveness Survey in Chad shows that fewer than half of the women-led companies collaborate with others in their sector, compared to three out of four companies managed by men.

The survey findings show that women-led companies face greater risks due to their heavy reliance on a limited number of suppliers. This makes them more vulnerable to shocks and supply-chain disruptions. To mitigate these risks, it is crucial to promote collaboration among women-owned businesses in Chad. By working with peers, these companies can share valuable information about suppliers, diversify their supplier base and build greater resilience.

Digital solutions can play a key role in fostering this collaboration. Past research indicates that internet adoption in businesses is positively associated with increased collaboration and partnerships across companies in a given sector.⁵¹ Digital tools facilitate collaboration across geographically dispersed firms, reducing coordination costs and increasing firm performance and competitiveness.⁵²

This is even more so the case for firms managed by women. Past research has showed that women entrepreneurs often face greater limitations in accessing social capital,⁵³ and use of ICT can support businesses in challenging circumstances,⁵⁴ as well as promote interactions within and outside their communities that might not occur otherwise.⁵⁵

The SME Competitiveness Survey echoes these findings: more than half of the women-led businesses that are connected to the internet report a high degree of cooperation with other firms in their sector, compared to only 37% of firms managed by women that are not digitally active. Therefore, enhancing digital connectivity for women entrepreneurs can help them strengthen their networks, improve access to information on suppliers and ultimately create a more robust and resilient business environment for all.



Policy insight: Investing in digital infrastructure is vital to promote inclusive growth

Digital infrastructure is a major challenge for businesses in Chad. The poor quality and high cost of internet access, coupled with the elevated cost of devices, contribute to the country's low internet penetration rate, which is well below the African average. Past research has highlighted the importance of improving internet access for economic development in African countries. Reliable and affordable internet enables companies to stay connected with their stakeholders, more easily access foreign markets and operate more efficiently in the event of unexpected shocks, as demonstrated during the COVID-19 pandemic.

Recognizing the potential of digital technologies to stimulate economic growth, the Government of Chad has implemented numerous initiatives to advance the country's digital transformation. Most recently, in January 2022, the Government introduced a five-year tax exemption on the import of electronic devices (such as mobile phones, wireless cellular networks, computers and tablets), aiming to increase adoption of digital technologies. The policy is akin to one adopted in Colombia in 2017, which eliminated value-added taxes on mobile devices below a certain value, resulting in significant growth in both the number of internet users and data consumption in the country.

Despite these efforts, ample opportunities remain to improve connectivity in Chad. The Government should continue to prioritize the expansion of internet access. As evidenced by the SME Competitiveness Survey, such measures would particularly benefit small, women-led and youth-led companies, which struggle the most to connect and would benefit from cost-effective, productivity-enhancing technologies that depend on internet connection.

One innovative solution to boost connectivity is to incentivize public–private partnerships. For example, in Botswana, the publicly owned company Botswana Fibre Networks partnered with a private internet service provider, CENE Media, to expand its broadband network and promote internet use through free internet bonuses. Similarly, in Sri Lanka, the Easy Seva project linked public and private enterprises to establish public internet facilities in rural communities, charging very small hourly fees to users.

Infrastructure sharing is another effective strategy to advance digital transformation. Remote and sparsely populated areas, which are often less connected, are better suited for the installation of wireless cellular networks. The construction of cell towers and wireless masts can be quite expensive, however. By sharing existing infrastructure such as electricity grids or transport networks, network providers can reduce costs and facilitate the improvement of digital infrastructure in these regions.

While investments in digital infrastructure are crucial, they will not be sufficient if individuals are not well equipped to make use of them. Policies and programmes that encourage the use of digital tools and improve digital literacy must accompany investments in infrastructure. Such initiatives allow for a more efficient use of the technologies deployed and have the potential to significantly boost firm competitiveness and growth.

In 2005, for instance, the Moroccan Ministry of National Education and Vocational Training launched the GENIE programme to improve digital literacy in the country. The long-term initiative included not only improvements in internet infrastructure and access to computers and tablets, but also the incorporation of a 'digital curriculum' in educational institutions and the development of e-learning resources.

Source: Ghanem (2020); Ecofin Agency (2022); Ariss (2023); IFC (2023); ITC (forthcoming).



Chapter 3

Upgrading management practices for competitiveness

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Upgrading management practices for competitiveness

A competitive business must leverage its productive capacity effectively to navigate the challenges of today's market. In Chad, where firms face serious infrastructural limitations and operational challenges, optimizing operations is not just an advantage, but a necessity. Digital technologies are increasingly becoming a critical enabler in this regard, allowing businesses to enhance their productive capacity by improving efficiency, reducing costs and aligning their production more closely with market needs.

To remain competitive, firms must also ensure that their goods and services reach customers on time. In a landlocked country like Chad, where transportation infrastructure often falls short, timely delivery is a challenge. Efficient management practices, such as inventory and cash flow management, are key to navigate logistical hurdles, ensuring that products are delivered on time.

Certification is another critical factor to elevate a company's standing, especially in terms of credibility and market access. Despite its many advantages, the costs of obtaining certification can be substantial, especially for small and women-led businesses.

Effective financial management is crucial in this context. Companies that maintain accurate financial records, manage their cash flow efficiently and use banking services are better equipped to absorb these costs and invest in the certification process. Chad's broader business ecosystem must also evolve to support certification efforts, especially for women-led companies, which face significant challenges in accessing information about certification. Overcoming these barriers is essential to enhance their competitiveness in both domestic and international markets.

Digital technologies enhance productive capacity

In today's dynamic business environment, effective capacity utilization is more critical than ever. Rapid changes in market demand, technological advancements and intense competition require businesses to be agile and efficient in their operations. By optimizing the use of resources, companies can respond quickly to market fluctuations, minimize costs and enhance productivity. This agility not only boosts profitability, but also strengthens a company's competitive edge, enabling it to thrive in an ever-evolving marketplace.

Survey results indicate that half of Chad's firms used more than 75% of their productive capacity in the last year. Smaller businesses operate far below their production potential: 48% of micro and small enterprises reported using 75% or more of their productive capacity in the previous 12 months, compared to 65% of larger companies.⁵⁶ SMEs often face challenges such as limited skills in financial management, difficulty accessing physical capital, such as machinery and equipment, and insufficient expertise in logistics.⁵⁷ Such obstacles hamper their ability to fully mobilize their resources for productive purposes.

Companies in the primary sector also struggle to achieve optimal productivity. In developing countries, limited access to equipment and inputs, as well as inadequate infrastructure in terms of transport, access to electricity and irrigation, frequently trap farmers in a cycle of low earnings, savings and investments, leading to low levels of production and productivity.⁵⁸ This is reflected in survey data showing that only 30% of firms in Chad's primary sector were able to use more than 75% of their resources for production in the past year, compared to 59% of service businesses and 72% of manufacturing firms.

Extreme weather events, if frequent, can be an additional cause of low-capacity utilization among firms, especially in the agricultural and resource-dependent sectors. Chad faces frequent droughts, erratic rainfall and high temperatures,⁵⁹ which can disrupt agricultural productivity. These challenges lead to unpredictable crop yields, water scarcity and damage to infrastructure, making it difficult for firms to operate at full capacity.

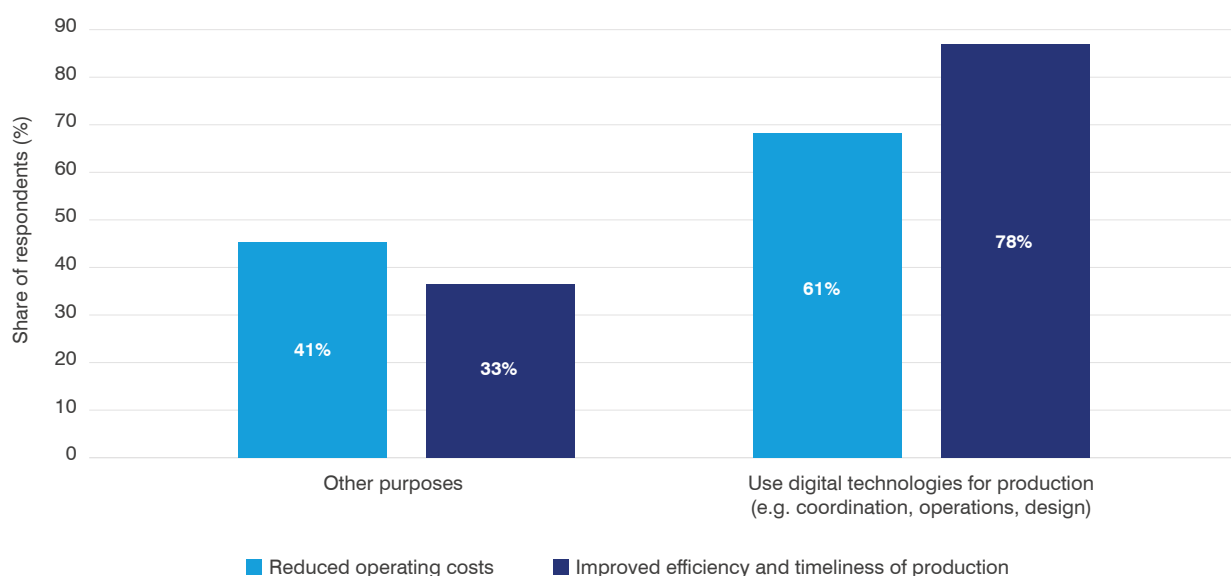
Research in the field indicates that such climatic events are strongly linked to reduced capacity utilization, particularly in the agricultural sector, where the effects of environmental challenges are most severe.⁶⁰ With agriculture accounting for nearly 50% of Chad's GDP from 2005 to 2023 and employing 69% of the working population in 2022,⁶¹ low productivity in this sector not only undermines individual businesses, but also poses a serious risk to the country's economic stability and growth.

Digitalization presents opportunities to boost efficiency and competitiveness across sectors,⁶² offering promising avenues for Chadian firms to overcome challenges and fully realize their productive potential. Research shows that digital solutions improve the efficiency of all stages of the production process by reducing set-up, run and inspection times, lowering costs and supporting customized production strategies.⁶³

Confirming this, ITC analysis found that 78% of companies integrating digital technologies into their production processes reported significant improvements in efficiency and timeliness. This is in stark contrast to the 33% of firms not using digital technologies for these purposes (Figure 7).

Moreover, businesses leveraging digital solutions for production were 20 percentage points more likely to benefit from reduced operating costs than those using digital tools in other areas (Figure 7).

Figure 7 Digital technologies enhance production and lower operating costs



Note: Respondents were asked, 'Do you use digital technologies for any of the following purposes?'. Options included: (1) Advertising through social media, marketplaces or e-commerce platforms, (2) Communicating with buyers or suppliers (e.g. by e-mail), (3) Buyer and supplier data management (e.g. CRM, big data analysis), (4) Production (e.g. coordination, operations and design), (5) Cloud-based data storage, (6) E-payments, online banking and access to finance, (7) Record-keeping, invoicing and inventory management, (8) Logistics and transport, (9) Accessing government services provided electronically, (10) Teleworking and/or staff communication, and (11) Other. They were also asked 'What benefits do you gain from using digital technologies?'. Options include: (1) reduce operating costs, (2) Improved efficiency and timeliness of production, (3) Improved efficiency and timeliness of delivery, (4) Improved quality of products or services, (5) Better access to information, business intelligence and networks, (6) Access to new customers, (7) Increased sales, (8) Access to easier payment methods and (9) Others.

Source: ITC based on SME competitiveness data collected in Chad.



Access to electricity is essential for adopting and operating digital solutions, ensuring their benefits are fully realized.⁶⁴ Without a reliable power supply, digital devices, networks and data centres face frequent disruptions, hampering the ability to harness the full potential of digital innovations.

The electricity access rate in Chad is low, at 12% in 2022, compared to an average of 51% in sub-Saharan Africa that year.⁶⁵ Significant provincial disparities are also observed. While 77% of Chadians live in rural areas, only 1% of these residents have access to electricity, compared to 20% of those in urban areas.⁶⁶

Even in places where electricity is available, it remains accessible to a minority who can afford it. For instance, while electricity consumption is concentrated in N'Djaména, only the wealthiest third of the city's inhabitants have access to it.⁶⁷

The survey data reflect the challenges related to electricity: 69% of businesses across the country find the electricity supply unstable.

The government recognizes the importance of electricity access for equitable economic development and has launched several strategic initiatives to expand access. Key efforts include the National Emergency Electricity Plan, which aims to increase access rates to 53% by 2030,⁶⁸ and projects like the Djermaya Solar Power Plant,⁶⁹ which leverages Chad's solar energy potential to improve infrastructure and promote sustainability

Effective management practices facilitate timely delivery

Transportation infrastructure is essential for efficient supply-chain management.⁷⁰ It plays a key role in lowering logistical costs, improving delivery speed and reliability, and enabling market access. This is especially critical in a landlocked country such as Chad, which relies heavily on its roads for the movement of goods. In fact, more than 95% of the country's domestic and international trade is handled by its road network.⁷¹

Despite its importance, the current state of the transportation infrastructure presents major challenges. Much of the road network remains unpaved,⁷² hindering businesses' ability to operate smoothly. The World Bank Logistics Performance Index (2018) ranked Chad 104th out of 160 countries on the quality of trade and transport-related infrastructure.⁷³ This is supported by survey results, which show that 59% of Chadian firms report low-quality transport infrastructure.

Without efficient transport systems, the logistics chain suffers, leading to higher costs, delays and reduced service quality.⁷⁴ In Chad, the challenges of inadequate transport infrastructure translate into higher logistical costs and inefficiencies, disrupting the overall supply chain. More than half of respondents (58%) perceive the cost of logistics services as high, while 77% rate the quality of these services as average or low.

Delivery times are affected as well, with only 36% of companies managing to deliver most of their goods⁷⁵ on time in 2023. The primary sector faces even greater difficulties due to the perishable nature of many products, variable production conditions and the often-remote locations of production sites. Such factors complicate transportation logistics and increase the likelihood of delays. Survey data show that just 22% of firms in this sector managed to deliver most of their output in time last year. In comparison, 33% of firms in the manufacturing sector and 56% in the services sector reported similar levels of timely delivery.

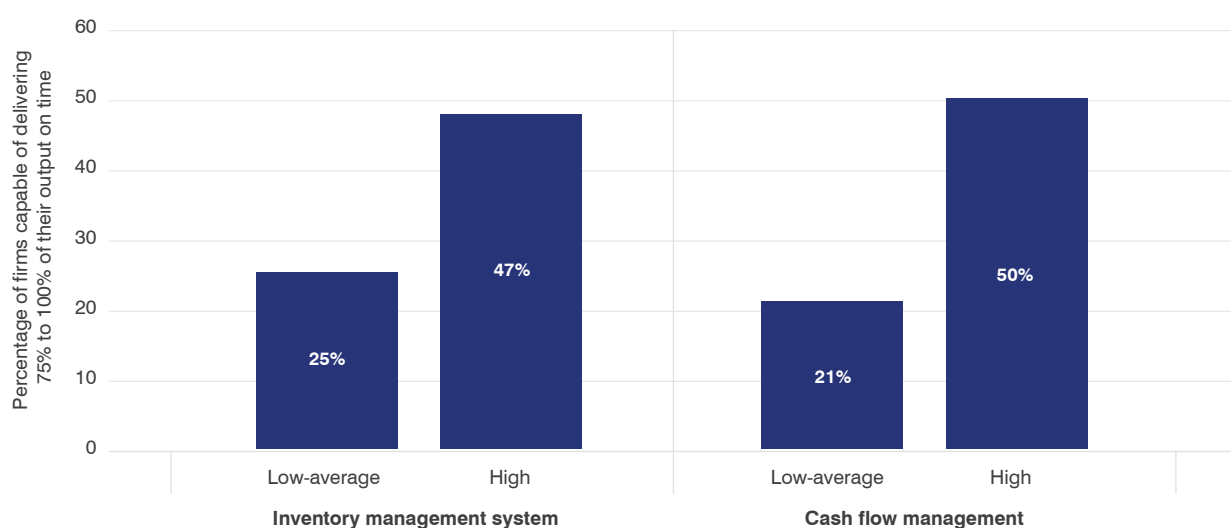
Effective management practices can alleviate many delivery challenges. For instance, by providing real-time visibility into stock levels, efficient inventory management systems prevent both overstock and stockouts, minimizing carrying costs and helping maintain optimal stock levels to meet customer demands.⁷⁶ Ensuring products are consistently

available and ready for prompt dispatch, such systems help companies navigate unpredictable market fluctuations – such as raw material shortages, supplier delays and inaccurate demand forecasts – leading to faster and more reliable delivery schedules.

Responses to the ITC SME Competitiveness Survey for Chad indicate a positive correlation between inventory management and on-time delivery. Among those who described their inventory management as efficient, 47% also said they often delivered on time, while this share was 25% among businesses with average or weak self-reported inventory management practices (Figure 8).

Similarly, companies with robust cash flow management were 29 percentage points more likely to deliver their production on time compared to those with weaker cash flow practices (Figure 8).

Figure 8 Good management practices improve timely delivery



Note: Respondents were asked 'Please rate this company's ability to manage its cash flow to reliably execute payments' and 'Please rate the efficiency of this company's inventory management system.' Responses ranged from 1. No capability/ability to 6. Full capability/Very good ability. Responses from 1–2 are considered 'low', 3–4 'average' and 5–6 'high'.

Source: ITC based on SME competitiveness data collected in Chad.

Sound cash flow management gives businesses the financial stability and flexibility to handle unexpected expenses, including sudden increases in transportation costs, emergency shipments or disruptions caused by infrastructure issues. It also supports strategic investments in alternative logistics solutions, such as diversifying transportation methods or developing partnerships with multiple suppliers and carriers, mitigating risks associated with reliance on a single provider or route.

Not all Chadian businesses show the same level of management practices, though. These were notably weaker among smaller firms and those active in the primary sector. Micro and small firms were less likely than larger companies⁷⁷ to have efficient inventory management (48% versus 77%). Additionally, only 39% of companies in the primary sector reported efficient inventory practices, compared to 45% in manufacturing and 69% in services.

The survey also identifies gender disparities. While 56% of men-led businesses report high efficiency in inventory management, only 29% of women-led businesses do so. Effective cash flow management is also a challenge for women-led firms, with only 35% reporting strong capabilities in this regard, compared to 58% for men-led businesses.

Digital technologies offer solutions for firms seeking to enhance their management practices and efficiency. For instance, Internet of Things devices enable continuous monitoring of inventory levels, conditions and movements, allowing businesses to maintain precise records and swiftly identify any discrepancies.⁷⁸ On the other hand, artificial intelligence algorithms analyse historical data to identify patterns and accurately predict future inventory needs.⁷⁹

And digital tools for financial management⁸⁰ give firms better cash flow insights, enabling more strategic financial planning and resilience against unexpected disruptions.

Among companies that adopted digital technologies for record-keeping, invoicing and inventory management, 69% reported high efficiency in their inventory management systems, compared to 49% of those using digital technology for other purposes. Furthermore, Chadian firms implementing digital technology in these areas were three times more likely to maintain records of their revenue, expenses, assets and liabilities than those using digital tools for other purposes (28% versus 9%).

Bottlenecks in delivery can also be effectively managed with digital solutions. By leveraging vast amounts of data, artificial

intelligence algorithms can generate the most efficient routes, resulting in faster deliveries, reduced transportation costs and greater customer satisfaction.⁸¹ Sixty-four percent of survey respondents using digital technology for logistics and transport reported substantial improvements in delivery efficiency and timeliness, compared to only 23% of companies not using digital solutions for this purpose.

Enhancing certification through effective financial management

For companies hoping to stand out in today's competitive markets, obtaining certification is a strategic move. It enhances credibility and trust, signalling to customers and partners that a firm meets high standards of quality and reliability.⁸² For small businesses, the benefits of certification extend far beyond mere compliance, enabling them to improve process efficiency and customer satisfaction, and strengthen risk management.⁸³

Certification also plays a pivotal role in facilitating international trade and market access. This can be crucial for businesses looking to expand their reach and compete on a larger scale. Research shows a positive correlation between certification and export performance, with firms in developing countries often experiencing significant export growth due to the adoption of certified standards.⁸⁴

This trend is confirmed in Chad, where survey results indicate that while only 50% of companies hold at least one certification, those that are certified have much higher export rates: 41% sell internationally compared to just 15% of non-certified companies.

Sustainability certificates are not a priority for most Chadian businesses. These certificates are less common, with only 48% of certified firms holding them, compared to 52% having quality or performance certificates and 73% having safety certifications. Yet, while price and quality remain the primary criteria for many international buyers, environmental concerns are increasingly taken into consideration.⁸⁵

As Chad seeks to diversify its exports by leveraging goods from its primary sector,⁸⁶ firms should consider how their environmental practices might affect their competitiveness in the global market. Europe, the country's main export partner,⁸⁷ places great importance on environmental considerations.⁸⁸ Consequently, sustainability certificates can provide producers with a valuable advantage in accessing European markets.

Survey findings show that Chadian companies with sustainability certificates are much more likely to invest in reducing their environmental footprint, which in turn could encourage a virtuous cycle into further certification. This is important given the severe climate challenges faced by sub-Saharan African countries, where rising temperatures, droughts and desertification threaten livelihoods and ecosystems. Forty-eight percent of companies with sustainability certificates have invested in measures to reduce the environmental impact of their activities in the past three years, compared to just 3% of those without any type of certification.

More interestingly, all the companies that made such investments also reported positive outcomes. Access to markets was the benefit most frequently cited: 57% of businesses that invested in measures to reduce the environmental impact of their activities reported access to new markets as a benefit of their investment.

While the benefits of certification are clear, the financial investment required can be a major hurdle for many companies. According to the survey, 52% of businesses perceived the associated costs as high. These costs often involve not only the initial application fees, but also extra

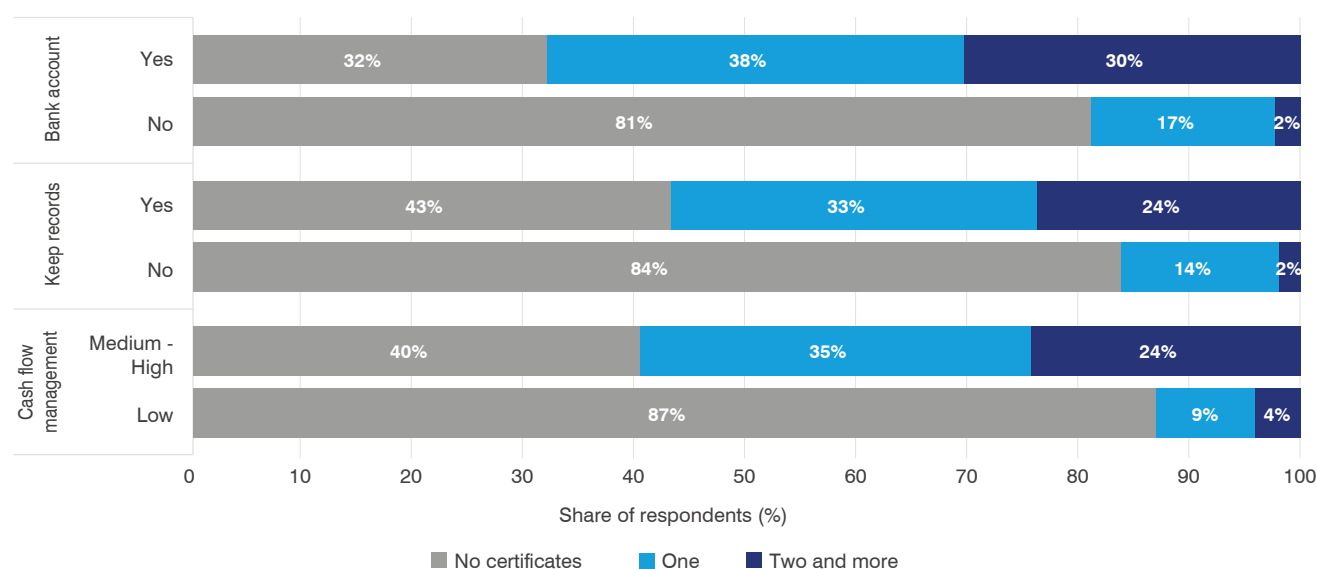
expenses such as training, system upgrades and the time needed to meet and sustain the required standards.⁸⁹

As a result, many companies may find themselves weighing the potential long-term benefits of certification against the immediate financial burden, which can be discouraging. For SMEs, the financial strain can be particularly challenging, as they often operate on tight budgets and inadequate human resources.⁹⁰

Sound financial management practices can enable businesses to secure the certifications that ultimately drive their growth and enhance their competitive advantage. ITC analysis found that businesses with good financial habits – such as maintaining a bank account, accurate financial records and strong cash flow management – have higher certification rates.

Sixty-eight percent of firms with business bank accounts are certified in Chad, against 19% of those without an account. Similarly, 57% of firms that keep economic records of their transactions were certified, compared to just 16% of those that do not. Businesses with strong cash flow practices are also 47 percentage points more likely to be certified compared to those with limited ability to manage cash flow (Figure 9).

Figure 9 Good financial management can facilitate certification



Note: Respondents were asked 'Please rate this company's ability to manage its cash flow to reliably execute payments.' Responses ranged from 1. No capability/ability to 6. Full capability/Very good ability. Responses from 1–2 are considered 'low', 3–4 'average' and 5–6 'high'. They were also asked 'At this time, does this company have a bank account for daily operations which is separate from a personal account?' and to 'Does your company keep the following types of records? – Revenues, expenses, liabilities, assets.'

Source: ITC based on SME competitiveness data collected in Chad.



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Effective financial management also empowers businesses to pursue multiple certifications, further strengthening their market position and credibility. Thirty percent of firms with a bank account held at least two certificates, compared to just 2% of those without one. Similarly, the proportion of firms with two or more certifications was considerably higher among those with strong cash flow management and effective record-keeping practices (Figure 9).

Obtaining multiple certifications offers additional benefits, as each new one builds on the advantages of the previous, amplifying the overall impact across various areas of the business. For instance, research indicates that in the agrifood sector, organizational performance improves with the number of International Organization for Standardization (ISO) certifications, while in the manufacturing industry, holding multiple ISO certifications enhances both productivity and sales performance.⁹¹

In the service sector, having several certificates has been shown to be particularly beneficial for small service companies, enabling them to access multiple export markets and expand their international reach.⁹²

While effective financial management is crucial to achieve certifications, it must be supported by a robust business ecosystem. However, survey results highlight challenges in this area. Only 23% of respondents rated the availability of domestic information on international certificates as high, while 75% found the quality of services provided by product testing, certification and inspection authorities to be low or average.

These challenges are especially pronounced among women-led companies. Notably, 52% of women-led firms rated the availability of certification information as low, compared to 38% of men-led firms. They were also more likely to assess the quality of related services as low (43% versus 23%). This could explain their lower certification rate, with only 16% of women-led firms being certified, compared to 58% of men-led firms.

Improving the certification landscape is vital to advance the growth and competitiveness of businesses in Chad. By addressing the current challenges, the country can create a more supportive environment that enables companies to capitalize fully on the benefits of certification, paving the way for greater participation in global markets and sustained economic development.

Policy insight: Enhancing business ecosystems to drive sustainable growth

Underdeveloped road networks and unreliable electricity significantly hinder the efficiency and competitiveness of Chadian firms, as highlighted by the survey. In response, the Chadian government, with support from international partners, has launched several initiatives aimed at improving infrastructure and expanding electricity access through renewable energy. A key example is the Solar Energy Project for Rural Development, which harnesses Chad's abundant solar resources to deliver clean, reliable energy to underserved areas.

Public-private partnerships offer another effective way to accelerate infrastructure development by combining public oversight with private-sector investment and expertise. Such partnerships can help close funding gaps and enhance the efficiency of large-scale projects. A relevant example is the Nairobi Expressway, a successful Kenyan public-private partnership that has reduced travel times, facilitated the movement of goods and given businesses better access to regional and international markets.

Certification is also crucial for firms seeking to expand. In Chad, however, information about certification is scarce and the associated costs are high, particularly for women-led firms. Strengthening business support organizations (BSOs) could help address this. For instance, the Nigeria Export Promotion Council dedicates an entire division to advise and coach women entrepreneurs on quality

standards, product certifications and export requirements, while also facilitating access to financing, which is often key to covering certification costs.

Collaboration between government agencies can also play an important role in facilitating business certification. In Kenya, a partnership between the Women Enterprise Fund and the Kenya Bureau of Standards in 2012–2017 provided technical guidance to numerous women-led SMEs, enabling them to improve their products and ensure they met industry standards.

Partnerships with Technical and Vocational Education and Training institutions can help firms develop critical skills. Through sponsored programmes, the African Management Institute offers training to Rwandan companies to navigate challenges caused by the COVID-19 pandemic. For instance, its Micro-Enterprise Accelerator programme gives businesses critical skills in areas including bookkeeping, cash management, business planning, customer acquisition, supplier management and cost control.

These examples show how targeted partnerships and capacity-building initiatives can empower businesses to overcome challenges and thrive in competitive markets, offering valuable lessons for Chad as the country seeks to foster sustainable growth and resilience.

Source: African Development Bank, 2023; African Management Institute Rwanda, n.d.; Kenya National Highways Authority, 2020; Mukami, 2019; Nigerian Export Promotion Council, n.d.; Rwanda Development Board, 2020; Vidzraku, 2017; Women Enterprise Fund, n.d.





Chapter 4

Boosting innovation through skills and financing

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Boosting innovation through skills and financing

A firm's ability to adapt to its operating environment and keep up with rapidly changing conditions is essential to its long-term survival and competitiveness. In Chad, insecurity in the business environment, among other challenges, makes it difficult for firms to plan over the long term.⁹³ Planning is key for growth and requires a predictable business environment as well as access to skills and finance and the ability to innovate.

Enhancing the skills landscape is a priority, as nearly half of the surveyed firms reported a shortage of skilled employees. Good hiring and recruitment practices can help companies identify workers with the skills they need, including digital skills. Training to upgrade the skills of current employees can also help Chadian firms continuously improve their competitiveness.

Firms must have sufficient financial capital to do this. Unfortunately, Chadian firms, especially smaller and

women-led ones, face severe obstacles to financial access, with 55% of firms reporting that accessing finance was difficult. Survey evidence suggested that this is partly due to poor financial institutions, as well as companies' limited financial capabilities and knowledge of the procedures to obtain credit.

Businesses need both skilled employees and access to finance to innovate. Initiatives that facilitate access to finance, combined with skill-boosting interventions, will therefore be instrumental to increase innovation, stimulate growth and build resilience among Chadian enterprises.

Well-matched workers are vital to firm competitiveness

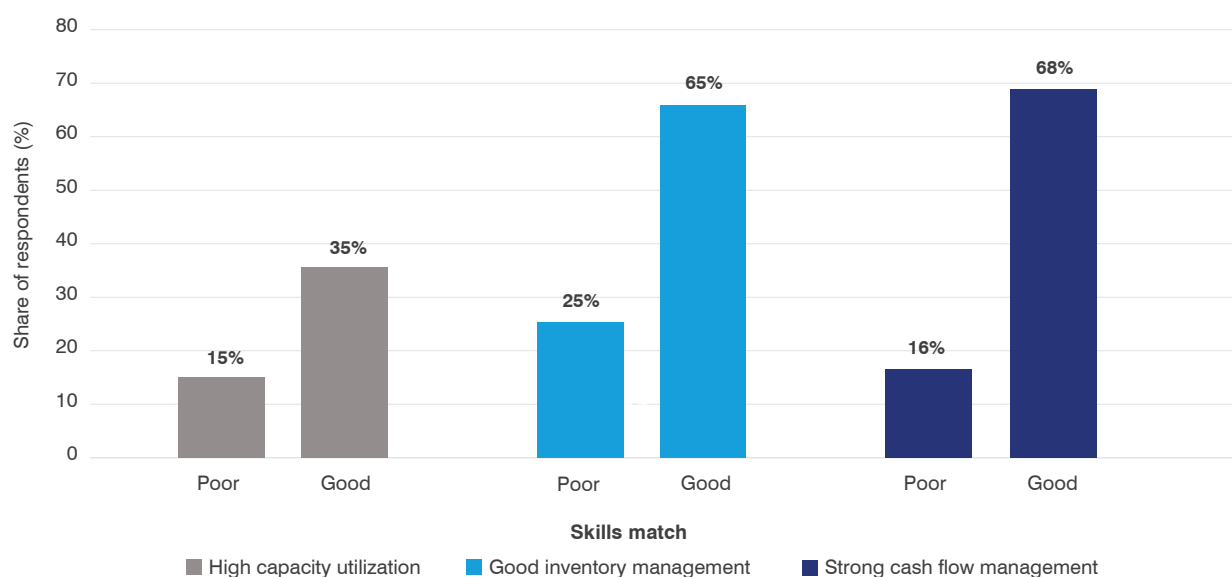
A firm's competitiveness depends on the skill level, and skill match, of its employees. Research has shown how SMEs rely on skilled staff to boost their technical efficiency, increase productivity and power growth.⁹⁴ Additionally, a workforce that is capable and fits well with the needs of the enterprise can help it adapt when conditions shift and challenges in the business environment arise.⁹⁵

In Chad, survey evidence revealed that firms that were able to recruit the talent they needed enjoyed greater production efficiency compared with companies that reported skill gaps in their workforce. For example, 35% of companies that said their employees had the skills needed to meet their business needs also had high capacity utilization. This is more than twice the rate of companies with a poor skills match, where only 15% achieved the same level of utilization (Figure 10).

Compatibility between worker skills and firm needs also proved valuable to inventory and cash flow management. About two-thirds (65%) of companies with good skills match reported highly efficient inventory management and a similar share (68%) reported a strong ability to manage cash flow, compared with just 25% and 16% of firms with poor skills match, respectively.



Figure 10 Good skills matching boosts production efficiency and financial management



Note: Respondents were asked 'Please rate the extent to which the skill set of currently employed workers matches the needs of this company?' Firms were classified as having 'poor' skills match if they chose options 1 and 2 on a Likert scale ranging from one (poor match) to six (good match), 'average' if they chose options 3 and 4 and 'high' if they chose options 5 and 6. Firms classified as having 'average' skills match were included in the computation but are excluded in the figure. For capacity utilization, respondents were asked 'In the last year, what was this company's output as a percentage of the maximum output possible?' Answers were given in percentage terms and grouped into tertiles. Firms in the top tertile of the distribution were classified as having 'high capacity utilization'. For inventory management, respondents were asked 'Please rate the efficiency of this company's inventory management system?' Firms were classified as having 'good' inventory management if they chose options 5 and 6 on a Likert scale ranging from one (inefficient) to six (highly efficient). For cash flow management, respondents were asked 'Please rate this company's ability to manage its cashflow to reliably execute payments.' Firms were classified as having 'strong cash flow management' if they chose options 5 and 6 on a Likert scale ranging from one (no ability) to six (very good ability).

Source: ITC based on SME competitiveness data collected in Chad.

Firms are more competitive when they employ workers with adequate skills, while those with skill deficits and mismatch often show poorer outcomes, research among African companies has shown.⁹⁶ Indeed, when workers are paired with jobs that match their skills, they are better able to use those skills to spot, and alleviate, inefficiencies when they arise.⁹⁷ This is of particular importance in Chad, where inefficiencies and low productivity hamper the growth of some of its core economic sectors, such as the cotton sector.⁹⁸

However, Chadian firms struggle to find skilled workers, as evidence from the SME Competitiveness Survey shows. Almost half (45%) of surveyed firms reported facing a shortage of qualified workers available for hire.

Educational indicators signal worryingly low primary and secondary school completion rates, as well as low tertiary enrolment rates among Chadian youth, which hinder the

development of skilled individuals.⁹⁹ Learning poverty, which measures the share of children who are unable to read and understand a text adapted to their age at 10 years old, is also extremely high, at 94% in 2019.¹⁰⁰ Furthermore, as of 2022, fewer than a third (27%) of Chadian adults were literate.¹⁰¹

Improving human development outcomes therefore is a priority to increase the availability of adequately skilled workers for Chadian firms. Indeed, research has shown that a poorly educated population makes it difficult for people to participate in the labour force, and those that manage to do so often lack the productive competencies needed to contribute meaningfully to a firm's growth.¹⁰²

Survey analysis highlights two actions that businesses can take to engage the right talent and foster firm competitiveness. First, establishing a formal hiring and recruitment process allows firms to assess potential employees' skills in advance.

Survey results showed, for instance, that 88% of companies with strong established hiring processes reported having a good match between worker skills and company needs, while the share for firms with good skills match was 67% among those with no established processes.

Once employees are on board, on-the-job training can enable them to further adapt their competencies to enterprise needs. Eighty-two percent of respondents running more than three workshops on average per year reported having high skills match, while fewer than half (47%) of those who did not run any reported so.

Formal recruitment processes and employee training are not common among Chadian firms. Almost half (46%) of firms surveyed did not have an established hiring process, with most of these companies being small or women-led. One reason for this is that firms often are unaware of the benefits of having formalized and thorough hiring procedures.¹⁰³

Survey evidence indicated that more than half (54%) of surveyed firms in Chad held no training workshops over the past three years to develop the skills of their employees. Small businesses, particularly women-led ones, typically lack the financial resources needed to provide training, which often entails a high minimum fixed cost.¹⁰⁴ Evidence from sub-Saharan African firms also suggests that factors such as demands for higher remuneration from newly trained employees as well as fears of staff departure once trained also deter firms from engaging in in-house skill development initiatives.¹⁰⁵

Raising awareness of the advantages of good human resource practices, such as formalized recruitment and hiring processes and continuous employee training, can encourage firms to adopt these practices. BSOs are valuable actors when it comes to disseminating information and can offer services to help businesses adopt formal human resource procedures.¹⁰⁶

Systems that assess talent can be especially instructive for businesses aiming to attract workers with specific skills.¹⁰⁷ For example, digital skills are in greater demand among Chadian firms with more than three-quarters of those surveyed (77%) saying they will need more workers with digital skills in the next five years. Almost two-thirds (63%) of the total sample said they would like to develop basic skills among their employees, such as word processing and use of e-mail, touchscreens and keyboards.

Like general skills, however, digital skills are limited in Chad. Survey data revealed that only 17% of respondents considered their workforce fully equipped with the digital competences needed for their business, compared with an average of 32% across other countries in the region.

Strong and stable digital infrastructure is necessary to improve the digital capabilities of the population, as discussed in Chapter 2.¹⁰⁸ Tackling structural barriers to digital infrastructure is therefore a first step to build a digitally skilled population. Facilitating access to the internet in schools – for example, by distributing free internet services and improving internet quality, as has been done in other countries – can have a profound positive impact on digital literacy and participation in ICT education programmes among Chadian youth.¹⁰⁹



Simplifying access to finance for firm growth

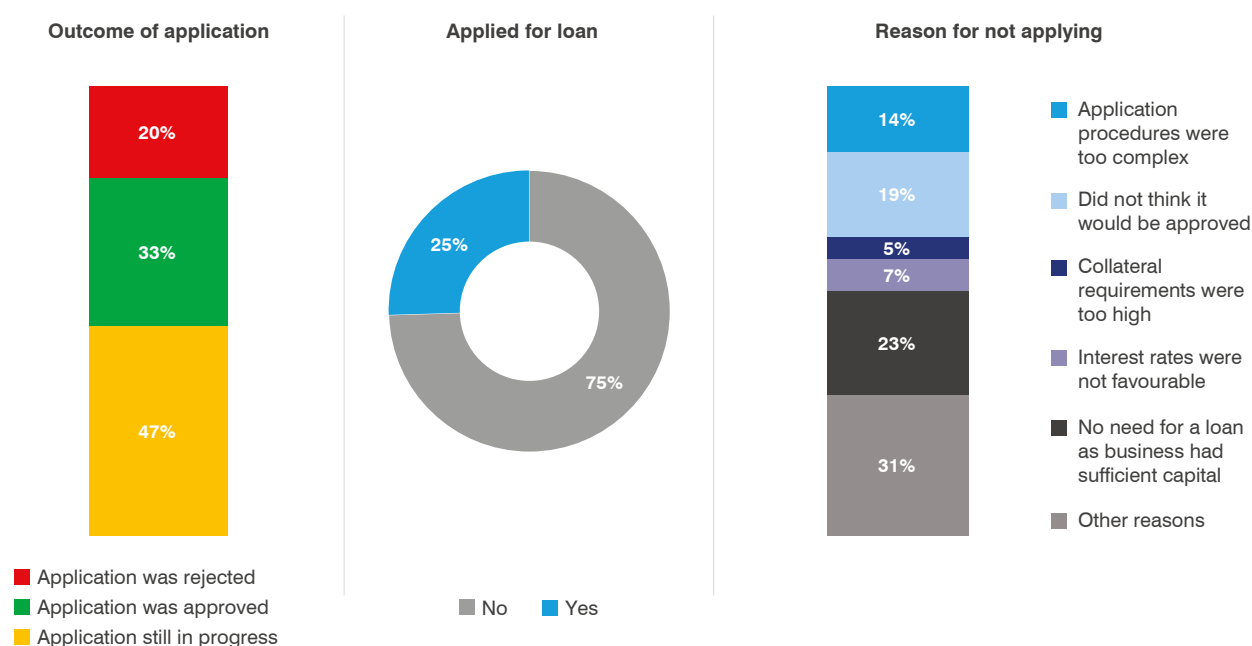
Access to finance is essential to businesses to conduct day-to-day operations, obtain certification or invest in innovation, among others. Firms need appropriate sources of financing across all stages of their life cycle – for their creation, development and growth.¹¹⁰ Wider research has shown how companies that have unconstrained access to institutional credit are more likely to survive in the market and grow.¹¹¹

In Chad, enterprises face severe difficulties to access finance, data from the SME Competitiveness Survey

revealed. More than half (55%) of surveyed firms said access to finance is an obstacle – 18 percentage points more than the average of 37% across firms surveyed by ITC in Africa.

These difficulties were illustrated by the low number of firms that applied for a loan in the last three years. Specifically, only a quarter of firms surveyed said they had made a loan application within the last three years (Figure 11, centre panel). Among these firms, only one-third had their applications approved (Figure 11, left panel), compared to an average approval rate of 77% among other African firms surveyed under SMECS. Moreover, almost half (47%) of submitted applications in the past three years were still in progress at the time of the survey.

Figure 11 Businesses face obstacles when applying for loans



Note: In the centre panel, respondents were asked 'Has this business applied for a loan in the last three years?' In the left panel, respondents who said 'Yes' to applying for a loan were asked 'What was the outcome of that application?' In the right panel, respondents who said 'No' to applying for a loan or 'Offer was rejected by enterprise' when asked about the outcome of the application were asked 'Why did the establishment not apply for a loan, or reject the offer given by the bank?'

Source: ITC based on SME competitiveness data collected in Chad.

Low approval rates and time lags in loan processing often point to inefficient financial institutions.¹¹² Indeed, survey data revealed that only 29% of Chadian companies interviewed rated the quality of banks as being high, while the average among firms surveyed in other African countries was 44%.

Among firms that did not apply for a loan, 19% said this was because they did not believe their applications would be approved (Figure 11, right panel). Fourteen percent of businesses said application procedures were too complex.

Streamlining and improving the efficiency of financial institutions in Chad is therefore a necessary first step to foster better access to finance for domestic companies. Increasing the quality of services, setting limits for the duration of loan application processing and simplifying credit application procedures are important steps to boost credit access among firms.¹¹³

Smoothing access to finance – especially for SMEs – is also crucial, as these businesses struggle more than larger firms to obtain finance. Almost three-quarters (71%) of microenterprises surveyed expressed difficulties accessing finance, compared with only around a third (34%) of medium-sized and large firms.

The latest data indicate that the MSME finance gap in Chad is an estimated \$1.1 billion, or 10% of GDP.¹¹⁴ This underscores an economic imperative to lower barriers to sources of financing for smaller businesses.

High collateral requirements, difficulties in accessing land titles and inadequate loan sizes and maturities are major factors that make it difficult for small Chadian firms to access the finance they need.¹¹⁵ Tackling these barriers – for example, by tailoring financial services and products specifically to SMEs' specific needs and capabilities – can have a profound impact in helping these firms access financial resources.¹¹⁶

Providing financial support to women-led businesses is also vital. These enterprises are important pillars of the Chadian economy and provide valuable sources of employment and additional sources of income to Chadian households.¹¹⁷

Unfortunately, however, women-led companies are often more disadvantaged than male-led firms when it comes to accessing finance: 79% of women-led firms surveyed reported that access to finance was difficult, versus 50% of men-led firms.

Improving financial inclusion for women is essential to ensure that women-led businesses have institutional access to finance. In 2021, only 5% of Chadian women had a financial account, compared with 13% of men.¹¹⁸ Similarly, according to ITC survey data, only 41% of women-led firms had a business bank account, compared with 68% of men-led companies. Raising awareness of the benefits of having a professional account and easing procedures to open bank accounts for women can be key in improving their access to finance.

Digital technologies have been lauded as powerful tools to overcome barriers to finance among vulnerable groups.¹¹⁹ For example, by opening a bank account, managing finances and requesting credit easily and rapidly all online, women-led businesses can overcome traditional challenges to accessing finance, including gender-based constraints.¹²⁰

While such initiatives take form, survey analysis revealed one action that Chadian authorities can take to boost business chances of successful loan applications: bolstering financial literacy and skills. This can have a powerful impact, not only in helping firms understand financial procedures but also in raising the likelihood of approval of their loan applications.

For example, survey data showed that firms with very detailed financial knowledge were more prepared to do what was necessary to obtain a loan.¹²¹ Concretely, 84% of firms with very detailed financial knowledge said they were fully capable of presenting a business plan to a bank for the purpose of getting a loan, while only 12% of firms with no financial knowledge reported being capable of doing so. Importantly, firms with financial knowledge were also 10 times more likely than those with no financial knowledge to apply for loans – and to have them approved.

Businesses can take initiative to enhance their and their workforce's financial literacy and competencies – for example, by engaging in free online resources and courses. Connections with peers, including other businesses, would also help Chadian enterprises gain, and share, knowledge and practices that would better assist them to navigate the domestic financial landscape.

Innovation is key to unlock global opportunities

Innovation is an essential element of firm competitiveness and resilience. Firms that innovate regularly are not only more likely to gain a competitive advantage over others in the market, but they are also more capable of adapting to, and surviving, unexpected shifts in their environment.¹²² This is especially important in business ecosystems where instability and climate change require firms to be flexible and proactive to overcome these challenges.

Data from the SME Competitiveness Survey show that Chadian firms that innovated often were much more likely to be present on the international stage. Specifically, companies that reported innovating sometimes or often were

23 percentage points more likely than those that innovated rarely to participate in global value chains (86% vs 63%), and 20 percentage points more likely to be engaged in global trade (61% vs 41%).

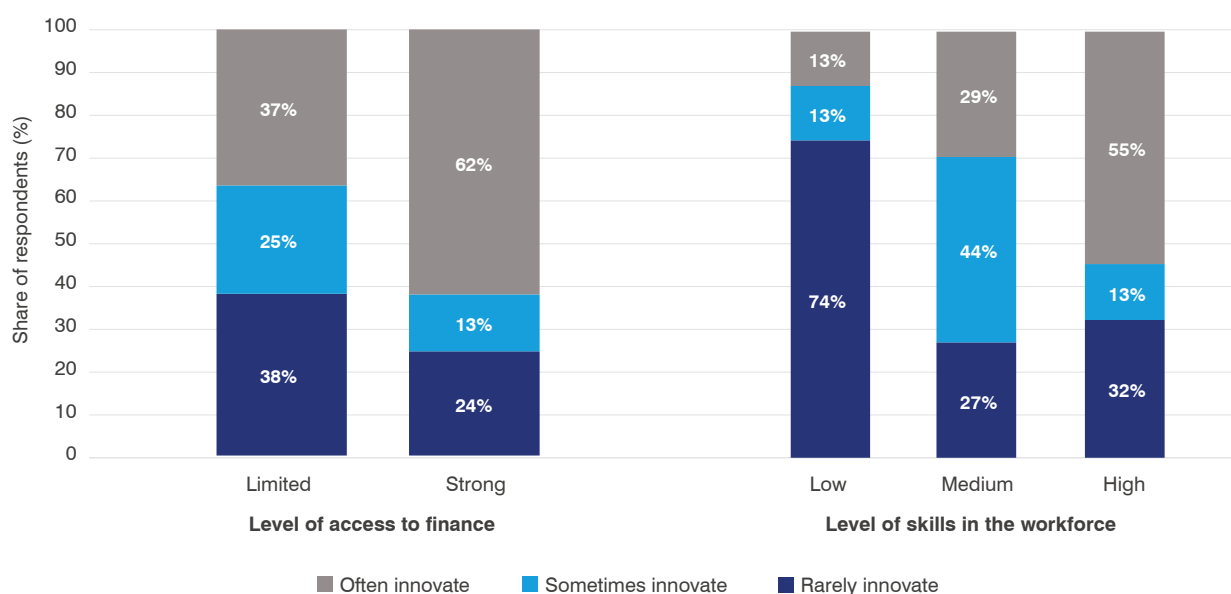
Interestingly, survey data also suggested that Chadian companies that innovated frequently were also much more likely to invest in measures to reduce their negative environmental impact. More than one-third of firms (39%) that reported innovating sometimes or often invest in climate change mitigation measures, while only 4% of firms innovating rarely reported doing the same – almost a tenfold difference.

As the country grows economically, emissions risk increasing considerably. Taking steps to offset the harmful impacts of business operations today can therefore lay the foundation

for sustainable growth in the future. This is important as Chad is among the world's most vulnerable countries to climate change.¹²³ Additionally, as sustainability requirements around the world proliferate, investing in eco-innovation measures can open new markets to firms.¹²⁴

Certain key elements are critical to reap the full benefits of innovation, however. First, affordable access to finance is needed to enable investments in innovative resources, technology and research and development (R&D). In Chad, for example, survey findings revealed that limited access to finance hinders firm-level innovation. Only 37% of firms with limited access to finance said they innovated regularly, compared with almost 62% with finance readily accessible to them (Figure 12, left panel).

Figure 12 Firms innovate more if they can access finance and have skilled workers



Note: In the left panel, a firm's level of access to finance was determined by combining three variables. Respondents were asked 'Has this business applied for a loan in the last three years?', 'What was the outcome of that application?' and 'Why did the establishment not apply for a loan, or reject the offer given by the bank?' Once variables were combined into a single variable ranging from 0–100, firms were classified as having 'limited' access to finance if they scored 0–60 and 'strong' access to finance if they scored 80–100. On the right panel, respondents were asked 'Please rate the extent to which the skill set of currently employed workers matches the needs of this company?', with response options ranging from one (poor match) to six (good match) on a Likert scale. Firms were classified as having 'low' skills in the workforce if they chose options one and two, 'medium' if they chose options three and four, and 'high' if they chose options five and six. In both panels, respondents were asked 'Please rate the frequency with which your company develops and implements new or improved processes or products.' with response options ranging from one (rarely) to six (often) on a Likert scale. Firms were classified as innovating 'often' if they chose options five and six, 'sometimes' if they chose options three and four and 'rarely' if they chose options one and two.

Source: ITC based on SME competitiveness data collected in Chad.

As seen in the previous section, restrictions on access to finance fall heavier on small and women-led enterprises, which often lack the collateral and financial capacities needed to apply for credit. Unsurprisingly, then, these firms also innovated less than their counterparts. Three-quarters of large firms said they innovated frequently, compared with less than half (43%) of SMEs surveyed. Similarly, 28% of women-led companies often innovate, compared with 47% of men-led ones.

Improving financial competencies can also be instrumental in unlocking opportunities for firms to gain the investment they require to innovate. For example, more than two-thirds (67%) of firms that reported having a strong ability to present a business plan (an indicator of the ability to access finance) reported innovating often, compared with only a quarter (24%) of firms with a weak ability. Having a financial presence for this is imperative. Companies that said they have a bank account were three times more likely than those without a bank account to commit a high level of their resources to R&D (18% vs 6%).

Policies and initiatives that aim to develop financial literacy can therefore offer the double advantage of fuelling growth and boosting innovation among firms. Allocating funds to incentivize innovative firms, as well as offering courses that train entrepreneurs to pitch their ideas for funding purposes, are key actions that can encourage innovation among Chadian firms.

The second fundamental element for firm-level innovation is a skilled workforce. Highly skilled employees can quickly understand and implement new ideas and solutions.¹²⁵ When workers match well with the needs of their business, they also benefit from firm-specific knowledge that enables them to identify areas where changes are needed and opportunities lie.¹²⁶

Survey analysis in Chad showed how firms that hired the right workers innovated more often. More than half (55%) of firms that reported having a fully skilled workforce said they innovated regularly, compared with only 13% of companies that reported considerable skills gaps among their staff (Figure 12, right panel). Practices that enable businesses to attract and retain the talent they need, as the previous section discussed, can be transformative for Chadian enterprises that wish to innovate more frequently.

Survey data also suggest that a proactive approach towards digital technologies can unlock new opportunities for innovation in firms. For instance, two-thirds of managers who said they always stay up to date with developments in new technologies were frequent innovators, compared with only a quarter of managers who never stay up to date. Similarly, 54% of managers who prioritized investments in digital technologies and skills were able to innovate on a regular basis, compared with only 29% of those who did not set any such priorities.

Digital technologies are a powerful tool to encourage innovation in firms. Digital solutions can be used, for example, to improve the efficiency of production processes, design new products to add to the pipeline or enhance customer engagement.¹²⁷

Outside of the firm, leveraging institutions that promote and support innovation can also play a key role. Organizations such as Chad Innovation Hub and Wenaklabs, as well as UNDP's Accelerator Lab, hold a prominent place in Chad's entrepreneurial community. They offer training and mentoring, advise on the use of digital technologies and create a space for learning and sharing of innovative practices, particularly among young entrepreneurs.¹²⁸

Reducing the cost of some of these institutions' services is vital, however. A substantial 73% of firms surveyed rated the cost of patent registration institutions as high and 54% rated the cost of innovation-supporting institutions as high. In comparison, only 31% of firms surveyed under the SMECS in African countries said that innovation-supporting institutions were expensive.¹²⁹ Providing financial support to these organizations – for example, in the form of grants and subsidies – can help them keep costs low and ensure that their services are accessible to all.



Policy insight: Encouraging innovation among firms through finance and skills

Adapting to the business climate and overcoming barriers in it demands firms to be agile and innovative. Innovating not only enables businesses to stay ahead of the curve, but it can also open up opportunities, as survey data in Chad showed. To foster firm-level innovation in the country, however, investing in skills development and removing structural barriers to sources of financing are vital.

The skills landscape in Chad highlights the need to first build a strong foundation of educated individuals. While the country has made significant strides to increase access to education, improving the quality of education remains a priority. One strategy is to set standards for establishing, managing and supervising education institutions, as was done by Kenya's Ministry of Education through its Integrated Early Childhood Development Policy.

To ensure that youth have the skills to meet labour market needs, policies that incentivize vocational training, such as through internships and apprenticeships, can be implemented. In Niger, for example, vocational training opportunities are offered to young people via occupational training centres and combine functional literacy education with skills training. Integrating digital skills in such programmes is also essential to meet the growing demand for digital skills.

Ongoing efforts in Chad, such as the D-CLIC project launched in 2023 with the aim of developing the digital

competencies of youth and increase their employment opportunities, are a step in the right direction.

Increasing the physical presence of banks, particularly in rural areas, is a first requirement to facilitate access to finance. New delivery channels, such as 'mobile branches' in Rwanda that offer financial services on trucks, as well as digital financial products such as M-Kesho in Kenya, are innovative ways to enhance financial inclusion and increase access to financial services for businesses.

Revitalizing the microfinance sector is also crucial to ensure that small and women-led firms get the financial support they need. The Government of Chad's initiative, financed by the Africa Digital Financial Inclusion Facility, to provide support to the microfinance sector and the entrepreneurial ecosystem is a positive development to improve vulnerable groups' access to financial and non-financial services.

Incentivizing financial literacy and training aimed at small enterprises, as done by the National Bank of Rwanda, can also increase their chances of receiving financing for innovative endeavours.

Finally, boosting the innovation capabilities of firms will require institutional support. Empowering innovation-supporting institutions and providing them with financial assistance, for example, through grants and subsidies, can help lower the cost of their services and make them more accessible to businesses.

Sources: Africa Digital Financial Inclusion Facility, 2023; Beck et al., 2011; Organisation internationale de la Francophonie, 2023; United Nations Educational, Scientific and Cultural Organization, 2023; Utembinema et al., 2023.



Chapter 5

Policies for competitiveness and resilience

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Policies for competitiveness and resilience

Chad's small businesses hold a prominent place in the country's economy and can play a key role in diversifying and strengthening its private sector. However, as the previous chapters showed, various challenges, both within firms and beyond, hamper their growth. Addressing these challenges and realizing the full potential of Chadian SMEs will require adopting policies and programmes designed to boost the competitiveness and resilience of Chadian firms.

The results of the SME Competitiveness Survey in Chad spotlight the main areas where interventions are needed to ease business operations and spur firm growth. Policy priorities could include creating an enabling environment for businesses to make meaningful use of digital technologies, given their role in building the fundamentals of competitiveness; improving access to finance; investing in skills development across the population; promoting certification among firms; and empowering BSOs to further stimulate business growth.

Fostering a conducive environment for digital technology use

As survey findings showed, digital technologies were valuable to Chadian firms across the value chain, from improving the efficiency and timeliness of production processes to allowing firms to advertise more quickly and economically. Yet integrating digital solutions in a meaningful way requires certain preconditions.

Firms need a stable electricity supply as well as access to affordable, high-quality internet and devices. Without these elements, Chadian firms are held back from digital transformation. Ninety percent of surveyed businesses, for instance, cited high costs and 81% cited poor quality of internet services as barriers that restrict their ability to go online. Costliness of devices was also an issue, with 60%

of respondents saying it is a major obstacle to the adoption of digital technologies in their companies.

Universalizing access to electricity is a first step to create a fertile ground for the digital transformation. Alternative and renewable sources of energy play a vital role in increasing electrification rates and offer an opportunity to make the most of Chad's renewable energy potential, notably in solar power.

Provincial disparities in electricity access persist, however, most notably between rural and urban areas.¹³⁰ The Government has launched several initiatives to close these gaps, such as the Solar Energy Project for Rural Development.¹³¹ Other solutions, such as off-grid mini-grid energy systems, as popularized in Nigeria and Senegal, could also offer powerful avenues to enhance access to clean electricity in underserved areas where traditional grid connections may not be economical or feasible.¹³²

Widening the coverage of internet networks – both fixed and mobile broadband – is also needed to ensure internet is available and affordable across the large Chadian territory. Public-private partnerships for infrastructure sharing, which involves multiple operators pooling resources and collaborating on infrastructure deployment and maintenance, can present a viable solution for expanding connectivity across provinces, including in rural areas.¹³³

For example, the Ghana Investment Fund for Electronic Communications, an agency of the Ministry of Communications and Digitalisation of Ghana, partnered with Ascend Digital Solutions to build shared 4G-enabled networks in rural areas. Thanks to this collaborative model, around 1.1 million subscribers had connected to the shared network by June 2023.¹³⁴

Increased private sector participation can also help in cutting the costs of connectivity, largely because private network operators must compete for market share. In Nigeria, for example, after the three largest mobile network operators



transferred their assets to independent tower companies, the price of mobile internet access as a percentage of gross national income per capita declined by 3 percentage points per year, compared to just 0.4 percentage point the year before.¹³⁵

The legal and regulatory framework in Chad is relatively conducive to the establishment of a competitive telecom and broadband market. In practice, however, only two private mobile operators – Moov Africa Chad and Airtel Chad – provide mobile broadband services to the population.¹³⁶ Opening the market to new operators and increasing mobile licences can boost competition in the sector and create incentives for the incumbent companies to lower prices and offer more affordable data plans.

As an additional benefit, quality of service can also improve, particularly in congested urban areas, as more operators can alleviate congestion and bottlenecks in the coverage cycle.¹³⁷

The Government's recent decision to remove duties on imported telecom devices was welcome in terms of expanding access to affordable digital services among businesses.¹³⁸ Still, high taxes on devices such as mobile phones remain a burden and have a particularly strong effect on the poorest users.¹³⁹ Reducing certain fees – for example, SIM activation charges – can improve the affordability of these devices and consequently boost usage.

To promote the production of locally produced devices, network operators in Chad can play an important role, for instance, by selling locally produced devices under their brand name. Such companies often benefit from the trust of consumers who prefer to purchase from a recognized retailer.¹⁴⁰ In West Africa, for example, the Halona device, manufactured by MobiWire and sold by multinational network operator Orange, as well as Vodacom's Smart Kicka 3 in Lesotho and Mozambique, are sold at more affordable prices in Africa by virtue of this model.

Improving access to finance

Limited access to finance remains an important barrier to growth for many Chadian businesses, with 55% of surveyed firms in Chad saying it was difficult to obtain finance. It hinders opportunities for innovation, digital technology adoption, certification and more. Policies designed to improve the financial environment and funding opportunities for private-sector firms are of high priority.

Simplifying loan application procedures is a key step in this direction. Indeed, among the many surveyed firms that had not applied for a loan in the past three years, one central concern was overly complex financial procedures.

Digital solutions can help facilitate credit application and assessment procedures. The success of mobile money across the continent – such as in Kenya and United Republic

of Tanzania – has highlighted the potential of mobile money to power the expansion of business lending.¹⁴¹

Mobile money-based solutions that use mobile phone metadata to predict the likelihood of credit repayment could increase access to finance among unbanked businesses.¹⁴² Encouraging the use of solutions such as Tigo Cash and Airtel Money in Chad could narrow the gap in financial access between smaller, more vulnerable firms and larger, more established companies. Such solutions could especially benefit small and women-led firms, which tend to be underbanked and face additional constraints to obtain traditional finance.

Digital financial services also hold promise for small-scale farmers and others in the agricultural sector – a core segment of the Chadian economy. A 2018 study of cocoa farmers in Côte d'Ivoire who deployed digital financial services found that while many smallholder cocoa farmers felt excluded or intimidated by traditional banks, they were generally accepting of agent banking – where third-party businesses offer customers a selection of financial services on behalf of a financial service provider – and digital services.¹⁴³

The integration of digital finance in their operations also led to a digitizing of the specific agricultural value chain in the process – creating a virtual cycle starting from digital finance.¹⁴⁴

Financial literacy training for businesses must complement efforts to streamline such processes. As survey analysis showed, this is valuable not only to enable firms to present business plans for loan purposes, but it can also boost their chances of loan approval. A good example of such an initiative is Namibia's Financial Literacy Initiative – a national platform launched in 2012 to enhance financial education for individuals and SMEs. The initiative consists of more than 35 platform supporters from across the Namibian public, private and civil society sectors.¹⁴⁵

Investing in skills development

A literate and educated population lays the foundation for a highly capable labour force. The development of such a workforce in Chad will require continuous investments in education and human resource development. For example,

improving school conditions by reducing class sizes and strengthening teacher training – as Chad's Ministry of Education is doing for Sudanese teachers in the country – can benefit student enrolment and achievement rates.¹⁴⁶

On the market level, private-sector actors must work with providers of skills training to identify the most relevant skills needed by the labour market and equip potential employees accordingly. Programmes offering vocational training opportunities to youth – such as the Certificate of Specialization in Senegal, which gives young people a direct route into employment by adapting the training to their level of education and real job opportunities – are vital to address the shortage of skilled workers in Chad noted by survey respondents.¹⁴⁷

Stakeholders involved in apprenticeship systems – including government, employers and providers of education and training – could also collaborate on communicating through the school system, at career fairs and events, and online sites, to connect young people with placement and apprenticeship opportunities.¹⁴⁸

Digital skills development is vital, as 77% of surveyed firms in Chad said they would need more digitally skilled workers in the next five years. To build a digitally literate population, educational institutions in Chad can deepen the incorporation of foundational digital skills in other curricula. Chad's integration into the D-CLIC initiative, as noted in Chapter 4, is a step in the right direction and can be scaled up through greater collaboration with public- and private-sector institutions to ensure that youth that graduate from the initiative benefit from professional opportunities that make use of their newly acquired digital skills.¹⁴⁹

It is important to note, however, that a solid digital infrastructure complete with affordable and reliable internet is a prerequisite to ensure the successful materialization of digital skills development policies and initiatives.

Financial incentives for companies to conduct in-house training to upgrade employees' skills, including digital skills, are also important. Online resources, such as the Skills Academy, launched by MTN, Africa's largest mobile network operator, in 2023, are valuable, cost-effective tools that can facilitate access to digital skills training.¹⁵⁰ Such training can have a significant positive impact on the competitiveness and innovation levels in Chadian firms, findings showed.

Promoting certification to widen access to global markets

Only half of the Chadian companies surveyed were certified. However, certification is increasingly becoming an essential for firms seeking to be competitive on the global market.¹⁵¹ Indeed, the SME Competitiveness Survey findings found that firms holding at least one certificate were more than twice as likely as their non-certified counterparts to export internationally.

Raising awareness about certification and incentivizing it among Chadian firms will enable them to invest in the certification they need to become more attractive on global markets. These certificates can signal various attributes to international buyers, including high quality of goods or services and safe or standardized production processes.¹⁵² The widely diffused ISO 9000 and ISO 14000 address, respectively, these attributes and can be a start for Chadian businesses wishing to obtain certification.¹⁵³

Certificates can also be useful indications of a firm's climate consciousness.¹⁵⁴ As stringent sustainability standards become more common, such certifications may become a condition to enter certain markets. In Chad, however, fewer firms had sustainability-related certificates than other types of certificates, survey findings showed.

Chadian agri-enterprises in sectors with high export potential, such as sesame seeds and natural gum Arabic,¹⁵⁵ can capitalize further on this potential by obtaining the relevant green certification. Standards and labels, such as ISO 14001 on environmental management and Fairtrade, have grown considerably in sub-Saharan Africa and give Chadian firms an opportunity to adopt sustainable practices in key sectors and expand trade to developed country markets.¹⁵⁶

Making more information available about certificates and providing financial support for firms to obtain them is crucial to ensure that Chadian companies can access global markets and eventually participate in global value chains.

One way to reduce certification costs is to set up local accredited certification bodies. In Burundi, for example, the National Standards Body, with ITC's assistance, created a management system certification service to offer ISO 9001, hazard analysis and critical control points, and ISO 22000 certification to firms that previously had been obliged to obtain that service from foreign certification bodies at high cost.¹⁵⁷

Empowering business support organizations

Chambers of commerce, sector associations and other BSOs can play a transformative role in facilitating business operations, including by connecting actors, building firm capacities and easing barriers in the business environment. Business support organizations in Chad, such as Maison de la Petite Entreprise N'Djamena, Chad Innovation Hub and Wenaklabs, already contribute by promoting an entrepreneurial spirit among youth, offering training and technical support to entrepreneurs and facilitating public-private dialogue.

One area where BSOs could do more is to help promote better management practices among firms, including inventory and cash flow management. As survey data showed, Chadian companies, particularly small and agricultural ones, lag behind in these practices. BSO assistance could enhance these firms' management capabilities and raise their efficiency and competitiveness in the long run.

Survey findings also indicated that Chadian companies that collaborated extensively were more likely to exchange information, especially when it came to information on potential suppliers. Chadian BSOs can play an important role in providing a platform where firms can engage with one another, exchange information, share best practices and form clusters.

Indeed, studies of industrial clusters in Cameroon, Ghana, Kenya, Mauritius, United Republic of Tanzania and Rwanda have shown that these groups of firms provide a pocket of vitality in Africa's private sector, boosting sales and creating strong buyer-seller networks among participating firms.¹⁵⁸

Providing grants and other forms of financial support to BSOs would help them lower their costs and allow them to broaden their services and reach – for instance, to women and vulnerable entrepreneurs. This, in turn, could encourage more Chadian businesses to better use the services BSOs provide and improve their competitiveness and resilience. Building connections and promoting coordination among BSOs themselves would also better serve the needs of firms and allow BSOs to achieve economies of scale and scope.



Appendix

About the SME Competitiveness Survey

About the SME Competitiveness Survey

Many factors influence the competitiveness of an economy in domestic and international markets. ITC provides a holistic view of enterprise competitiveness in the following definition:

Competitiveness is the demonstrated ability to design, produce and commercialize an offer that fully, uniquely and continuously fulfils the needs of targeted market segments, while connecting with and drawing resources from the business environment, and achieving a sustainable return on the resources employed.

The importance of competitiveness in driving firm survival, growth and trade makes it a key element in economic development. For this reason, ITC has developed an analytical framework to understand firm competitiveness and how it can be improved over time. It consists of three pillars that drive competitiveness, each subdivided into three themes.¹⁵⁹

The three pillars of competitiveness are compete, connect and change.

1. **The capacity to compete** assesses the ability of enterprises to deliver output of appropriate quantity, timeliness, quality and cost to meet current market expectations. This ability to meet short-term market requirements is influenced by firm-level operational characteristics, such as efficient inventory management, professional financial management and compliance with internationally-recognized standards, as well as factors at the business ecosystem and national level, including electricity and transport infrastructure and services.
2. **The capacity to connect** assesses the ability of enterprises to use information, products and services to build strong linkages with actors in its business ecosystem for successful firm operations and growth. At the firm level, this includes efforts to disseminate marketing information to current and potential buyers and build better relationships with suppliers and other value-chain actors.

Collaborating with other firms in the sector, and linking with chambers of commerce and other business support organizations, forges connections within the business ecosystem to access market information, products and services. ICT infrastructure and services support these connections and are influenced by national level factors.

3. **The capacity to change** assesses the ability of enterprises to adapt their business model in response to, or in anticipation of, dynamic market forces. When companies are able to build a forward-looking business strategy – and mobilize required funds and skills to implement it through innovation – they draw on their competitiveness, market connections and knowledge to improve their competitiveness today and in the future.

Access to finance, innovation networks and appropriately skilled workers in the business ecosystem are key ingredients in the implementation of these changes. On the national level, the political environment and governing structures with their approaches to education, innovation and research affect the incentives for firms to invest in change.



These three pillars of competitiveness can be examined at three levels of the economy.

1. At the **firm level**, their ability to manage resources adeptly influences their competitiveness.
2. At the **business ecosystem level**, factors that support firm competitiveness but are outside the firm – including the availability of skilled workers, infrastructure and business support organizations – are important.
3. The **national environment** includes the macroeconomic and governmental factors that establish the fundamentals for the functioning of markets in the economy.

The SME Competitiveness Grid bridges a gap in composite indicators that focus on macroeconomic determinants of competitiveness rather than local or microeconomic determinants. The importance of macroeconomic determinants is fully recognized, however, and is reflected in the 'national environment' level of the competitiveness grid. ITC's *SME Competitiveness Outlook 2015* provides a more detailed description of the SME Competitiveness Grid and the methodology behind it.

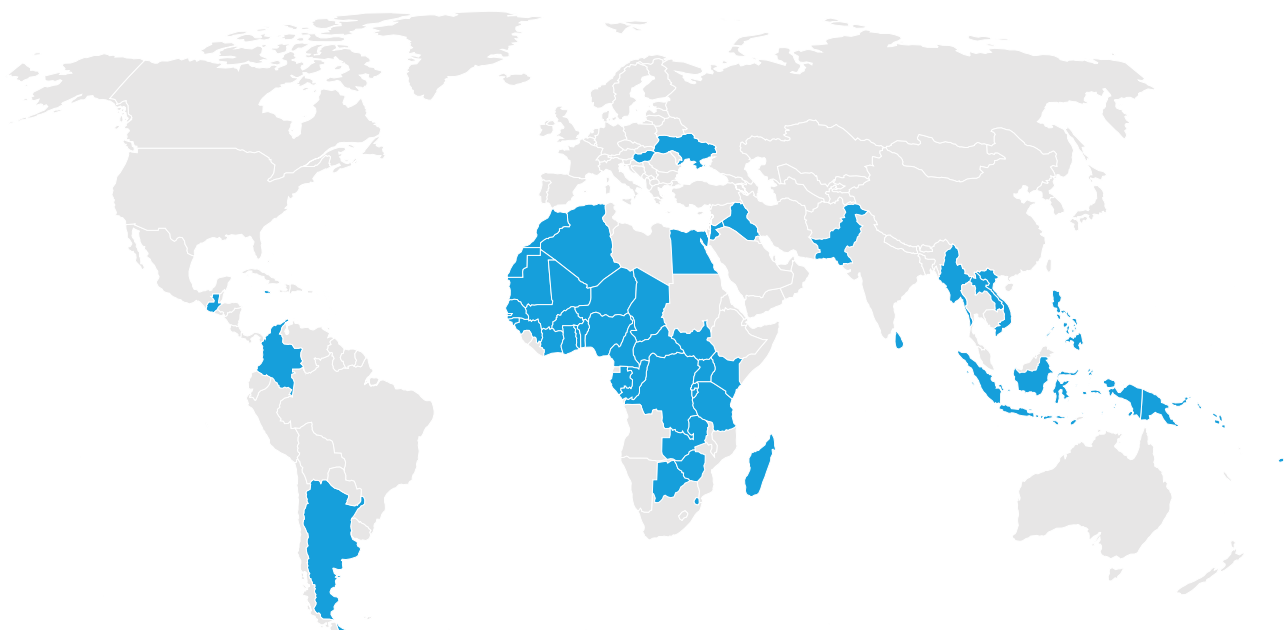
What are SMEs?

This report defines small and medium-sized enterprises as companies with fewer than 100 employees. The term 'SME' thus includes micro-sized firms, understood as those with fewer than five employees. It also covers small companies with 5–19 employees and medium-sized ones with 20–99 employees.

How to measure the competitiveness of small firms?

Measuring all dimensions of competitiveness can be difficult. ITC created the SMECS to allow countries to collect the data they need to measure the competitiveness of their enterprises. As of August 2024, more than 49,000 firms had been surveyed in 58 countries, including Benin, Burkina Faso, South Sudan and Zambia.

Figure 13 SME Competitiveness Surveys across the world



Source: ITC.



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SMECS is typically deployed in partnership with domestic trade and investment support institutions. ITC gives these institutions the software to gather and maintain an active database on micro, small and medium-sized enterprises, and helps their staff select samples and train interviewers.

SMECS helps governments and trade support institutions better understand the needs of their enterprises. Policymakers and trade support institutions can use the findings to identify and address bottlenecks to competitiveness; compare the competitiveness of enterprises based on size, sectors and location; and better match firms with potential investors and buyers.

How to understand the competitiveness of small firms?

This report uses the conceptual framework described above to evaluate the Chad SME Competitiveness Survey data and assess the competitive position of small and medium-sized companies in the country.

The report analyses data from three levels in the SME Competitiveness Grid: national, ecosystem and firm-level.

The national environment is examined based on a review of secondary data and related literature. Firm and ecosystem-level competitiveness are evaluated from firm-level survey data collected through SMECS.

The report is structured according to selected themes in the SME Competitiveness Grid. Themes were included in the report analysis depending on whether the data indicate that Chad has a particular strength or weakness in that domain, or if previous research suggests the topic is important to the country's SMEs.

A disaggregated analysis of the SMECS dataset in Chad yields additional insight on each theme. Subsamples from each sector are analysed to assess sector-specific challenges and strengths. Results vary by firm size, defined according to the number of employees. Women-led and youth-led firms are compared to their counterparts.

Where relevant, and notably in the final chapter, policy recommendations highlight opportunities to address issues that have been identified in the analysis of the data. The report presents highlights of the study of the data, given the limited space available. More analysis was conducted, and additional information can be extracted from the data..

Endnotes

- 1 (Temgoua & Savadogo, 2023).
- 2 (Institut national de la statistique, des études économiques et démographiques, 2015).
- 3 (Yamtebaye, 2007).
- 4 (International Finance Corporation [IFC], 2023).
- 5 (IFC, 2023; UN Conference on Trade and Development [UNCTAD], 2019).
- 6 (IFC, 2023; World Bank, 2021).
- 7 ITC. *Local Business Intelligence: SME Competitiveness Survey*. <https://www.intracen.org/SMEIntelligence>
- 8 The private sector in Chad is mainly composed of SMEs while large firms – defined as those with more than 100 employees – are rare. Consequently, only eight large firms are included in our sample. To conduct size-based analysis, we grouped the sample into micro-small and medium-large enterprises to ensure sufficient observations for comparison. All disaggregated results by size presented in this report are statistically significant.
- 9 (Institut national de la statistique, des études économiques et démographiques, 2015).
- 10 (Institut national de la statistique, des études économiques et démographiques, 2015).
- 11 (Ortiz, 2022).
- 12 (ONDD, n.d.).
- 13 (Alliance Sahel, 2024; RFI, 2024).
- 14 (ONDD, n.d.).
- 15 (RFI, 2024; UNDP Chad, 2020).
- 16 (Institut national de la statistique, des études économiques et démographiques, 2015)
- 17 (UNDP Chad, 2022; World Bank, 2021).
- 18 (UNDP, 2020).
- 19 (UNDP, 2020).
- 20 (Fusiek, 2022).
- 21 (Ministry of the Economy and Development Planning of Chad, 2017a; UNDP Chad, n.d.).
- 22 (Organisation for Economic Co-Operation and Development [OECD], 2004).
- 23 (Falcicola et al., 2020).
- 24 (IFC, 2023).
- 25 (Kouladoum et al., 2022).
- 26 (International Telecommunication Union [ITU], 2023a). The statistic reported refers to 'the proportion of individuals who used the internet from any location in the last three months', where access can be via fixed or mobile networks.
- 27 Countries included in this comparison were: Benin, Botswana, Burkina Faso, Cameroon, Congo, Côte d'Ivoire, Eswatini, Gabon, Ghana, Kenya, Mali, Morocco, Togo, Uganda, Zambia and Zimbabwe. The data were obtained from the ITC SME Competitiveness Survey dataset or other ITC surveys conducted in these countries.
- 28 (Burke, 2005; Haller & Siedschlag, 2011).
- 29 (ITC, forthcoming).
- 30 (de Koning & Gelderblom, 2006; Schleife, 2006; Meyer, 2011).
- 31 (Ariss, 2023).
- 32 (Cable.co.uk, 2024).
- 33 (Broadband Commission, 2024; ITU, 2023b).
- 34 According to the ITU ICT price basket for Chad in 2023, the cost of a mobile cellular and data basket was 21.8% of gross national income per capita, of which 12.5% can be attributed to data usage exclusively.
- 35 (ITC, 2022d).
- 36 (ITC, 2015).
- 37 (Chauvin & Hirschey, 1993).
- 38 (Acemoglu et al., 2022; Fuxman et al., 2014; Li et al., 2017).
- 39 (ITC, 2020).
- 40 (DataReportal, 2020, 2024).
- 41 Countries included in this comparison were: Benin, Botswana, Burkina Faso, Eswatini, Ghana, Kenya, Morocco, South Sudan, Togo, Zambia and Zimbabwe. The data were obtained from the ITC SME Competitiveness Survey dataset.
- 42 (Etim et al., 2021).
- 43 (Bayer et al., 2020).
- 44 (Gordon, 2005; OECD, 2004).
- 45 (Celuch & Murphy, 2010).
- 46 (Hyun et al., 2020; Miroudot, 2020).
- 47 (ITC, 2021).
- 48 (Chang et al., 2003; ITC, 2023a; Noh & Lee, 2015).

- 49 Countries included in this comparison were: Benin, Botswana, Burkina Faso, Eswatini, Ghana, Kenya, Morocco, South Sudan, Togo, Zambia and Zimbabwe. The data were obtained from the ITC SME Competitiveness Survey dataset.
- 50 (Dunsch, 2022; Ubfal, 2024; World Bank, 2023a).
- 51 (Valadares de Oliveira et al., 2011).
- 52 (Forman & van Zeebroeck, 2012).
- 53 (Melissa et al., 2015).
- 54 (Capel et al., 2017; Obayelu & Ogunlade, 2006).
- 55 (Crittenden et al., 2019).
- 56 Values for 'larger' firms were calculated as the average across medium-sized and large respondents.
- 57 (Mafini & Omoruyi, 2013; Nkwini & Akinola, 2023; UNCTAD, 2005).
- 58 (Dhillon & Moncur, 2023; Food and Agriculture Organization of the United Nations, 2017).
- 59 (CIAT et al., 2021).
- 60 (Mawejje, 2024).
- 61 (African Development Bank, 2024).
- 62 (OECD et al., 2023).
- 63 (Bartel et al., 2007; Goldfarb & Tucker, 2019; Nucci et al., 2023; Perez, 2023).
- 64 (Adhikari & Tesfachew, 2024; Armev & Hosman, 2016; Blimpo & Cosgrove-Davies, 2019).
- 65 The percentage of the population with access to electricity in Chad is 11.7% and 51.4% for sub-Saharan Africa, according to the World Bank (2022). See: <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=TD>
- 66 (IFC, 2023).
- 67 (IFC, 2023).
- 68 (World Bank, 2022).
- 69 (African Development Bank, 2019).
- 70 (Sied, 2024).
- 71 (Islamic Development Bank, n.d.).
- 72 (Islamic Development Bank, n.d.).
- 73 (Arvis et al., 2018).
- 74 (Bayoumi et al., 2021; Munim & Schramm, 2018; Teravaninthorn & Raballand, 2009).
- 75 'Most of their goods' meaning more than 75% of their goods were delivered on time.
- 76 (Tadayonrad & Ndiaye, 2023; Venkatesh & Kumar, 2023).
- 77 Values for 'larger' firms were calculated as the average across medium-sized and large respondents.
- 78 (Deloitte, n.d.; Holloway, 2024).
- 79 (Holloway, 2024).
- 80 (American Express, 2024; Mastercard, 2018).
- 81 (Deloitte, n.d.; Balbaa & Abdurashidova, 2024; Olaoye & Henry, 2024).
- 82 (Martincic, 1997).
- 83 (Quality Academy, 2024).
- 84 (Martincus et al., 2010; Masakure et al., 2009).
- 85 (Bellesi et al., 2005).
- 86 (UNDP, 2020).
- 87 ITC. Chad Overview. <https://intracen.org/our-work/regions-and-countries/africa/chad>
- 88 (Bellesi et al., 2005).
- 89 (Guasch et al., 2007).
- 90 (Beck, 2007; Guasch et al., 2007).
- 91 (Wiengarten et al., 2017).
- 92 (ITC, 2022d).
- 93 (World Bank, 2023b).
- 94 (Jansen & Lanz, 2013).
- 95 (ITC, 2023b).
- 96 (Morsy & Mukasa, n.d.; Ndolo & Senelwa, 2023; Tan et al., 2016).
- 97 (ITC, 2015).
- 98 (IFC, 2023).
- 99 (UNESCO Institute for Statistics, 2023).
- 100 (World Bank, 2024b).
- 101 (UNESCO Institute for Statistics, 2023).
- 102 (Goedhuys & Sleuwaegen, 2010).
- 103 (International Labour Organization, 1999).
- 104 (Adams et al., 2013; Marchese et al., 2019; OECD, 2021).
- 105 (van Vuuren, 2014).
- 106 (Ghassemieh et al., 2005; Harris, 2000; ITC, 2023b).
- 107 (ITC, 2022d).
- 108 (ITC, forthcoming).
- 109 (Malamud et al., 2019; Okyere, 2022).
- 110 (OECD, 2024).
- 111 (Atieno, 2009; Musso & Schiavo, 2008).
- 112 (Babu Mani & Ekambaram, 2021).
- 113 (IFC, 2023).

- 114 (SME Finance Forum, 2018). Data for 2018. The MSME finance gap is estimated as the difference between current supply and potential demand that can potentially be addressed by financial institutions. It assumes that the firms in a developing country have the same willingness and ability to borrow as their counterparts in well-developed credit markets and operate in comparable institutional environments – and that financial institutions lend at similar intensities as their benchmarked counterparts. See <https://www.smefinanceforum.org/data-sites/msme-finance-gap> for more information.
- 115 (IFC, 2023).
- 116 (IFC, 2023).
- 117 (Simael & Honoré, 2021).
- 118 (World Bank, 2021).
- 119 (IFC, 2023; ITC, 2022a).
- 120 (ITC, 2022b).
- 121 Respondents were asked 'Please rate this company's knowledge of the processes involved in getting a loan with domestic financial institutions.' Firms were classified as having 'very detailed financial knowledge' if they chose options 4 and 5 from a Likert scale ranging from 1 (No knowledge) to 6 (Very detailed knowledge) and as having 'no financial knowledge' if they chose options 1 and 2.
- 122 (Falconi et al., 2020; ITC, 2023b).
- 123 (ND-GAIN Index, 2021).
- 124 (ITC, 2022c; 2023b).
- 125 (Ukpabio et al., 2019).
- 126 (Bergin et al., 2019).
- 127 (Banholzer et al., 2023; Shah et al., 2024).
- 128 (UNDP Chad, 2020).
- 129 Countries included in this comparison were: Benin, Botswana, Burkina Faso, Eswatini, Ghana, South Sudan, Togo, Zambia and Zimbabwe.
- 130 (Kelly et al., 2023).
- 131 (Bamisile et al., 2023; Vidzraku, 2017).
- 132 (Babayomi et al., 2023; Schwerhoff & Sy, 2019; World Bank, 2024a).
- 133 (Telecom Review Africa, 2024).
- 134 (GSM Association, 2023).
- 135 (ITU, 2021).
- 136 (Ariss, 2023; Lancaster, 2024).
- 137 (ITU, 2021).
- 138 (Lancaster, 2024).
- 139 (GSM Association & Deloitte, 2016).
- 140 (Alliance for Affordable Internet, 2020).
- 141 (Fedder, 2024; IFC, 2018).
- 142 (Björkegren & Grissen, 2020).
- 143 (IFC, 2018).
- 144 (Alliance for Financial Inclusion, 2020).
- 145 (Financial Literacy Initiative, 2023).
- 146 (United Nations Educational, Scientific and Cultural Organization, 2023; UNICEF Innocenti et al., 2024).
- 147 (United Nations Educational, Scientific and Cultural Organization, 2023).
- 148 (International Labour Organization, 2020).
- 149 (Organisation internationale de la Francophonie, 2023).
- 150 (MTN, 2023).
- 151 (Pacheco et al., 2022).
- 152 (Goedhuys & Sleuwaegen, 2013).
- 153 (Auriol & Schilizzi, 2015).
- 154 (Moratis, 2018).
- 155 As identified using ITC's Export Potential Assessment methodology; see (ITC, 2024).
- 156 (Fairtrade Africa, 2022; Fikru, 2016).
- 157 (ITC, internal communication, June 2024).
- 158 (World Bank, 2011).
- 159 (ITC, 2015).

References

- Acemoglu, D., Akcigit, U., & Celik, M. A. (2022). Radical and incremental innovation: The roles of firms, managers, and innovators. *American Economic Journal. Macroeconomics*, 14(3), 199–249. <https://doi.org/10.1257/mac.20170410>
- Adams, A. V., de Silva, S. J., & Razmara, S. (2013). *Improving Skills Development in the Informal Sector: Strategies for Sub-Saharan Africa*. World Bank Publications; <https://doi.org/10.1596/978-0-8213-9968-2>
- Adhikari, R., & Tesfachew, T. (2024, March 27). The Least Developed Countries are falling behind on digital transformation — here's what to do. *World Economic Forum*. <https://www.weforum.org/agenda/2024/03/unleashing-digital-transformation-in-the-least-developed-countries/>
- African Development Bank. (2019). *2019 Annual Report*. African Development Bank Group. https://www.afdb.org/sites/default/files/documents/publications/afdb_annual_report_2019_eng.pdf
- African Development Bank. (2023, November 17). *Public-private partnerships needed to bridge Africa's infrastructure development gap*. African Development Bank. Retrieved 4 September 2024 from <https://www.afdb.org/en/news-and-events/public-private-partnerships-needed-bridge-africas-infrastructure-development-gap-65936>
- African Development Bank. (2024). *African Economic Outlook 2024: Driving Africa's Transformation, The reform of the global Financial Architecture*. African Development Bank. https://www.afdb.org/sites/default/files/2024/06/06/aeo_2024_-_country_notes.pdf
- African Digital Inclusion Facility. (2023). *Promoting entrepreneurship among women and youth in Chad by strengthening the microfinance sector*. Retrieved 8 August 2024 from <https://www.adfi.org/projects/promoting-entrepreneurship-among-women-and-youth-chad-strengthening-microfinance-sector>
- African Management Institute Rwanda. (n.d.). *Enabling ambitious businesses across Rwanda to thrive*. Retrieved 17 September 2024 from <https://www.africanmanagers.org/ami-rwanda/>
- Agence Nationale des Investissements et des Exportations (n.d.). *Guide de l'exportateur*. Retrieved 13 September 2024 from <https://anie.td/wp-content/uploads/2024/03/Guide-de-lexportateur-2020.pdf>
- Alliance for Affordable Internet. (2020). *From luxury to lifeline: Reducing the cost of mobile devices to reach universal internet access*. https://a4ai.org/wp-content/uploads/2020/08/Alliance-for-Affordable-Internet_Device-Pricing_PUBLIC.pdf
- Alliance for Financial Inclusion. (2020). *Scoping and Assessment Report – MSME Access to Finance Ecosystem in Africa*. https://www.afi-global.org/sites/default/files/publications/2020-10/AFI_AfPI_SMEFWG_survey%20report_AW_digital.pdf
- Alliance Sahel. (2024, July 31). *La jeunesse au Tchad se lance dans l'entrepreneuriat*. Alliance Sahel. <https://www.alliance-sahel.org/actualites/education-et-emploi-des-jeunes/jeunesse-tchadienne-la-force-dapprendre-le-courage-dentreprendre/>
- American Express. (2024). *From Cash Flow Pain to Working Capital Gain: Automated AR/AP Solutions for SMBs*. American Express. <https://www.americanexpress.com/content/dam/amex/us/merchant/pdf/bcfm/PYMNTS-Working-Capital-Tracker-June-2024.pdf>
- Ariss, A. A. A. (2023). *Concept Project Information Document (PID) - Chad Digital Transformation Project (P180000)* (Concept Project Information Document PIDC34946). World Bank Group. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099102502282341480/P180000048eed6040a13200ddaf8abe650>
- Arney, L.E., & Hosman, L. (2016). The centrality of electricity to ICT use in low-income countries. *Telecommunications Policy*, 40(7), 617-627. <https://doi.org/10.1016/j.telpol.2015.08.005>
- Arvis, J.-F., Ojala, L., Wiederer, C., Shepherd, B., Raj, A., Dairabayeva, K., & Kiiski, T. (2018). *Connecting to Compete 2018: Trade Logistics in the Global Economy*. The World Bank. <https://documents1.worldbank.org/curated/en/576061531492034646/pdf/Connecting-to-compete-2018-trade-logistics-in-the-global-economy-the-logistics-performance-index-and-its-indicators.pdf>

- Atieno, R. (2009). Linkages, Access to Finance and the Performance of Small-Scale Enterprises in Kenya. [Research paper / UNU-WIDER, No. 2009.06]
- Auriol, E., & Schilizzi, S. G. M. (2015). Quality signaling through certification in developing countries. *Journal of Development Economics*, 116, 105–121. <https://doi.org/10.1016/j.jdeveco.2015.03.007>
- Babayomi, O. O., Olubayo, B., Denwigwe, I. H., Somefun, T. E., Adedaja, O. S., Somefun, C. T., Olukayode, K. and Attah, A. (2023). A review of renewable off-grid mini-grids in Sub-Saharan Africa. *Frontiers in Energy Research*, 10, 1089025. <https://doi.org/10.3389/fenrg.2022.1089025>
- Babu Mani, S., & Ekambaram, V. (2021). Antecedents of the service quality for housing loan customers of Indian banks. *Banks and Bank Systems*, 16(1), 195–204. [https://doi.org/10.21511/bbs.16\(1\).2021.17](https://doi.org/10.21511/bbs.16(1).2021.17)
- Balbaa, M. & Abdurashidova, M. (2024). The Impact of Artificial Intelligence on Logistics Decision Making. *EPRA International Journal of Economics Business and Management Studies*, 11(2), 27-38. <http://dx.doi.org/10.36713/epra15747>
- Banholzer, M., LaBerge, L., West, A., & Williams, E. (2023). *How innovative companies leverage technology*. McKinsey & Company. <https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/how-innovative-companies-leverage-tech-to-outperform>
- Bamisile, O., Dongsheng, C., Li, J., Adun, H., Olukoya, R., Bamisile, O., & Huang, Q. (2023). Renewable energy and electricity incapacitation in sub-Sahara Africa: Analysis of a 100% renewable electrification in Chad. *Energy Reports*, 9, 1–12. <https://doi.org/10.1016/j.egy.2023.05.049>
- Bartel, A., Ichniowski, C., & Shaw, K. (2007). How does information technology affect productivity? Plant-level comparisons of product innovation, process improvement, and worker skills. *The Quarterly Journal of Economics*, 122(4), 1721–1758. <https://doi.org/10.1162/qjec.2007.122.4.1721>
- Bayer, E., Srinivasan, S., Riedl, E. J., & Skiera, B. (2020). The impact of online display advertising and paid search advertising relative to offline advertising on firm performance and firm value. *International Journal of Research in Marketing*, 37(4), 789–804. <https://doi.org/10.1016/j.ijresmar.2020.02.002>
- Bayoumi, E. O., Elgazzar, S., Abdel Bary, A., & Ricci, S. (2021). The role of road transport infrastructure investments on logistics performance: A research Agenda. *International Business Logistics*, 1(2), 16-27. <https://doi.org/10.21622/ibj.2021.01.2.016>
- Beck, T. (2007). Financing Constraints of SMEs in Developing Countries: Evidence, Determinants and Solutions. Financing Innovation-Oriented Businesses to Promote Entrepreneurship, 36.
- Beck, T., Maimbo, S. M., Faye, I. & Triki, T. (2011). Financing Africa: Through the Crisis and Beyond. The International Bank for Reconstruction and Development, World Bank. <https://documents1.worldbank.org/curated/en/633671468194645126/pdf/646640PUB0fina00Box361543B00PUBLIC0.pdf>
- Bellesi, F., Lehrer, D., & Tal, A. (2005). Comparative advantage: The impact of ISO 14001 environmental certification on exports. *Environmental Science & Technology*, 39(7), 1943–1953. <https://doi.org/10.1021/es0497983>
- Bergin, A., Delaney, J., Handel, M. J., McGuinness, S., Kupets, O., Pouliakas, K., & Redmond, P. (2019). *Skills and jobs mismatches in low- and middle-income countries* (P. Comyn & O. Strietska-Iliina, Eds.). International Labour Office.
- Björkegren, D., & Grissen, D. (2020). Behavior revealed in mobile phone usage predicts credit repayment. *The World Bank Economic Review*, 34(3), 618–634. <https://doi.org/10.1093/wber/lhz006>
- Blimpo, M. P., & Cosgrove-Davies, M. (2019). *Electricity Access in Sub-Saharan Africa: Uptake, Reliability, and Complementary Factors for Economic Impact*. The International Bank for Reconstruction and Development, World Bank <https://doi.org/10.1596/978-1-4648-1361-0>
- Broadband Commission. (2024). *2025 Broadband Advocacy Targets*. Broadband Commission. <https://www.broadbandcommission.org/advocacy-targets/2-affordability/>
- Burke, K. (2005). The impact of firm size on internet use in small businesses. *Electronic Markets*, 15(2), 79–93. <https://doi.org/10.1080/10196780500083738>
- Cable.co.uk. (2024). *Worldwide Broadband Speed League 2024*. Cable.Co.Uk. <https://www.cable.co.uk/broadband/speed/worldwide-speed-league/>

- Capel, T., Vyas, D., & Brereton, M. (2017). Women in crisis situations: Empowering and supporting women through ICTs. In R. Bernhaupt, G. Dalvi, A. Joshi, D. K. Balkrishan, J. O'Neill, & M. Winckler (Eds.), *Human-Computer Interaction - INTERACT 2017* (pp. 64–84). Springer International Publishing. https://www.researchgate.net/publication/319920628_Women_in_Crisis_Situations_Empowering_and_Supporting_Women_Through_ICTs
- Celuch, K., & Murphy, G. (2010). SME Internet use and strategic flexibility: The moderating effect of IT market orientation. *Journal of Marketing Management*, 26(1–2), 131–145. <https://doi.org/10.1080/02672570903574296>
- Chang, K., Jackson, J., & Grover, V. (2003). E-commerce and corporate strategy: An executive perspective. *Information & Management*, 40(7), 663–675. [https://doi.org/10.1016/S0378-7206\(02\)00095-2](https://doi.org/10.1016/S0378-7206(02)00095-2)
- Chauvin, K. W., & Hirschey, M. (1993). Advertising, R&D expenditures and the market value of the firm. *Financial Management*, 22(4), 128–140. <https://econpapers.repec.org/article/fmafmanag/chauvin93.htm>
- CIAT, ICRISAT, FAO & World Bank. (2021). *Climate-Smart Agriculture in Chad*. CSA Country Profiles for Africa Series. The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT); the International Crops Research Institute for the Semi-Arid Tropics; Food and Agriculture Organization and World Bank, Washington, D.C. 25 p.
- Crittenden, V. L., Crittenden, W. F., & Ajjan, H. (2019). Empowering women micro-entrepreneurs in emerging economies: The role of information communications technology. *Journal of Business Research*, 98, 191–203. <https://doi.org/10.1016/j.jbusres.2019.01.045>
- DataReportal. (2020, February). Digital 2020: Chad. *DataReportal – Global Digital Insights*. <https://datareportal.com/reports/digital-2020-chad>
- DataReportal. (2024, January). Digital 2024: Global Overview Report. *DataReportal – Global Digital Insights*. <https://datareportal.com/reports/digital-2024-global-overview-report>
- de Koning, J., & Gelderblom, A. (2006). ICT and older workers: No unwrinkled relationship. *International Journal of Manpower*, 27(5), 467–490. <https://doi.org/10.1108/01437720610683967>
- Deloitte. (n.d.). *Revolutionizing Supply Chain Management: The Power of Generative AI*. Deloitte. Retrieved 20 August 2024, from <https://www2.deloitte.com/il/en/pages/strategy-operations/articles/the-Power-of-generative-ai.html>
- Dhillon, R., & Moncur, Q. (2023). Small-scale farming: A review of challenges and potential opportunities offered by technological advancements. *Sustainability*, 15(21), 15478. <https://doi.org/10.3390/su152115478>
- Dunsch, F. A. (2022). *Economic empowerment of women-led firms in developing countries*. <https://doi.org/10.31235/osf.io/gtsn2>
- Ecofin Agency (2022, January). *Chad to waive taxes on imported electronic devices for the next 5 years*. Retrieved 18 July 2024 from <https://www.ecofinagency.com/telecom/2501-43355-chad-to-waive-taxes-on-imported-electronic-devices-for-the-next-5-years>
- Embassy of Chad in Belgium. (n.d.). *Le Tchad d'aujourd'hui*. Retrieved 13 September 2024 from <https://www.awex-export.be/files/library/Fiches-Pays/AFPMO/Tchad/tchad.pdf>
- Etim, G. S., James, E. E., Nnana, A. N., & Okeowo, V. O. (2021). E-marketing strategies and performance of small and medium-sized enterprises: A new-normal agenda. *Journal of Business and Management Studies*, 3(2), 162–172. <https://doi.org/10.32996/jbms.2021.3.2.17>
- Fairtrade Africa. (2022). *2022 Annual Impact Report*. <https://fairtradeafrica.net/wp-content/uploads/2023/10/2022-Annual-Impact-Report.pdf>
- Falciola, J., Jansen, M., & Rollo, V. (2020). Defining firm competitiveness: A multidimensional framework. *World Development*, 129, 104857. <https://doi.org/10.1016/j.worlddev.2019.104857>
- Food and Agriculture Organization of the United Nations. (2017). *The future of food and agriculture: trends and challenges*. <https://openknowledge.fao.org/server/api/core/bitstreams/2e90c833-8e84-46f2-a675-aa2d7afa4e24/content>
- Fedder, M. (2024, March 4). Fintech for SME Lending in Africa. *MF4A - Making Finance Work for Africa*. <https://www.mfw4a.org/blog/fintech-sme-lending-africa>

- Fikru, M. G. (2016, January 4). *Firm Level Determinants of International Certification in sub-Saharan Africa*. AFEA session at ASSA. <https://www.aeaweb.org/conference/2016/retrieve.php?pdfid=13866&tk=6DGn58E8>
- Financial Literacy Initiative. (2023). *Financial Literacy Initiative - FLI - Home*. FLI. <https://www.fli-namibia.org/>
- Forman, C., & Zeebroeck, N. V. (2012). From wires to partners: How the Internet has fostered R&D collaborations within firms. *Management Science*, 58(8), 1549–1568. <https://doi.org/10.1287/mnsc.1110.1505>
- Fusiek, D. A. (2022, April). How digitalisation creates new opportunities and growth in developing countries. *European Investment Bank*. <https://www.eib.org/en/stories/digitalisation-developing-countries>
- Fuxman, L., Elifoglu, H., Chao, C. N., & Li, T. (2014). Digital Advertising: A more effective way to promote businesses' products. *Journal of Business Administration Research*, 3(2), 59–67. <https://doi.org/10.5430/jbar.v3n2p59>
- Ghanem, H. (2020, February). *Shooting for the moon: An agenda to bridge Africa's digital divide*. Retrieved 30 July 2024 from <https://www.brookings.edu/articles/shooting-for-the-moon-an-agenda-to-bridge-africas-digital-divide/>
- Ghassemieh, G., Thach, L., & Gilinsky, A. (2005). Does my business need a human resources function? a decision-making model for small and medium-sized firms. *New England Journal of Entrepreneurship*, 8(1), 25–36. <https://doi.org/10.1108/NEJE-08-01-2005-B003>
- Goedhuys, M., & Sleuwaegen, L. (2010). High-growth entrepreneurial firms in Africa: A quantile regression approach. *Small Business Economics*, 34(1), 31–51. https://www.researchgate.net/publication/226129120_High-Growth_Entrepreneurial_Firms_in_Africa_A_Quantile_Regression_Approach
- Goedhuys, M., & Sleuwaegen, L. (2013). The impact of international standards certification on the performance of firms in less developed countries. *World Development*, 47, 87–101. <https://doi.org/10.1016/j.worlddev.2013.02.014>
- Goldfarb, A., & Tucker, C. (2019). Digital Economics. *Journal of Economic Literature*, 57(1), 3–43. <https://doi.org/10.1257/jel.20171452>
- Gordon, S. (2005). Seven steps to measure supplier performance. *Quality Progress*, 38(8), 20–25.
- GSM Association. (2023). *Universal service funds in Africa: Policy reforms to enhance effectiveness*.
- GSM Association & Deloitte. (2016). *Digital inclusion and mobile sector taxation in Chad*. https://www.gsma.com/solutions-and-impact/connectivity-for-good/mobile-for-development/wp-content/uploads/2017/01/Digital-Inclusion-and-Mobile-Sector-Taxation-in-Chad_English_report.pdf
- Guasch, J. L., Racine, J.-L., Sanchez, I., & Diop, M. (2007). *Quality Systems and Standards for a Competitive Edge*. The World Bank; <https://doi.org/10.1596/978-0-8213-6894-7>
- Haller, S. A., & Siedschlag, I. (2011). Determinants of ICT adoption: Evidence from firm-level data. *Applied Economics*, 43(26), 3775–3788. <https://doi.org/10.1080/00036841003724411>
- Harris, L. (2000). Employment regulation and owner-managers in small firms: Seeking support and guidance. *Journal of Small Business and Enterprise Development*, 7(4), 352–362. <https://doi.org/10.1108/EUM0000000006851>
- Holloway, S. (2024). *Impact of Digital Transformation on Inventory Management: An Exploration of Supply Chain Practices*. <https://doi.org/10.20944/preprints202407.0714.v1>
- Hyun, J., Kim, D., & Shin, S.-R. (2020). The role of global connectedness and market power in crises: Firm-level evidence from the COVID-19 pandemic. *Covid Economics: Vetted and Real-Time Papers*, 47, 148–172.
- IFC. (2014). *IFC et le Gouvernement du Chad lancent un système de crédit-bail afin d'aider le secteur des petites entreprises à se développer*.
- IFC. (2018). *Digital Access: The Future Of Financial Inclusion In Africa*. <https://www.ifc.org/content/dam/ifc/doc/mgrt/201805-digital-access-the-future-of-financial-inclusion-in-africa-v1.pdf>
- IFC. (2023). *Creating Markets in Chad: Mobilizing private investment for inclusive growth*. IFC, World Bank Group. <https://www.ifc.org/content/dam/ifc/doc/2023-delta/cpsd-chad-en.pdf>
- International Labour Organization. (1999). *Competing With Labour: Skills and Competitiveness. In Developing Countries*. International Labour Organization.

International Labour Organization. (2018). Initiatives de promotion de la formalisation des entreprises et leurs travailleurs en Afrique. International Labour Organization. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@africa/@ro-abidjan/@sro-yaounde/documents/genericdocument/wcms_634831.pdf

International Labour Organization. (2020). *ILO Toolkit for Quality Apprenticeships - Volume 2: Guide for Practitioners*. <https://www.ilo.org/publications/ilo-toolkit-quality-apprenticeships-volume-2-guide-practitioners>

Institut national de la statistique et des études économiques et démographiques. (2015). *Recensement général des entreprises: rapport général*.

Islamic Development Bank. (n.d.). *Paving the Way Out of Poverty: Expanding Chad's Transport Network*. Retrieved 20 August 2024 from <https://www.isdb.org/case-studies/paving-the-way-out-of-poverty-expanding-chads-transport-network>

ITC. (2015). *SME Competitiveness Outlook 2015: Connect, compete and change for inclusive growth*. International Trade Centre. <https://intracen.org/resources/publications/sme-competitiveness-outlook-2015-connect-compete-and-change-for-inclusive>

ITC. (2020). *SME Competitiveness Outlook 2020: COVID-19, the Great Lockdown and its impact on small business*. International Trade Centre. <https://intracen.org/resources/publications/sme-competitiveness-outlook-2020-covid-19-the-great-lockdown-and-its-impact>

ITC. (2021). *SME Competitiveness Outlook 2021: Empowering the green recovery*. International Trade Centre. <https://intracen.org/resources/publications/sme-competitiveness-outlook-2021-empowering-the-green-recovery>

ITC. (2022a). *Promoting SME Competitiveness in Burkina Faso: Resilient foundations for post-COVID recovery*. International Trade Centre. <https://intracen.org/file/burkinafasosmeengv1420220310webpdf>

ITC. (2022b). *SME Competitiveness in Francophone Africa 2022: Fostering digital transformation*. International Trade Centre.

ITC. (2022c). *Promoting SME Competitiveness in South Sudan: Targeted solutions for a resilient future*. International Trade Centre. <https://intracen.org/resources/publications/sme-competitiveness-in-south-sudan>

ITC. (2022d). *SME Competitiveness Outlook 2022: Connected services, competitive businesses*. International Trade Centre. <https://intracen.org/resources/publications/sme-competitiveness-outlook-2022-connected-services-competitive-businesses>

ITC. (2023a). *SME Competitiveness Outlook 2023: Small businesses in fragility: From survival to growth*. International Trade Centre. <https://intracen.org/resources/publications/sme-competitiveness-outlook-2023-small-businesses-in-fragility-from-survival>

ITC. (2023b). *SME Competitiveness in Francophone Africa 2023: Building resilience to climate change*. International Trade Centre. <https://www.intracen.org/resources/publications/sme-competitiveness-in-francophone-africa-2023-building-resilience-to>

ITC. (2024). *Export Potential Map*. <https://exportpotential.intracen.org/en/products/tree-map?fromMarker=i&exporter=148&toMarker=w&market=w&whatMarker=k>

ITC. (2024, June). *Example of successful policy interventions on reducing certification cost* [internal communication].

ITC. (forthcoming). *SME Competitiveness Outlook 2025*.

ITU. (2021). *Digital competition policy and regulation in the Africa and Arab regions*. https://www.itu.int/en/ITU-D/Conferences/GSR/2021/Documents/GSR-21_Discussion-paper_Digital-Competition-Policy-and-Regulation-in-the-Africa-and-Arab-regions.pdf

ITU. (2023a). *DataHub - Individuals using the Internet*. ITU Data Hub. <https://datahub.itu.int/data/?e=TCD&c=701&i=11624>

ITU. (2023b). *ICT Price Baskets (IPB)*. ITU. <https://www.itu.int:443/en/ITU-D/Statistics/Dashboards/Pages/IPB.aspx>

Jansen, M., & Lanz, R. (2013). *Skills and Export Competitiveness for Small and Medium-Sized Enterprises*. World Trade Organization.

Kelly, E., Medjo Nouadje, B. A., Tonsie Djela, R. H., Kapen, P. T., Tchien, G., & Tchinda, R. (2023). Off grid PV/Diesel/Wind/Batteries energy system options for the electrification of isolated regions of Chad. *Heliyon*, 9(3), e13906. <https://doi.org/10.1016/j.heliyon.2023.e13906>

- Kenya National Highways Authority. (2020, January). *Environmental and social impact assessment for the proposed Nairobi expressway project*. https://naturaljustice.org/wp-content/uploads/2021/01/EIA_1688_Vol-I-II_EIA-Study-Report-For-the-Proposed-Nairobi-Expressway-Project.pdf
- Kouladoum, J.-C., Wirajing, M. A. K., & Nchofoung, T. N. (2022). Digital technologies and financial inclusion in Sub-Saharan Africa. *Telecommunications Policy*, 46(9), 102387. <https://doi.org/10.1016/j.telpol.2022.102387>
- Lancaster, H. (2024). *Chad - Telecoms, Mobile and Broadband - Statistics and Analyses*. <https://www.budde.com.au/Research/Chad-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses>
- Li, X., Low, A., & Makhija, A. K. (2017). Career concerns and the busy life of the young CEO. *Journal of Corporate Finance*, 47, 88–109. <https://doi.org/10.1016/j.jcorpfin.2017.09.006>
- Mafini, C., & Omoruyi, O. (2013). Logistics benefits and challenges: The case of SMEs in a South African local municipality. *The Southern African Journal of Entrepreneurship and Small Business Management*, 6(1), 145–167. <https://doi.org/10.4102/sajesbm.v6i1.38>
- Malamud, O., Cueto, S., Cristia, J., & Beuermann, D. W. (2019). Do children benefit from internet access? Experimental evidence from Peru. *Journal of Development Economics*, 138, 41–56. <https://doi.org/10.1016/j.jdeveco.2018.11.005>
- Marchese, M., Giuliani, E., Salazar-Elena, J. C., & Stone, I. (2019). *Enhancing SME productivity: Policy highlights on the role of managerial skills, workforce skills and business linkages*. OECD. https://www.oecd-ilibrary.org/economics/enhancing-sme-productivity_825bd8a8-en
- Martincic, C. J. (1997). *The ISO 14000 series of standards*. University of Pittsburgh. <https://www.sis.pitt.edu/mbsclass/standards/martincic/isohistr.htm>
- Martincus, C. V., Castresana, S., & Castagnino, T. (2010). ISO standards: A certificate to expand exports? Firm-Level Evidence from Argentina. *Review of International Economics*, 18(5), 896–912. <https://doi.org/10.1111/j.1467-9396.2010.00915.x>
- Masakure, O., Henson, S., & Cranfield, J. (2009). Standards and export performance in developing countries: Evidence from Pakistan. *The Journal of International Trade & Economic Development*, 18(3), 395–419. <https://doi.org/10.1080/09638190902986538>
- Mastercard. (2018). *The digital tool belt: Helping small businesses thrive*. Mastercard. <https://www.mastercard.us/content/dam/public/mastercardcom/na/us/en/documents/mc-b2b-digifintools-whitepaper.pdf>
- Maweije, J. (2024). How does the weather and climate change affect firm performance in low-income countries? Evidence from Uganda. *Sustainable Futures*, 7, 100167. <https://www.sciencedirect.com/science/article/pii/S2666188824000170>
- Melissa, E., Hamidati, A., Saraswati, M. S., & Flor, A. (2015). The internet and Indonesian women entrepreneurs: Examining the impact of social media on women empowerment. In A. Chib, J. May, & R. Barrantes (Eds.), *Impact of Information Society Research in the Global South*. Springer Singapore. https://www.researchgate.net/publication/283594389_The_Internet_and_Indonesian_Women_Entrepreneurs_Examining_the_Impact_of_Social_Media_on_Women_Empowerment
- Meyer, J. (2011). Workforce age and technology adoption in small and medium-sized service firms. *Small Business Economics*, 37(3), 305–324. https://www.researchgate.net/publication/225124249_Workforce_age_and_technology_adoption_in_small_and_medium-sized_service_firms
- Ministry of Finance and Budget of Chad. (2020). *Lancement officiel du fonds pour l'entrepreneuriat des jeunes*. Ministry of Finance and Budget. <https://finances.gouv.td/index.php/component/k2/item/601-lancement-officiel-du-fonds-pour-l-entrepreneuriat-des-jeunes>
- Ministry of the Economy and Development Planning of Chad. (2017a). *Chad Vision 2030 - The Chad We Want*. Ministry of the Economy and Development Planning. <https://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2019/07/8879.pdf>
- Ministry of the Economy and Development Planning of Chad. (2017b). *Plan National de développement (PND) 2017-2021*. Ministry of the Economy and Development Planning. <https://chad.un.org/fr/35283-plan-national-de-d%C3%A9veloppement-du-tchad-2017-2021>
- Miroudot, S. (2020). Resilience versus robustness in global value chains: Some policy implications. In *COVID-19 and Trade Policy: Why Turning Inward Won't Work*. CEPR Press. <https://cepr.org/publications/books-and-reports/covid-19-and-trade-policy-why-turning-inward-wont-work>

Moratis, L. (2018). Signalling responsibility? Applying signalling theory to the ISO 26000 standard for social responsibility. *Sustainability*, 10(11), 4172.

<https://doi.org/10.3390/su10114172>

Morsy, H., & Mukasa, A. N. (n.d.). *Youth Jobs, Skill and Educational Mismatches in Africa* (Working Paper Series No. 326). African Development Bank. Retrieved 7 August 2024, from https://www.afdb.org/sites/default/files/documents/publications/wps_no_326_youth_jobs_skill_and_educational_mismatches_in_africa_f1.pdf

MTN. (2023). *MTN Skills Academy*.

<https://skillsacademy.mtn.com/about>

Mukami, S. (2019, October 25). *Women Enterprise Fund partners with KEBS to aid SMEs get certification*. Retrieved 17 September 2024 from <https://www.kenyancollective.com/women-enterprise-fund-partners-kebs-aid-smes-get-certification/>

Munim, Z. H., & Schramm, H.-J. (2018). The impacts of port infrastructure and logistics performance on economic growth: The mediating role of seaborne trade. *Journal of Shipping and Trade*, 3(1), 1-19. https://www.researchgate.net/publication/322649927_The_impacts_of_port_infrastructure_and_logistics_performance_on_economic_growth_the_mediating_role_of_seaborne_trade

Musso, P., & Schiavo, S. (2008). The impact of financial constraints on firm survival and growth. *Journal of Evolutionary Economics*, 18(2), 135-149. https://www.researchgate.net/publication/24058153_The_Impact_of_Financial_Constraints_on_Firm_Survival_and_Growth

Ndolo, D. K., & Senelwa, V. K. (2023). Firm productivity and matching frictions in the labor markets: Is this an unending curse to employers? *European Scientific Journal*, 19(31). https://www.researchgate.net/publication/376167286_Firm_Productivity_and_Matching_Frictions_in_the_Labor_Markets_Is_This_an_Unending_Curse_to_Employers

ND-GAIN Index. (2021). *Chad | ND-GAIN Index*. <https://gain-new.crc.nd.edu/country/chad>

Nigerian Export Promotion Council. (n.d.) *Trade facilitation: Women in exports*. Retrieved 17 September 2024 from <https://nepc.gov.ng/trade-facilitation/women-in-exports/>

Nkwinka, E., & Akinola, S. (2023). The importance of financial management in small and medium-sized enterprises (SMEs): An analysis of challenges and best practices. *Technology Audit and Production Reserves*, 5(4(73)), 12-20.

<https://doi.org/10.15587/2706-5448.2023.285749>

Noh, H., & Lee, S. (2015). Perceptual factors affecting the tendency to collaboration in SMEs: Perceived importance of collaboration modes and partners. *Journal of Technology Management & Innovation*, 10(3), 18-31.

<https://doi.org/10.4067/S0718-27242015000300003>

Nucci, F., Puccioni, C., & Ricchi, O. (2023). Digital technologies and productivity: A firm-level investigation.

Economic Modelling, 128, 106524. <https://doi.org/10.1016/j.econmod.2023.106524>

Obayelu, A., & Ogunlade, I. (2006). Analysis of the uses of information communication technology (ICT) for gender empowerment and sustainable poverty alleviation in Nigeria. *International Journal of Education and Development Using ICT*, 2(3), 45-69.

OECD. (2004). *ICT, E-Business and Small and Medium Enterprises* (OECD Digital Economy Papers No. 86). OECD. https://www.oecd-ilibrary.org/science-and-technology/ict-e-business-and-small-and-medium-enterprises_232556551425

OECD. (2021). *Incentives for SMEs to Invest in Skills: Lessons from European Good Practices*. Organisation for Economic Co-operation and Development. https://www.oecd-ilibrary.org/employment/incentives-for-smes-to-invest-in-skills_1eb16dc7-en

OECD. (2024). *SME and Entrepreneurship Financing*. OECD. <https://www.oecd.org/en/about/programmes/sme-and-entrepreneurship-financing.html>

OECD, United Nations, World Bank & World Trade Organization. (2023). *Digital Trade for Development* (p. 56). https://www.wto.org/english/res_e/booksp_e/dtd2023_e.pdf

Office national pour la promotion de l'emploi. (n.d.). *Auto-Emploi*. Retrieved 13 September 2024 from <https://onape.td/auto-emploi/>

Okyere, C. Y. (2022). The effect of internet services on child education outcomes: Evidence from poa! Internet in Kenya. *Journal of Development Effectiveness*, 14(1), 4-18.

<https://doi.org/10.1080/19439342.2020.1829001>

- Olaoye, G., & Henry, H. (2024). *Automated route optimization and delivery scheduling using AI algorithms*. <https://easychair.org/publications/preprint/gkrp>
- ONDD. (n.d.). 'Jeunesse, marché du travail et dividende démographique au Tchad.' Retrieved 12 August 2024, from <https://www.ondd.td/publies/rapport/15.pdf>
- Organisation internationale de la Francophonie. (2023). *Tchad : Lancement officiel du projet « D-CLIC - formez-vous au numérique avec l'OIF »*. Organisation internationale de la Francophonie. <https://www.francophonie.org/tchad-lancement-officiel-du-projet-d-clic-formez-vous-au-numerique-2720>
- Ortiz, A. (2022, July 14). *CHAD: Socio-Economic Country Profile (Infographic)*. GlobalCAD. <https://globalcad.org/en/2022/07/14/chad-profile-infographic/>
- Pacheco, L., Lobo, C., & Maldonado, I. (2022). Do ISO certifications enhance internationalization? The case of Portuguese industrial SMEs. *Sustainability*, 14(3), 1335. <https://doi.org/10.3390/su14031335>
- Perez, J. (2023, April 12). How Automation Drives Business Growth and Efficiency. *Harvard Business Review*. <https://hbr.org/sponsored/2023/04/how-automation-drives-business-growth-and-efficiency>
- Quality Academy. (2024, August 8). *Top 10 Benefits of ISO 9001 Certification for Small Businesses*. QUALITY ACADEMY. <https://qualityacademy.org/top-10-benefits-of-iso-9001-certification-for-small-businesses/>
- Republic of Chad. (2023). *Loi N°031/PT/2023 portant Loi de Finances pour l'exercice 2024*. Retrieved 13 September 2024 from <https://dgi.td/docs/lf/LF2024.pdf>
- RFI. (2024, March 18). *Reportage Afrique Tchad: malgré la transition, la jeunesse est restée gangrénée par le chômage*. RFI. <https://www.rfi.fr/fr/podcasts/reportage-afrique/20240317-tchad-malgr%C3%A9-la-transition-la-jeunesse-est-rest%C3%A9e-gangr%C3%A9e-par-le-ch%C3%B4mage>
- Rwanda Development Board. (2020, November 18). *Rwanda Development Board and African Management Institute partner to provide free business skills to 2,500 MSMEs in Rwanda*. Retrieved 17 September 2024 from <https://rdb.rw/rwanda-development-board-and-african-management-institute-partner-to-provide-free-business-skills-to-2500-msmes-in-rwanda/>
- Schleife, K. (2006). Computer use and employment status of older workers: An analysis based on individual data. *Labour*, 20(2), 325–348. <https://doi.org/10.1111/j.1467-9914.2006.00341.x>
- Schwerhoff, G., & Sy, M. (2019). Developing Africa's energy mix. *Climate Policy*, 19(1), 108–124. <https://doi.org/10.1080/14693062.2018.1459293>
- Shah, Dr. N., Zehri, D., Saraih, U. N., Abdelmegeed Abdelwahed, N., & Soomro, B. (2024). The role of digital technology and digital innovation towards firm performance in a digital economy. *Kybernetes*, 53, 620–644. <https://doi.org/10.1108/K-01-2023-0124>
- Sied, A. (2024). A Study on Essential of Effective Transportation System for Supply Chain Efficiency, Cost Reduction and Enhancing Customer Satisfaction. *Global Scientific Journals*, 12(5). <https://doi.org/10.5281/zenodo.11124157>
- Simael, M. & Honoré, M. (2021). Microfinancing and Its Benefits to Women- Owned Micro-enterprises in Chad: A Case Study of the City of N'Djamena. *African Economic Research Consortium*, Research Paper 438.
- SME Finance Forum. (2018). *MSME Finance Gap* [dataset]. <https://www.smefinanceforum.org/data-sites/msme-finance-gap>
- Tadayonrad, Y., & Ndiaye, A. B. (2023). A new key performance indicator model for demand forecasting in inventory management considering supply chain reliability and seasonality. *Supply Chain Analytics*, 3, 100026. <https://doi.org/10.1016/j.sca.2023.100026>
- Tan, H., Bashir, S., & Tanaka, N. (2016). *Skill Use, Skill Deficits, and Firm Performance in Formal Sector Enterprises: Evidence from the Tanzania Enterprise Skills Survey, 2015* (SSRN Scholarly Paper 2779369). <https://papers.ssrn.com/abstract=2779369> <https://doi.org/10.1596/1813-9450-7672>
- Telecom Review Africa. (2024, April 9). *Bridging the Connectivity Divide: Leveraging Infrastructure Sharing for Inclusive Access in Africa*. Telecom Review Africa. <https://www.telecomreviewafrica.com/articles/reports-and-coverage/4187-bridging-the-connectivity-divide-leveraging-infrastructure-sharing-for-inclusive-access-in-africa/>

- Temgoua, C. N., & Savadogo, A. (2023, July 10). *Chad's economic recovery: navigating challenges and building resilience to floods?* World Bank Blogs. <https://blogs.worldbank.org/en/african/chads-economic-recovery-navigating-challenges-and-building-resilience-floods>
- Teravaninthorn, S., & Raballand, G. (2009). *Transport Prices and Costs in Africa: A Review of the Main International Corridors*. The World Bank. <https://doi.org/10.1596/978-0-8213-7650-8>
- Ubfal, D. (2024). What works in supporting women-led businesses? *IZA Discussion Paper No. 16950*. <https://doi.org/10.2139/ssrn.4811765>
- Ukpabio, M. G., Adeyeye, A. D., & Oluwatope, O. B. (2019). Absorptive capacity and product innovation: new evidence from Nigeria. In *Firm-Level Innovation In Africa*. Routledge.
- UNCTAD. (2005). *Improving the competitiveness of SMEs through enhancing productive capacity*. https://unctad.org/system/files/official-document/iteteb20051_en.pdf
- UNCTAD. (2019). *Examen de la politique d'investissement : Tchad*. United Nations Conference on Trade and Development. https://unctad.org/system/files/official-document/diaepcb2019d1_fr.pdf
- UNDP. (2020). *Stratégie Nationale de Développement du Secteur Privé au Tchad* (p. 156). <https://www.undp.org/fr/chad/publications/strategie-nationale-de-developpement-du-secteur-privé-au-tchad>
- UNDP Chad. (2020, June 25). La jeunesse, moteur de l'innovation post COVID-19 au Tchad. *Medium*. <https://pnud-tchad.medium.com/la-jeunesse-moteur-de-linnovation-post-covid-19-au-tchad-a03c2039b6a9>
- UNDP Chad. (2022, July 14). *Le Tchad se dote d'une stratégie nationale de l'entrepreneuriat féminin*. UNDP. <https://www.undp.org/fr/chad/actualites/le-tchad-se-dote-dune-strategie-nationale-de-lentrepreneuriat-feminin>
- UNDP Chad. (n.d.) « VISION 2030, le TCHAD que nous voulons » *Lancement du processus d'élaboration du 2e Plan National de Développement 2022-2026*. UNDP. <https://www.undp.org/fr/chad/vision-2030-le-tchad-que-nous-voulons-lancement-du-processus-delaboration-du-2e-plan-national-de-developpement-2022-2026>
- United Nations Educational, Scientific and Cultural Organization. (2023). *Education in Africa: Placing equity at the heart of policy - Continental report*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf0000384479>
- UNESCO Institute for Statistics. (2023). *Bulk Data Download Service* [dataset]. <https://uis.unesco.org/bdds>
- UNICEF Innocenti, Ministère de l'éducation nationale et de la promotion civique du Tchad, & UNICEF Tchad. (2024). *Data Must Speak: Comprendre les facteurs de performance des écoles au Tchad*. UNICEF Innocenti. <https://www.unicef.org/innocenti/reports/data-must-speak-chad>
- Utembinema, G., Tuyshime, R. & Razihan, A. (2023). *Financial Literacy as a Tool to Enhance Rwandan MSMEs' Access to Finance*. Retrieved 8 August 2024 from <https://mastercardfdn.org/our-work/where-we-work-in-africa/rwanda/financial-literacy-as-a-tool-to-enhance-rwandan-msmes-access-to-finance/>
- Valadares de Oliveira, M. P., McCormack, K., Bronzo Ladeira, M., Trkman, P., & Van den Bergh, J. (2011). Supply chain process collaboration and Internet utilization: an international perspective of business to business relationships. *Economic and Business Review*, 13(4), 203-226. <https://doi.org/10.15458/2335-4216.1223>
- van Vuuren, F. (2014). *Sustaining skills development in Sub-Saharan Africa through private sector in-house skills programmes: Its' benefits and impact*. [University of Pretoria]. https://repository.up.ac.za/bitstream/handle/2263/44211/van%20Vuuren_%20Sustaining_2014.pdf?sequence=1
- Venkatesh, A., & Kumar, K. (2023). Inventory Management System. *International Journal of Research Publication and Reviews*, 4.
- Vidzraku. (2017, December 10). Energie : pour l'électrification rurale, le Tchad opte pour le solaire. *La Tribune*. <https://afrique.latribune.fr/afrique-centrale/tchad/2017-12-10/energie-pour-l-electrification-rurale-le-tchad-opte-pour-le-solaire-761140.html>
- Wiengarten, F., Humphreys, P., Onofrei, G., & Fynes, B. (2017). The adoption of multiple certification standards: Perceived performance implications of quality, environmental and health & safety certifications. *Production Planning and Control*, 28(2), 131-141. <https://doi.org/10.1080/09537287.2016.1239847>

- Women Enterprise Fund. (n.d.) *Partnerships & Collaborations: Kenya Bureau of Standards (KEBS)*. Retrieved 17 September 2024 from <https://wef.go.ke/45/kenya-bureau-standards/>
- World Bank. (2011). *Industrial Clusters and Micro and Small Enterprises in Africa: From Survival to Growth*. The World Bank; <https://doi.org/10.1596/978-0-8213-8627-9>
- World Bank. (2021). *Chad Poverty Assessment: Investing in Rural Income Growth, Human Capital, and Resilience to Support Sustainable Poverty Reduction*. World Bank; <https://doi.org/10.1596/36443>
- World Bank. (2022, March 24). *Chad Scales Up Its Access to Energy* [Text/HTML]. World Bank. <https://www.worldbank.org/en/news/press-release/2022/03/24/afw-tchad-accelere-son-acces-a-energie>
- World Bank. (2023a). *Women, business and the law 2023*. The World Bank. <https://doi.org/10.1596/978-1-4648-1944-5>
- World Bank. (2023b, November 13). What would it take for Chad to escape the low-income trap? *World Bank Blogs*. <https://blogs.worldbank.org/en/african/what-would-it-take-chad-escape-low-income-trap>
- World Bank. (2024a). *Digital Opportunities in African Businesses*. World Bank.
- World Bank. (2024b). *World Development Indicators - Chad*. DataBank. <https://databank.worldbank.org/source/world-development-indicators>
- Yamtebaye, N. (2007). *Rapport sur l'Etat du secteur privé tchadien et la mise en place d'un forum de dialogue Etat-Secteur privé (FODEP) au Tchad*. <http://www.publicprivatedialogue.org/workshop%202007/FODEP%20TCHAD%20.pdf>

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