

Mapping Transport Companies in Mozambique

and Assessing their Potential to Serve
Sophisticated Corporate Markets

Prepared by:
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*This report is funded
by the Rapid Response
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Executive Summary

This document presents the findings and recommendations of the study led by the World Bank Group's Finance, Competitiveness & Innovation Global Practice (FCI) to map and assess the opportunities and challenges of the road transportation companies in Mozambique.

An initial review of the regulations highlighted the need for the digitalization of the registration and licensing process imposed on transport firms, to avail data on the sector and its operations.

The mapping of transportation firms aimed to ascertain the status of firms, their location, capacity, need for training or other gap for eligibility for megaprojects. The report includes the summary of the demand and supply mapping and presents the results of the assessment conducted on the capacity of the firms in transport to meet this growing market.

The demand side assessment concluded that the quality requirements demanded to suppliers and the stringency of the demand varies according to size and purpose of the contract. The highest requirements demanded are by oil & gas companies, according to their global procurement policies. Nevertheless, most large firms are rather flexible to adapt to the standards provided by local suppliers.

The supply side assessment was conducted on five business areas, namely a) HR and skills, b) Quality Management, c) Fleet Management and Assets, d) Revenue generation and financial management, e) Strategy. Consequently, the firms have been grouped according to their assessed readiness to serve sophisticated corporate markets, and classified as “More Ready”, “Less Ready”, Not Ready”.

More ready firms are generally larger in employment size and fleet. They can supply diversified transport services and comply with quality standards required by megaprojects. Not ready firms, on the contrary, operate providing services to businesses as well as to individuals. Their quality standards, management practices and fleet management are totally cost driven and, when needed, kept informal.

All firms would benefit from hiring more experienced drivers. Most of the firms also need to improve the professionalism of their staff, across the board. For that, they could establish internship program and on-the-job learning programs, established in partnership with TVET institutions. In addition, “Less Ready” and “Not Ready” firms need to invest in developing skills of their managers. An effective intervention would be the creation of new transport management courses by institutions of higher education in the Country, including modules on management systems, operations control, health and safety, security on site, leadership development.

These “Less Ready” and “Not Ready” firms also need to improve their quality management systems. Handbooks and manuals of good practices, promoting examples contextualized to the local reality of Mozambique, could be produced, and be distributed to the firms. In addition, firms would benefit from access to a gradual certification system. Finally, safety on the road would improve if daily

alcohol tests would become mandatory for all firms. Another initiative that could benefit all firms of the sector would be the creation of an incentive system to improve practices and skills of transport firms and their staff. This could be organized as a National Award, differentiating transport sub-sectors.

All transport firms, and particularly the “Not Ready” ones, would benefit from increased access to technology solutions allowing them to analyze data on their fleet and manage their stock more efficiently. A matching grant scheme could be created to make these more affordable for most firms.

Credit collection and access to loans to sustain cashflow of operations is a challenge for most firms. This could be addressed with a financing solution to support treasury and sustainable firms’ managing their working capital.

Finally, the sector could benefit from a unified and digitalized registration system, which would ease the production of reports and data analysis on the dynamics of the sector, so that authorities could be better informed on the desirable intervention to support firms with an enabling environment conducive to the private sector.

Area	Need Identified	Recommendation
HR and Skills	HR policies of firm should require that drivers have higher level of experience	Implement co-piloting programs that would match less experience drivers with more experienced ones, and only allow those with more than 10 years of driving experience to drive alone.
	Improve the professionalism of its staff and increase the safety of its fleet.	Firms could partner with TVET to recruit technicians, mechanics and operations staff that undergo internship programs in the firm, to learn on the job and acquire professional skills, whilst still enrolled in school.
	Improve quality standards.	Certification “step by step”, as recommended by the analysis on the Quality infrastructure in Mozambique
Quality Management	Increase professionalism of management and improved awareness on quality standard	Professional training program could be created for transport firms managers to improve their managerial ability, applied strategic thinking and leadership skills. These training should include modules on management systems, operations control, health and safety, security on site, leadership development.
	Improve practices and skill.	Establish an incentive system, such as a National Award that should include relevant rewards for firms operating in the sub-sectors.
	Management and staff should be made more aware of the risks caused by unsafe on badly maintained vehicles on the road.	Daily Alcohol tests to drivers should become mandatory and their lack thereof should be enforced and punished.
Fleet Management	Companies are not yet investing in technology solutions to manage their stock.	Matching grants could be made available to the firms to facilitate their access to these technologies.
Financial Management	Difficult access to loans to support treasury.	A financing solution to support treasury and sustainable firms’ managing their working capital. Interventions should be designed following the segmentation proposed by the study.
Strategy	Weak strategic management and growth driven by survivalist or opportunistic approach.	Some firms would benefit from support to identifying routes to new markets to diversify their portfolio, whilst others should be supported to define their goals and design a roadmap to achieve them with a focused approached.

1. Methodology of the study

The team developed the study in three phases. First, the team conducted desk research that informed the sector diagnostic. Following, the team engaged in a consultative process to map the supply and demand of the sector. This process included a digital survey available for firms to complete at their own disposal, remote interviews conducted to large companies and representatives of megaprojects, as well as physical visits to the sites and offices of the firms. Lastly, the team analyzed the data collected during multiple visits to produce individual reports for each of the firms visited, as well as this final report.

The consultations with large buyers covered a range of topics including the size of contracts, procedures to accept suppliers, timeline and process for registration, the level of certification required based on the standard rules of each industry and of each project, challenges faced by the mega projects towards to contract or manage road transport companies, the skill sets required from suppliers, as well as procedures and policies of the mega projects to supervise work after completion. The results of the demand mapping informed the design of the survey presented to potential suppliers.

The team prepared an initial list of 230 potential suppliers of transport and logistics services to megaprojects. From this list, the team compiled a complete directory including phone numbers and email contacts of 160 firms, categorized according to their sub-sector of activity. Each of these firms received an email with a personalized introduction and a standardized content to introduce the study and request for its interest to participate to the data collection. 64 of these firms responded positively by sharing their consent to complete the survey, and subsequently received the link to the online survey to be completed with information on five critical areas, including i) Human Resources skills and competencies, ii) Quality Management Systems, iii) Fleet management, iv) Sales and revenues, v) Strategy. The survey was designed to be followed by a field visit to the firm by one of the consultants in the team, who would have conducted a light audit to confirm the information provided. The team expected to organize a minimum of 50 audit visits. However, despite numerous email reminders and phone follow ups, only 26 firms eventually completed the survey.

From the analysis of the pattern of responses from the firms and the barriers that impeded effective data collection, the team concluded:

- The lack of a registry of transport firms at a national level and of a directory of the vehicles circulating is a significant constraint to data collection from the sector. The Ministry itself does not have any structured source of information on firms. For that, the team could only rely on contacts of specialists in the sector.
- Firms demonstrated a low uptake of digital surveys. This trend was already reported even by large firms that released digital platforms to register and qualify potential local suppliers. This is linked to

the business culture and smaller firms' modus operandi, which is highly informal and tight to personal networks. SMEs do not easily trust sharing openly their business information, and they rarely see the benefit of doing so.

- Transport is considered a sensitive sector and several firms refused to participate to the study and disclose internal information on their processes and their fleet, fearing for the security of their vehicles. Other companies, particularly in the north, participated in the study but the analysis of the data they provided suggests that they under-declare their business volumes.

The 26 firms that finally participated to the survey and that were visited by the auditors were in Maputo, Beira, Tete, Nampula, Nacala and Pemba. For each of the business area investigated, the auditor scored a set of indicators from 0 (minimum) to 10 (maximum).

Table 1: Focus Areas and respective indicators

Area	Indicator
1 HR Skills and competencies	Years of experience of drivers
	Formal Education level of Staff
	Experience and competencies of Management
	Staff skills development
2 Quality Management	Strategic Management processes
	Security
	Certification
	Ad-Hoc Staff in charge of quality management
3 Fleet Management	Fleet Safety
	Facilities
	Maintenance and spare parts
	Updated and compliant driver license
4 Revenue Generation and Financial Management	Balanced client portfolio
	Client payment policy
	Financial Management
5 Strategy	Clarity of Strategic direction
	Diversification of business and risk

The scores lead to a ranking of firms based on the weighted average score achieved in of all the business areas. The distribution of the results suggested to group firms in three homogeneous groups, to distinguish them based on their level of organization and readiness to access sophisticated markets.

The analysis of the performances in each area by firms in the different groups informed the recommendations provided in the final chapter of this report.



2. Background

In Mozambique, road transport represents most of the land freight service at origin and destination points, connecting businesses to world markets. Road transport is the backbone of the real economy, but its future health depends on providing better, not simply more transport.

The Transport and Logistics sector in Mozambique is a mix of state-owned firms (e.g. CFM), Concessions (e.g. ports, tolls), large firms with links to the ruling party (e.g. the trucking businesses owned by former minister of transport Carlos Mesquita and his brother), international firms who have learned to operate in Mozambique and primarily serve international clients (e.g. J&J transports), and small scale local companies who only work subcontracted by major road freight companies or work for forwarders. Many of these firms do not have direct relations with customers who need to move their goods.

The profitability of individual companies depends on efficient operations. Large companies grew through diversification of the business, and enjoy advantages in account relationships, bulk fuel purchasing, fleet size, and access to drivers. Small firms tend to serve smaller businesses and individuals who need their services for personal reasons or to run informal business activities.

Large industrial projects represent significant opportunities for transport firms in Mozambique. However, most of them are not yet ready to capitalize on them due to lack of capacity, weak internal systems, and

poor capabilities. Larger transport companies are better structured and connected to opportunities, and mostly need to focus on specializing their staff to maintain high quality standards of service. Medium and smaller firms are less equipped to respond to sophisticated markets demand, due to low skills of drivers and staff, lack of internal quality control systems, small fleets, weak financial management and lack of strategy for growth.

Generally, Mozambican transport firms suffer from a poor culture of quality within the firm and in the sector, exacerbated by the high degree of informality of businesses.



3. Overview of the regulation

Road Haulage is regulated by Decree 35/2019¹ which defines the rules for transport of both passengers and goods, public and private, specifying the requirements for different types of licenses, maximum vehicle weight, fees, and fines, required documents to have on board etc. These are complemented by specific regulations on issues such as decrees that establish rules on the driving time of professional drivers, and the transport of dangerous goods.

¹ Published in Boletim da Republica of 10th May 2019

Table 2: Legal provisions regulating transport activities

Decree	Content
Decree 14/2208, 25th June	Regulation of weights, dimensions, combinations and load arrangement in motor vehicles and trailers
Decree 23/2015, 30th September	Regulation of rest times for professional drivers and mandatory use of tachograph in transport of passengers and cargo
Decree 50/2019, 10th June	Dangerous goods road transport regulations
Decree 11/2019, 29th Dec	Template of control sheet of driving hours of professional drivers
<i>Diploma Ministerial</i> 82/2018, 5th Sept	Fees charged for services provided by the National Institute of Land Transport
Decree 35/2019, 10th May	Transport Regulation for Automobiles and Trailers
Diploma Ministerial 30/2018, 15th March	Regulation of the conditions for the granting of special transit authorizations for motor vehicles and trailers with excess weight or dimensions
<i>Despacho do ministério dos Transportes e comunicações</i> , 30th May 2016	Decree of the Ministry of Transport and Communications that delimits the overnight transportation of international passenger between Provinces
Resolution 66/AM/2017, 30th March, <i>Assembleia Municipal de Maputo</i>	Regulations for the transit of motor vehicles in the municipality of Maputo
<i>Postura Municipal do Conselho Municipal da Cidade da Matola (Postura de Trânsito)</i>	Regulations for the transit of motor vehicles in the municipality of Matola

Road Freight represents 75% of cargo transported in Mozambique. Road freight operators must comply with several requirements, including that the company must be registered as an operator with the Ministry of Transport. Operators of international and national routes need a 'Category A' license, issued by the Ministry of Transport, whilst those operating solely within a province can obtain a 'Category B' license from the provincial government.

Table 3: Requirements to register a Road Freight operator

	Operator with Less than 5 vehicles	Operator with 5 or more vehicle
Legal Reference for Registration	Decreto 35/2019, Art 12 and 11	Commercial Code
Vehicle identification document that describes the pertinent details of the vehicle	✓	✓
Vehicle ownership document that identifies the owner of the vehicle	✓	✓
Receipt of recent valid inspection of the roadworthiness of the vehicle	✓	✓
Confirmation of third-party insurance in respect	✓	✓
Alvará		✓
Proof of Tax registration (NUIT)		✓
Installations must be approved by the Ministry of Transport		✓

The permit issued by the Ministry of Transport and Communications for operators of international routes can be valid for 3 months, six months and one year or up to five years, and are given per truck (art 113/3 Decreto 35/2019). Nevertheless, the operator is required to notify the Directorate of the sale of a vehicle for which a permit has been issued to the operator.

Vehicles must be registered with a) the *Instituto Nacional de Transportes Terrestres* – National Institute of Surface Transport, INATTER to obtain a license plate and ‘vehicle description document’, b) the *conservatoria* to obtain ownership documents and c) the provincial government to file local taxes. Vehicle insurance is not mandatory, whilst third party insurance is mandatory for foreign and local vehicles, and it needs to be purchased from an

accredited insurance company. Mozambique is not register member of the regional third-party vehicle insurance established by COMESA under the “Yellow Card Scheme”.² What is the legal source of this?

Drivers must hold professional driving licenses issued by INATTER. Drivers or operators who commit an offence while performing their duties are reported by the police and no report is made to the Ministry to impose sanctions against transgressors. When instead a foreign vehicle transiting in Mozambique is found without valid permit, a prosecution notice is issued by the police and the Ministry intervenes.

Freight Forwarding, instead, is not regulated by any specific legislation, although firms must be registered with the National Institute of Communications.³ Forwarders who intend to offer brokerage services are allowed to do so only if the staff carrying out this function is a licensed broker. Brokers in Mozambique receive individual licences.

The transport and logistics sector lacks structure and transparency of information. Despite several organizations and institutions can award local authorizations to transporters, there is not a single database that keeps the record of all the licenses issued. This is a major challenge and limitation to the sector, causing lack of control over the licensing activity per se, as well as lack of control over firms’

activities and their installations. In addition, there is no business association or federation that uniquely represents the interest of the sector towards the Government. Companies transporting people, for example, are informally organized through the terminal system, which is managed by associations of transporters using the same terminal ensuring the compliance of their licences.

It is therefore recommended that:

- A sector federation is established to gather information of all registered firms in the sector.
- Each firm that registered acquiring a license to operate should be automatically registered as member of the Federation, to establish a comprehensive database of transport sector firms, and to facilitate the sector negotiation with policy makers, in representation of all firms operating in the sector.
- The registration system should be fully digitalized, and all entities allowed to issue licenses should be connected to the same portal. This way, INATTER could have visibility over sector dynamics (i.e., how many vehicles are circulating for each category, what is the size and characteristics of a firms’ fleet, where are vehicles operating). McNET could the provider of the system

¹ A Regional third-party motor vehicle insurance Scheme that provides third party legal liability cover and compensation for medical expenses resulting from road traffic accidents caused by visiting motorists. Besides offering third party liability protection to the insured or the driver whilst in a foreign country, the COMESA Yellow Card Scheme also offers emergency medical cover to the driver and passengers of the foreign motor vehicle involved in the traffic accident. The third-party liability cover offered is limited to the statute provisions on road traffic third party liability award limits of that country being visited and in which the incident has happened from. Source: <http://ycmis.comesa.int/>

² Presumably, Freight Forwarding is considered to fall under ‘postal’ services which are licensed by this body.

4. Demand Side Mapping



Photo: World Bank's Southern Africa Trade and Connectivity Project

The team interviewed local content and procurement offices of large companies to obtain validated information on the technical, certification and capacity requirements expected of transport suppliers. In addition, examples from past bidding requests issued by large buyers' procurement offices were analyzed to identify the procedures to accept suppliers, timeline and process for registration, the level of certification required based on the standard rules of each industry of each project, skills required, procedures and policies of the mega projects to supervise work after completion. During the consultations, the team explored with the firms which are most challenging areas they face when contracting road transport and logistics companies.

The demand analysis involved one-to-one interviews with the following companies:

Table 4: Firms consulted for the demand mapping

Sector	Company
Oil and Gas	Total, MRV, Sasol, Eni
Oil and Gas EPC	Saipem CCSJV
Mining	Vale, Kenmare, Mozal
Infrastructure	Thai Logistics, Mota Engil, Gabriel Couto,
Agribusiness	Mozambique Leaf Tobacco, Sociedade Algodoeira de Niassa, Distribuidora Nacional de Açucar
Decree 35/2019, 10th May	Transport Regulation for Automobiles and Trailers

The assessment concluded that the quality requirements demanded to suppliers and the stringency of the demand varies according to size and purpose of the contract. The highest requirements demanded are by oil & gas companies, according to their global procurement policies, and they include the following:

- Quality Management System (ISO 9001)
- Health, Safety and Environmental (HSE) Management systems and international standards systems (ISO 14001 for environmental management)
- Occupational Health and Safety (ISO 45001 which builds on the success of earlier standards in this area, such as OHSAS 18001, the International Labor Organization' ILO-OSH guidelines and various national standards).

Oil and Gas companies and their Engineering Project Contractors require that all the transporters who enter their site comply with all the standards and certifications adopted by the contractor itself.

Nonetheless, megaprojects and large firms operating in Mozambique are often flexible on monitoring the implementation of the requirements, given the status of the local suppliers available. Unless the goods transported have unique specifications, large firms require transport services suppliers to comply with the standard provisions of the law.

5. Supply Mapping

5.1 Transport sector market segmentation

The market is segmented, with some very large, professional national and regional companies with fleets of over 100 vehicles (e.g. Lalg, J&J, Mesquita Group) who mainly work for international clients or large firms, covering long-distance regional routes, often through long-term subcontracting arrangements with logistics companies. On the other hand, there is a large range of medium and small sized operations, often acting as subcontractors to the major players and/or operating national routes.⁴

The largest companies often have dedicated roadside assistance teams and offices across the region helping to ensure backhaul loads, allowing them to benefit from scale. Many offer warehousing, and some have integrated further – e.g. J&J have shares in a terminal operations company at the port, and Grupo Mesquita have interests in terminals, warehousing, stevedoring, equipment supply to the port, and also in CWT, a company acting as a ship's agent and customs broker.

Some regional specialization does occur even amongst the big players with nationwide networks - e.g. Lalg has a several contracts from South Africa to the South and Centre of the country and J&J is considered a Beira corridor specialist. In the Beira corridor, for example, the largest transport company has

a market share of about 25%, with the largest two companies combined having about a 33% share.⁵

The Mozambique Road Transport Federation (FEMATRO) engages with the government and policymakers on the behalf of all transporters (including passenger transport) on issues such as fuel costs, road infrastructure, road safety, freight security, driver interests, law enforcement, and labor relations.⁶

The freight forwarding market is somewhat segmented, with a few dominant players holding most of the international contracts, and then more localized operators.⁷ There is a concentration of firms around Maputo, predominantly serving the Maputo corridor, and around Beira, serving the Beira corridor. Many provide warehousing as well as logistics services, and almost all also offer customs brokerage services. However, most of these do not own many of their own trucks, preferring to develop networks of professional transport companies, local subcontractors and in some case even informal truckers.⁸ It is common practice in the Southern Africa region that large multinational forwarding and clearing firms specialize in brokerage services and integrate vertically into trucking and storage through subcontracting relationships with preferred transport companies that only

⁴ Neto (2017) A circulação interna de mercadorias no território moçambicano: um país sobre rodas

⁵ USAID SPEED+ Project (2019) Assessment of Beira Development Corridor

⁶ Villagereach (2014) Evaluation of Health System Transport Capacity and Demand Mozambique Case Study

⁷ Neto (2017) A circulação interna de mercadorias no território moçambicano: um país sobre rodas

⁸ Selemane (2019) A Economia Política do Corredor da Beira: Consolidação de Um Enclave ao Serviço do Hinterland

specialized on road transport, so that clients can receive comprehensive services.⁹ For example, Italian specialist international transport firm announced that it delivered an urgent shipment to one of the gas companies in the north, using air to Nacala and then road transport organized by established Mozambican freight forwarder Manica Freight Services¹⁰ which tends to use professional large transport companies.

These large players secure the major contracts and then subcontract to the smaller firms if necessary. These smaller registered firms can often undercut the bigger players, as they operate with varying degrees of informality,

but they also face high churn, as they import second hand, older vehicles which require more maintenance and often fail.¹¹ The relationships developed over time between these major companies and their clients, and the trucking companies to which they subcontract might give dominant firms an additional advantage.

The North, where the market is smaller, there are few locally based large operators. However, most international companies prefer to contract directly with the larger transport companies, based in the South and operating in the North.¹² Smaller operators in the north are left less profitable local routes.

5.2 Results of the supply mapping process

Among all transport firms, 26 of them accepted to participate to the study, sharing information of their firms on five critical areas, including i) Human Resources skills and competencies, ii) Quality Management Systems, iii) Fleet management, iv) Sales and revenues, v) Strategy as receiving the visit of one of the auditors from the team.

⁹ Vilakazi and Paelo (2017) Understanding intra-regional transport Competition in road transportation between Malawi, Mozambique, South Africa, Zambia, and Zimbabwe

¹⁰ <https://clubofmozambique.com/news/deugro-delivers-a-first-in-mozambique-152094/>

¹¹ USAID SPEED+ Project (2019) Assessment of Beira Development Corridor

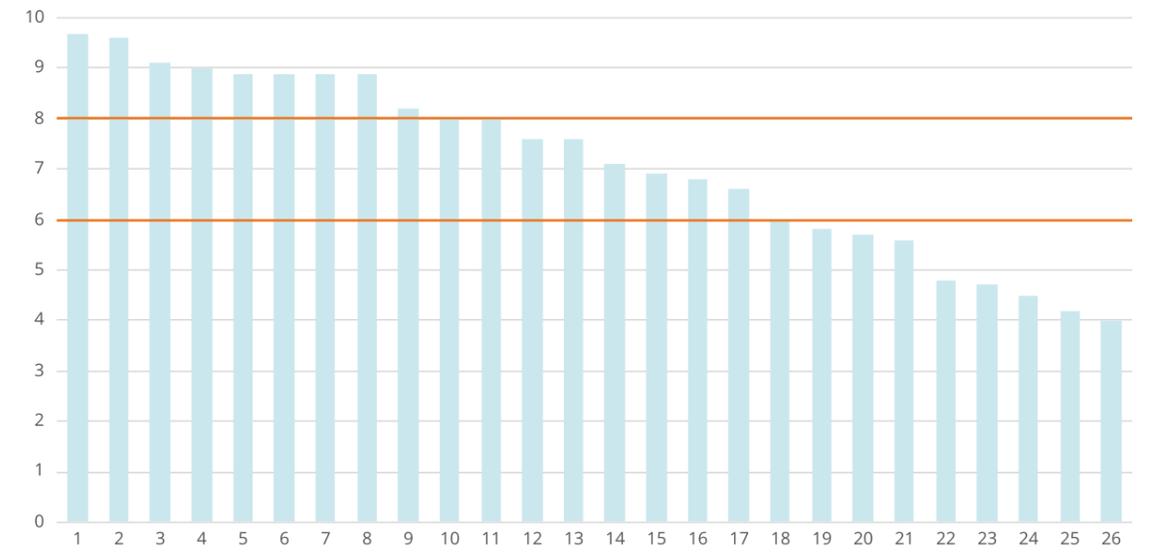
¹² <http://opais.sapo.mz/sector-de-transportes-queixase-de-falta-de-oportunidades-em-nampula>

Figure 1: Average scores achieved by firms in the three categories created



Analyzing the information collected through the assessment, the team classified the participating firms in three groups. The first group, hereafter “More ready” firms, included nine (9) firms whose weighted average score was above 8/10. The second group, hereafter “Less Ready”, included other nine (9) firms whose weighted average score was between 6/10 and 8/10. The third group, “Not Ready”, included the eight (8) firms whose weighted average score was below 6/10.

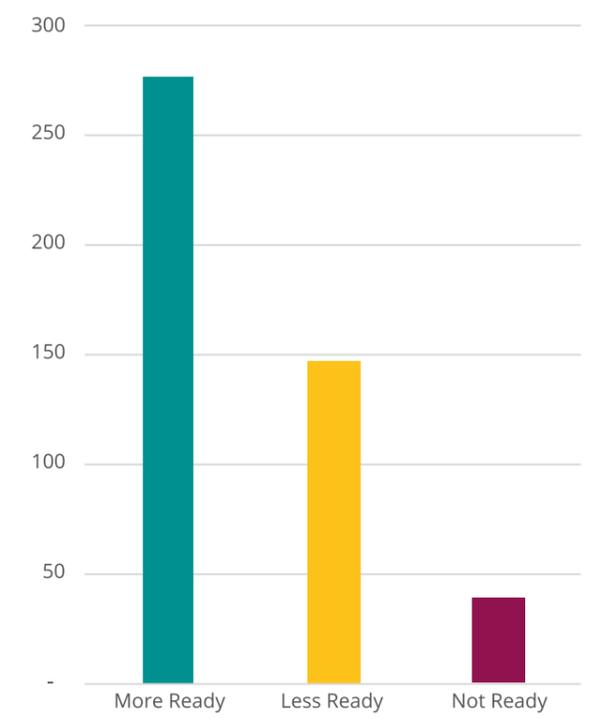
Figure 2: Distribution of firms by score assigned during assessment



About 72% of the interviewed firms are based in the South, especially the high performing ones. While 78% of the “More Ready Firms” are based in Maputo or Matola, that is the case for 55% of Less Ready ones, and only 25% of those that are classified as “Not Ready”. Most of the “Not Ready” firms are based in the Centre and in the North. Nevertheless, “More Ready” firms have multiple offices and sites across the country, which allows them leverage their presence to secure multiple cargo transport contracts and decrease the impact of backloads, therefore avoiding that trucks return empty.

Firms are heterogenous in size, but their workforce is male dominated across the sector. “More Ready” firms are the largest, employing over 250 workers on average. Firms “Less Ready” are also large and employ 150 workers on average, whilst firms “Not Ready” are small and medium, employing on average less than 50 workers. The distribution of workers by gender is homogeneous across the three groups,

Figure 3: Average number of employees by group of firms



with only 10% of the workforce being represented by women, mostly employed to perform administrative functions.

“More Ready” firms can offer a diversified portfolio of transport services, whilst firms in other less ready groups consider cargo transport their core business.

Thanks to their large and diversified fleet, “More Ready” firms can, for example, manage operations on extractives sites, as well as work on specific projects for construction firms moving heavy-duty vehicles. For that, 34% of the workforce in these firms operates firm’s vehicle contracted by a third party for the operationalization of a project. For “Less Ready” and “Not Ready” firms, this share is only 10%, whilst more than 45% of the workers hired are drivers who transport cargo for firms’ clients. Mechanics account for only 13% of the workforce of all firms and primarily work in medium size firms. Large firms have large number of vehicles, for which they normally rely on the official repair to maintain their truck to have official spares. In some instances, the large Mozambican transport firm may partner with one specific truck supplier brand and own its operations in the Country. In-house maintenance is performed only for basic issues. For not ready and some less ready firms, this choice is informed by a strategic cost-control choice, for which vehicles are sent for maintenance only when mandatory by law or when some piece need repair.

Transport firms mostly employ workers who attained secondary education or less. About 82% of the workers employed do not have higher education. Across all groups, only 1% of the staff achieved a Master degree level, and 10% of staff have a technical professional qualification. “More Ready” Firms have the highest share of staff who completed Grade 12 (33%),

Figure 4: Distribution of Employees by gender in each group

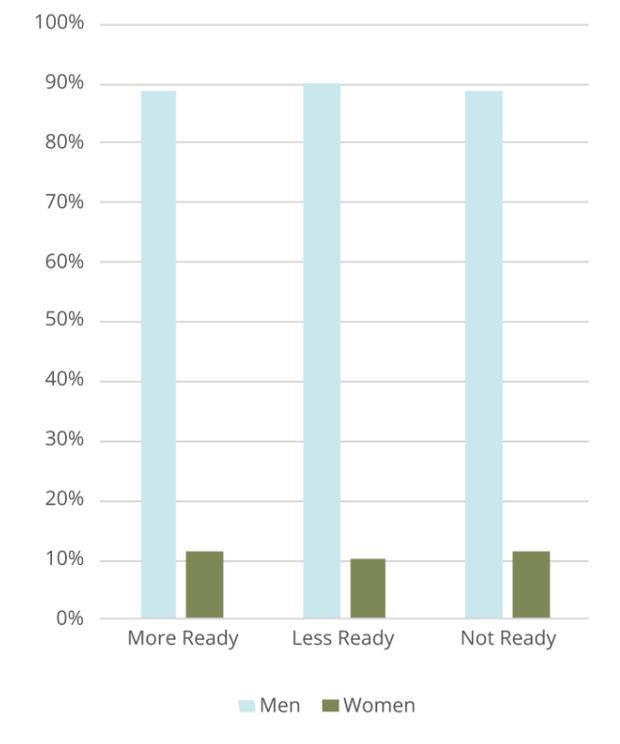
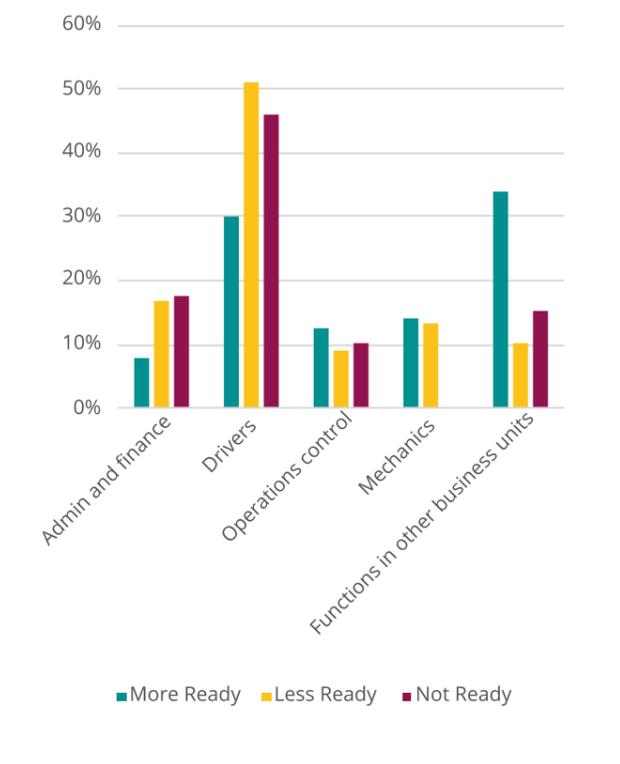


Figure 5: Distribution of workers by function



which is lower for “Less Ready” firms (22%) and the lowest for “Less Ready” Firms (16%). On the contrary, “Not Ready” firms have the highest share of unqualified workers, compared to the other group of firms. In “More Ready” firms, 20% of the staff attained a bachelor’s degree or a higher qualification, 10% holds a technical diploma, whilst the remaining 70% of the staff achieved Grade 12 (33%), Grade 10 (15%) or less. “Less Ready” firms had a higher share of highly educated staff with 29% having a tertiary education title, 10% holding a technical diploma and 61% having a stopped studying in secondary school, among whom 22% did not complete Grade 10. For “Not Ready” firms, the share of staff that did not complete Grade 10 is as high as 38%, whilst only 16% of the staff achieved a qualification of tertiary education.

Figure 6: Distribution of workers by level of education attained¹⁴

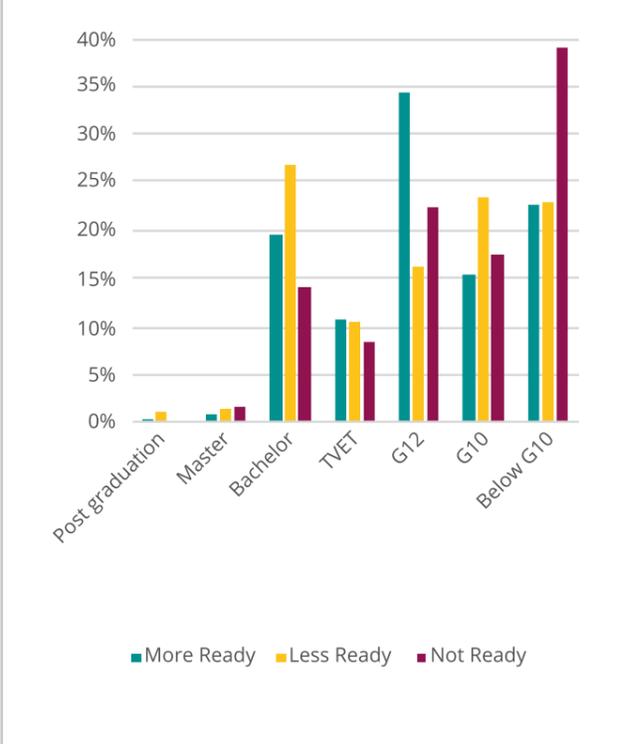
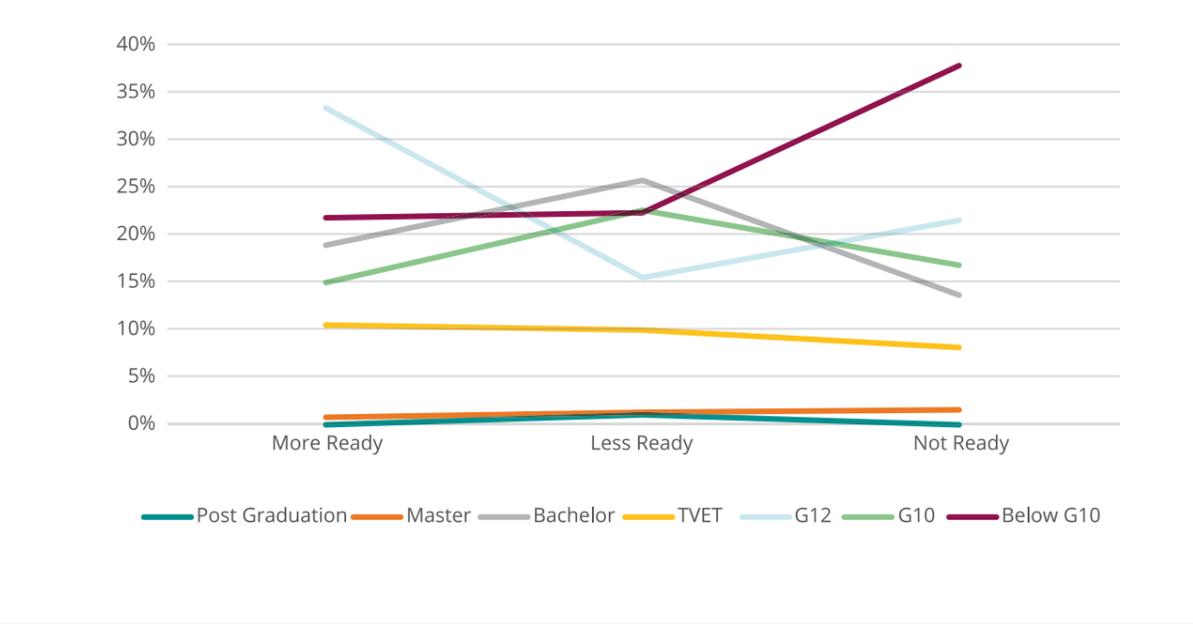


Fig. 7: Distribution of workers’ education level attained by firms group



¹⁴ Workers performing “Other” functions are those who work for the company but maybe employed in non-transport business units of the same firm. As explained later in the report, companies that are “More Ready”, are also more likely to have grown by diversifying their activities providing logistics services or project managing industrial projects.



Photo: World Bank's Southern Africa Trade and Connectivity Project

Firms readier to serve sophisticated markets invest on specific technical training programs to increase their competitiveness.

During the consultations, some of the firms explained that, even if their staff did not achieve academic qualifications, they would not invest in scholarships or subsidies to let them advance their study, because they fear that it would give employees an edge to leave the company for a better remunerated job afterwards. Instead, the company would invest on internal training programs and enroll their staff on technical trainings to improve specific internal processes, which are instrumental to increase the competitiveness of the firm or to pursue certifications.

“More Ready” firms have large and diversified fleets, whilst other firms own trucks and trailers only. All transport firms’ fleets are composed by at least 50%

of trucks. However, if for “Less Ready” and “Not Ready” firms the remaining 50% of the fleet is composed by trailers, for “More Ready” firms these represent only 23% of the fleet. The remaining is composed by tankers (18%), lowered trailers (4%). Few transport companies in this group transport passengers. 94% of their fleet is composed by buses?. “Not Ready” firms have fleet that are on average 30% the size of that of “Less Ready”, and up to six times smaller than that of “More Ready” firms.

Firms with large fleet invest on technology solutions to manage their vehicles and stock of spares. Almost 80% of “More Ready” firms already implement a fleet management system, against 44% of “Less Ready” and a residual 13% of “Not Ready” firms. Firms implementing a fleet management system have 206 vehicles on average. They therefore perceive the investment in technology to

manage their fleet and their stock of spare parts as necessary and strategic to control their operations. However, even among the more ready firms, only those companies that have sizeable fleet have the scale to sustain frequent accidents and losses, to buy parts in bulk, and to have dedicated road mechanical equipment in standby to assist trailers that breakdown while on remote stretches of the road. These services are mainly outsourced to the official workshops of their vehicle brands.

Companies have different strategies to manage spare parts, but most of them hold minimum stock of the necessary parts that need to be replaced more often (i.e. filter), whilst they rely on ad-hoc shipments from international suppliers for more sophisticated components. The existing stock of spare parts is held at the firms’ warehouses, close to the workshop. “More Ready” firms have at least two workshops of 5,000sqm where they perform maintenance and safety tests to their vehicles. The workshops are often linked to the warehouse, whose average size is 32,000sqm?. Less ready firms have on average only one workshop of 1200sqm and one warehouse of 4,000 sqm. They also tend to keep stock to a minimum, also to avoid theft, and rely on certified workshops of trucks suppliers for sophisticated maintenance.

Figure 8: Average fleet composition (Excluding Bus company)

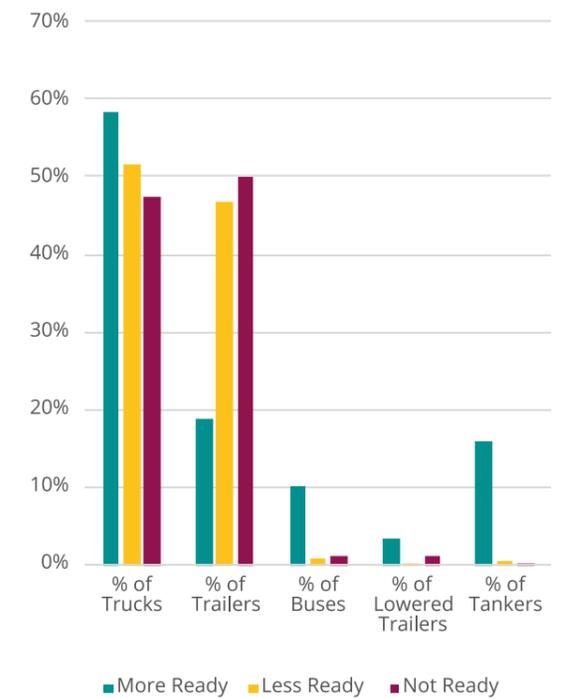
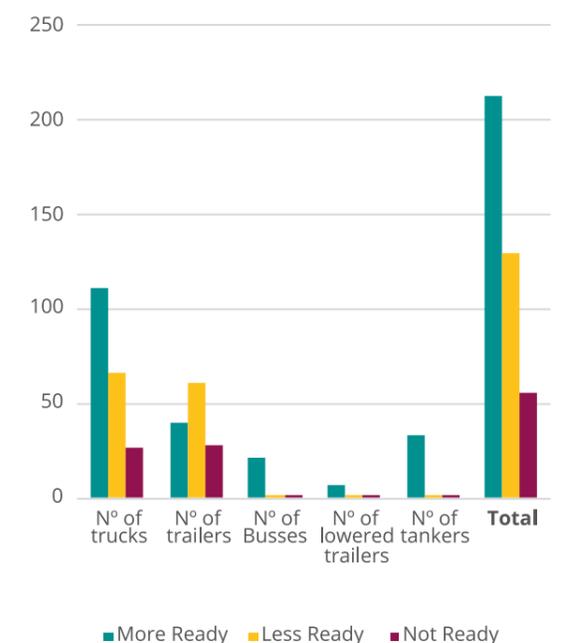


Figure 9: Fleet size by vehicle



Firms with the highest turnover made the largest capital investment, with only few companies adopting innovative asset-light business models. “More Ready” firms grew organically over time thanks to one main contract that allowed them to access credit and consolidate their position.¹⁵ In 2019,¹⁶ the median turnover of the firms was US\$ 4.7mn, with the top one at US\$ 50mn and the bottom one at 1.5mn. Two of the “More Ready” firms adopted innovative business models that allow them being asset light, providing transport and logistics services through a network of contracted services providers.¹⁷ One of them specializes on managing logistics for large fast moving consumers goods firms and sub-contracts from small transport firms as

services providers. The other differentiated its business offering contracts to corporate clients for employees transport services, as well as bulk discounts for individual registrations made by their staff. This way, the firm manages the logistics but is not responsible to manage fleets, workshops, stocks, staff. “Less Ready” firms recorded in 2019, the median annual turnover of US\$ 3.9mn, with the top two firms selling over US\$ 11mn and the bottom one selling US\$ 0.5mn. “Non-Ready” firms declared a median annual turnover of US\$ 175,000. Considering that most of these firms keep their accounting informal, it is likely that the firms in this group are underestimating their sales.

5.3 Quality Management

In Mozambique, only 10 percent of firms have an internationally recognized quality certification. Consistently with the findings of the Enterprise Survey (2018), firms with B2B linkages are more likely to have obtained a certification for their management systems, adopt technology licensed from foreign firms, and to capitalize more on the use of internet and social media accounts relative to those without any linkages. These firms also emerge as the ones with higher propensity to innovate and export.

Transport companies invest to certify their management systems¹⁸ to respond to specific customer requirements. Certified companies represent 67% of “More Ready” and manage an average of 145 vehicles per

firm. One third of the “Less Ready” firms are certified, and they manage 40 vehicles per company. One in ten “Not Ready” firms are certified, and it manages 61 vehicles. Among the firms that certified or are in the process to achieve a certification, almost all reported that they pursue the investment to respond to specific market opportunities that arose with megaprojects or sophisticated sectors that require suppliers to comply to international standards. Nevertheless, after having achieved the certification, all firms recognize its value added to improve safety, efficiency of internal processes and decrease the risk the firm is exposed to when operating. Only one of the firms interviewed is pursuing an international certification as a pathway to grow without any contract guaranteed, recognizing that after the

¹⁵ Perez-Niño (2015), The road ahead: The development and prospects of the road freight sector in Mozambique – a case study on the Beira Corridor in Castel-Branco, Massingue & Muianga (2015) Questions on Productive Development in Mozambique.

¹⁶ Transport companies suffered from the restrictions imposed during the COVID pandemic. For that, the reference year is considered 2019.

¹⁷ These firms that do not own their own fleet are not considered “transporters” but rather logistics operators.

¹⁸ ISO 9001 or equivalent.

organic growth the business faced in the past years, it now needs to significantly organize and improve its internal processes to continue the trend.

Companies that serve customers who do not directly ask for certification, don’t perceive the value added from the investment. Among the non-certified companies, most have contracts, some rather large, that do not require the suppliers to be certified or supply transport services to logistics firms or work with local MSMEs. All of them would not incur the cost to pursue a certification until their customers would expect that from them. From a contract setting perspective, the liability for the goods transported is on the carrier, not on the sender. For that, senders or logistics firms award contracts based on prices and track record without imposing the need for a certification – the transporter would be liable for any losses. On the transporter side, firms rather stay more competitive on prices and incur higher risks.

Alcohol testing is another important risk mitigating measure for transport firms but only the largest firms implement the practice. All the firms that have a certification and others that do not consider strategically important to certify among the “More Ready” firms perform daily alcohol test to their drivers, as a preventive measure to reduce the risk of accidents on the road. These firms manage on average 290 vehicles. Only 22% of “Less Ready” firms and none among the “Not Ready” firms are implementing the same practice. Unexpectedly, not even all the firms that have at least one certification implement such practice.

Fig. 10: Share of certified firms testing alcohol

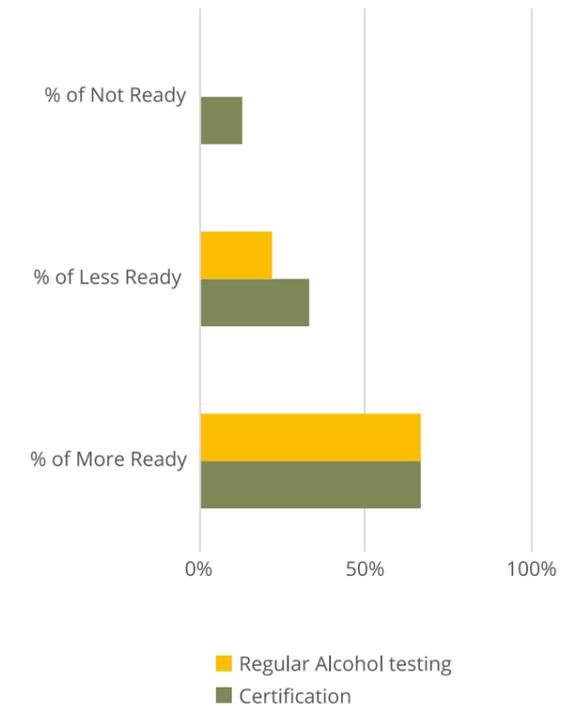
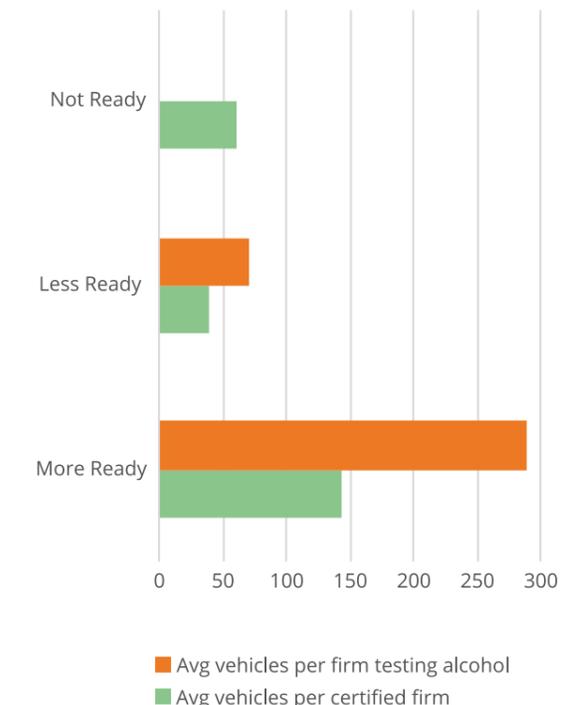


Fig. 11: Average number of vehicles per firm



6. Recommendations

The recommendations are presented for each of the categories analyzed, highlighting which are the necessary actors to involve for their implementation. Each recommendation is accompanied by a color coding for each of the groups of firms. Red indicates high urgency for the implementation of a recommendation, yellow indicates that the measure is needed by some companies in the group, whereas green indicates that for most of the firms in each group, the recommendation has already been adopted.

All firms would benefit from hiring more experienced drivers. Most of the firms also need to improve the professionalism of their staff, across the board. For that, they could establish internship program and on-the-job learning programs, established in partnership with TVET institutions. In addition, “Less Ready” and “Not Ready” firms need to invest in developing skills of their managers. An effective intervention would be the creation of new transport management courses by institutions of higher education in the Country, including modules on management systems, operations control, health and safety, security on site, leadership development.

These “Less Ready” and “Not Ready” firms also need to improve their quality management systems. Awareness and “how to” videos of good practices, promoting examples contextualized to the local reality of Mozambique, could be produced, and be distributed to the firms. In addition, firms would benefit from access to a gradual certification system. Finally, safety on the road would improve if daily alcohol tests would become mandatory for all firms. Another initiative that could benefit all firms of the sector would be the creation of an incentive system to improve practices and skills of transport firms and their staff. This could be organized as a National Award, differentiating transport sub-sectors. A hot-line could be implemented to report abuses of the administration controls. Some examples of companies that have improved their standards show that this contributed to improve their confidence to avoid and report erratic controls.

All transport firms, and particularly the “Not Ready” ones, would benefit from increased access to technology solutions allowing them to analyze data on their fleet and manage their stock more efficiently. A matching grant scheme could be created to make these more affordable for most firms.

Credit collection and access to loans to sustain cashflow of operations is a challenge for most firms. This could be addressed with a financing solution to support treasury and sustainable firms’ managing their working capital.

Finally, the sector should benefit from a unified and digitalized registration system, which would ease the production of reports and data analysis on the dynamics of the sector, so that authorities could be better informed on the desirable intervention to support firms with an enabling environment conducive to the private sector.



Table 5: Recommendations for firms according to the urgency of implementation

■ Recommendation has already been adopted
 ■ Measure is needed
 ■ Urgency for the implementation

Area	Need Identified	Actors Involved	More Ready Firms	Less Ready Firms	Not Ready Firms
HR and Skills	HR policies of firm should require that drivers have higher level of experience. A possibility to reach that would be to implement co-piloting programs, that would match less experience drivers with more experienced ones, and only allow those with more than 10 years of driving experience to drive alone. Or having more demanding exams. I would recommend more drivers training so that they can drive with less of 10 years of experience. Maybe to implement a more serious and detailed driver's license exams as the ones for professional drivers that transport dangerous goods.	Firms			
	Firms could partner with TVET to recruit technicians, mechanics and operations staff that undergo internship programs in the firm, to learn on the job and acquire professional skills, whilst still enrolled in school. Doing so, the firm would improve the professionalism of its staff, and increase the safety of its fleet.	Firms, TVET			

Area	Need Identified	Actors Involved	More Ready Firms	Less Ready Firms	Not Ready Firms
Quality Management	Professional training program could be created for transport firms' managers to improve their managerial ability, applied strategic thinking and leadership skills. These training should include modules on management systems, operations control, health and safety, security on site, leadership development.	Firms Higher education institutions Professional training companies specialized in transport and logistics Financial institutions Donor Funded initiatives for PSD Donor Funded initiatives for PSD			(a)
	PSD initiatives could facilitate the dialogue between institution of higher education, transport specialized training providers and financial institutions to support the development of professional training courses for transport managers. These would be accessible to professionals already working in the sector, as well as transport and logistics managers of other large and medium firms.				
	The same partnerships could originate training programs tailored to operations staff, to develop their capabilities, as well as their professional skills.				
	Professionalization courses should also include modules for quality management, targeting the relevant personnel in each firm.				
	Raise awareness on quality management terminology, processes, and requirements by producing short "how to" and awareness videos to circulate on whatsapp, or quiz to test the knowledge on a topic, which adopt the most appropriate language and contain examples contextualized to the local reality. These should be disseminated thoroughly within the transport sector, with effective communication campaign targeting transport firms, their employees at various level as well as their customers.				
	Promote a system that allows to achieve certification "step by step", as recommended by the analysis on the Quality infrastructure in Mozambique, and similarly to what is implemented or under discussion in other countries.	INNOQ, MCI Donor Funded initiatives for PSD			

Area	Need Identified	Actors Involved	More Ready Firms	Less Ready Firms	Not Ready Firms
<i>(continued)</i> Quality Management	Establish an incentive system to improve practices and skill (i.e. a National Award that should include relevant rewards for firms operating in the sub-sectors).	MCI, INNOQ Donor Funded initiatives for PSD			
	Management and staff should be made more aware of the risks caused by unsafe on badly maintained vehicles on the road. Manages need higher awareness of security measures to adopt in the workshops and warehouses of the firms.	Social Communication			
	Daily Alcohol tests to drivers should become mandatory and their lack thereof should be enforced and punished.	Firms			
Fleet Management	Affordable technology solutions would benefit firms and the public good, allowing smaller firms to analyze data on their fleet and manage their stock efficiently. Matching grants could be made available to the firms to facilitate their access to these technologies. NB: The delays to receive imported spare parts could only be avoided if a bigger market would exist for official spares and more dealers would have certified parts in the country.	Firms Fleet Management Systems companies Donor Funded initiatives for PSD	(b)		
	Firms should implement stricter credit control and shortening payment cycles, to improve firms' cashflow, which was severely affected during the time of the pandemic. One possible solution could be factoring.	Firms	(c)		
Revenue generation and financial management	A financing solution to support treasury and sustainable firms' managing their working capital	Financial institutions			
	Interventions to support transport firms should be designed considering the segmentation proposed in this analysis, considering the nature of their market, their culture, values, ethics, and entrepreneurial mindset of the management team.	Firms Donor Funded Private Sector Development Initiative			(d)

Area	Need Identified	Actors Involved	More Ready Firms	Less Ready Firms	Not Ready Firms
Strategy	Firms could benefit from strategic advisory. Some firms would benefit from interventions that support them identifying routes to new markets to diversify their portfolio, whilst others should be supported to define their goals and design a roadmap to achieve them with a focused approach instead of a survivalist or opportunistic model. The use of platforms, for example, are a way to promote return freights decreasing the freight costs. We need to give to these companies a broader vision of the market.	Donor Funded Private Sector Development Initiative	(e)	(f)	(g)
Transport Sector Management	Establish a unified registration system for transport companies and licenses. A digital platform would gather and elaborate all the data inputted by the different entities allowed to release licenses and registrations. And include reports of visits, supervise the renewal of licences and Alvarás and the follow up the grow of this companies.	Policy Makers Ministry of Transport	(h)		
	Establish a sector federation that each registered firm receiving transport license is automatically registered to. The Federation would become the counterpart to Government discussions, truly representing and having visibility on the dynamics of the sector.	Policy Makers Ministry of Transport	(h)		

Notes:

- (a) None of the management courses currently offered in universities in Mozambique specifically targets this sector, which may also relate to a) SMEs managers' limited purchasing power, b) the payment terms offered by the institutions and c) the lack of incentives from the firms.
- (b) Companies that are not investing yet on technology solutions to analyze data on their fleet and manage their stock.
- (c) Most of these firms suffer from 30 to 90 days delays of to cash-in their receivables, particularly when these are due from long term contracts.
- (d) Most of these firms serve the formal and the informal market. For that, even if they have a formal accounting system, not all their transactions are formally registered. Whilst this hinders the business from accessing growth opportunities, it is one of the factor explaining its resilience and survival.
- (e) These firms grew following strategic approaches to the business and are led by capable management teams.
- (f) These firms operate with a strategic approach to their business, but this often focuses on a single market, if not only on a single large customer.
- (g) These firms lack a strategic approach to the business. Operations developed following opportunities that arose, without a medium nor long term vision on what to focus on and how to achieve any goal.
- (h) Doing so, the Ministry could oversee the dynamics of the sector and be better informed on the interventions needed to support firms with an enabling environment conducive to the private sector.

ANNEX 1

Example of questionnaire for mapping the supply side of a critical sector cluster

Company Details

1. Name:
2. Address (head office):
3. Date of incorporation:
4. Expiry date of Permit to operate as a transporter company:
5. Does the company owns other Permits? If yes, please advise which
6. Organizational Chart (Upload)
7. Total number of workers by gender 2020 / 2021
8. Nationality of workers:

Function allocation

9. Total number of workers with Administrative and financial tasks in March 2020 / 2021:
10. Total number of drivers in March 2020 /2021:
11. Average os years of experience of drivers:
12. Total number of workers with operational control tasks (excluding mechanics) in March 2020/2021:
13. Total number of mechanics in March 2020 / 2021:

Academic qualifications of workers:

14. PHD (Indicate area) / Master (Indicate area) / University graduation (Indicate area) / Technical professional degree / High school graduation / Up to 10th grade of High School / Less than 10th grade of high school

Fleet management and Assets

15. Number of trucks / standard trailers / buses / lowered trailers / Cisterns
16. Does the trucks use GPS systems for location purposes?
17. Does the company share their truck location with its customers or only inform the costumer where the truck with their cargo is?
18. Indicate which driving license Mozambican drivers use to transport international cargo in the following countries: South Africa / Zimbabwe / Malawi / Zambia
19. Does the company have an own workshop? Indicate workshop address and area (m2) and upload a picture
20. Does the have yard in Mozambique? Indicate yard address and area (m2) and upload a picture
21. What is the company's annual stock value of parts in 2020 in USD?
22. Does the company buys theirs spares in Mozambique?
23. In case the company buys the spares outside of Mozambique, how long the spares take to arrive in Mozambique after the PO is confirmed by the supplier?
24. Import customs clearance process duration in days

Quality Management and Certification

25. Does the company have any internationally recognized certification (i.e. ISO)?
26. Which were the main reasons that motivated the investment on certification?
27. Is the company interested in obtaining any new certification?
28. Do you know any company in Mozambique that provides the certifications mentioned?
29. Does the company know what is the investment required to obtain a certification in Mozambique?
30. Indicate which training and capacity actions are currently implemented for staff in the different functions:
Administrative and Finance / Drivers / Mechanics / Operational Control / Others
31. Does the company have a person responsible for overseeing the company's quality policy?

Sales and invoicing

32. Which means of communication the company use to sell their services?
Mobile phone / E Mail / Social networks / Whatsapp / Own platform / Other
33. If the company could sell their services nationwide, which forms of advertisement would it use?
34. What does the company do to see their return empty freights?
35. In your service sales, indicate the percentage of customers you have acquired
Arranged directly / Sub-contracts (logistic companies and or transporters)
36. Indicate the weight of each customer profile (%):
Individual / Companies up to 100 staff members / Companies with staff from 101 to 500 / Companies with more than 500 staff members
37. Average of revenue of contract (MZN):
38. Average duration of a contract:
39. Duration of the ongoing longest contract:
40. Has the company already provided its services to any mega project? Which one ?
41. What services were provided on the mention project(s):
Container and or general cargo under the limits of trailer truck / Project cargo or abnormal cargo / Goods subject to temperature / Removals / Staff transport / Transport of flammable products and air considered dangerous / Others

Management and Organization System

42. Which account and management system does the company use?
43. Which modules of the electronic invoicing system are being used?
Billing / Purchases / Current accounts / Treasury / Stock / Others

COVID 19 impact

44. Revenue value (US\$) in 2019 / 2020
45. What measures were taken by the company due to the impact go Covid in their business:
Temporary workers suspension / Dismissal of workers / Salary reduction / Loan terms renegotiation / Use of moratorium for bank debt payment / Temporary suspension of business / Suspension of taxes payment / Other
46. Did the company benefit from the BNI credit line?
47. Has the company received any other support not mentioned in this questionnaire to address the Covid`s impact in its operations?

Company Strategy

48. What is the company goal in 3 years?
49. Has the company already purchased any other transport company to achieve growth objectives?
Yes / No, but we are evaluating a possibility / No, we never considered that possibility / No, we do not think that as a viable solution / No, it is not in our interest / Other (please detail)
50. Did the company considered ever to sell their operation?
51. What are the company's strategic priorities, to improve its performance and achieve more opportunities in the market?
52. Does the company belongs to any Mozambican Association and or Federation of transport companies?
53. Does the company have suggestions for improving the functioning of the sector's Associations or Federations in the country?
54. What do you think they could do that they are not doing currently?