COOPERATIVES AS A MEANS OF PARATRANSIT REFORM: CASE STUDIES OF INTER-CITY MATATU SAVINGS AND CREDIT COOPERATIVES IN KENYA

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ABSTRACT

The Kenyan public transport authorities observed that the voluntary organisation of some fragmented inter-city *matatu* businesses into Savings and Credit Cooperatives (SACCOs) had resulted in improved service and regulatory compliance. They therefore decreed in 2010 that all *matatu* operators should either join a SACCO or a transport management company. How SACCOs work, and the benefits they offer, have not received much research attention. Drawing from the results of case studies of inter-city SACCOs operating out of Nairobi, this paper investigates how public transport SACCOs are organised, the benefits they offer, and the lessons the Kenyan inter-city public transport SACCO experience has for paratransit reform elsewhere. It is argued that SACCOs vary considerably in size, driver employment, vehicle management and member benefits, and that there is therefore no single public transport SACCO model. It is further argued that the organisation of *matatus* into SACCOs has been an important step in rationalising inter-city services and improving quality. They enable operators to preserve their business capital, borrow to maintain, repair, and replace vehicles, and, when drivers are salaried and collectively managed, they offer a means of removing the negative driver behaviour incentives associated with the 'target system'. They have demonstrated a readiness to adopt innovative service operations technologies and practices. SACCO dividends from diversified business interests provide additional income, and member benefits and services reduce vulnerability to risk.

1. INTRODUCTION

Kenyan public transport systems are dependent upon paratransit (defined in this paper as a flexible mode of public passenger transportation that does not follow fixed schedules, typically in the form of small- to medium-sized buses). These services are known colloquially as *matatus*, from the Kikuyu term (*mangotore matatu*) for the 30 cents flat fare that was charged when the mode first became popular. The general quality of service provided by the majority of *matatu* operators is poor, particularly so in Nairobi, and is in need of reform. The conventional operating model, which will be described later in this paper, creates strong structural incentives for drivers to compete aggressively for passengers in the road space, drive

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dangerously, overload vehicles, extend passenger waiting times at termini during off-peak periods, and withdraw service during less lucrative times of the day.

The Kenyan public transport authorities observed that the voluntary organisation of some fragmented inter-city *matatu* businesses into Savings and Credit Cooperatives (SACCOs) in the 1990s and 2000s had resulted in improved service quality, technology uptake and regulatory compliance. Based on these observed improvements, the authorities decreed in 2010 that, as a requirement for an operating licence, all inter-city and intra-city *matatu* operators should either join a SACCO or a transport management company. In the subsequent period the formation of SACCOs has proven more popular than transport management companies (the most recent inventory compiled in 2013 indicates that there are 509 registered SACCOs compared to 190 registered transport management companies). How SACCOs work, and the benefits they offer, has not received much research attention however. While there is a considerable literature on the cooperative movement and *matatus* in general, a literature search for prior publications focussing on Kenyan public transport SACCOs reveals little (Gicheru *et al* 2011, Kimani 2007, Muriungi 2013, and Orero and McCormick 2011, 2013).

The aim of this paper is to report upon the findings of a study, conducted in 2014, of inter-city public transport SACCOs operating out of Nairobi (McCormick *et al* 2015). The paper investigates the following three questions: (1) how are public transport SACCOs organised?; (2) what benefits do they offer inter-city services with respect to operations management, service quality and business resilience?; and (3) what lessons can be learned from the Kenyan inter-city public transport SACCO experience for paratransit reform in other contexts?

The paper is divided into five main sections. In the following section the development of the *matatu* sector in Kenya generally, and in Nairobi more specifically, is described, and the key policies that have been introduced to regulate *matatu* operators are outlined. Section 3 goes on to explain the method of the study, in relation to instrument design, case selection and data collection. Section 4 presents the main findings of the study, focusing on SACCO organisational arrangements, vehicle assets, driver employment, service operations and business development. Section 5 concludes with reflection on the insights gained from the study with respect to the three research questions, and with a discussion of further research needs.

2. PARATRANSIT REGULATION IN NAIROBI

Formal public transport operations in Nairobi date back to 1934 when the Overseas Motor Transport Company of London was granted monopoly rights to operate a bus service in the city, and established Kenya Bus Services (KBS). Scheduled large-bus services were provided by KBS and later market entrants (Nyayo Bus and Stagecoach-Kenya Bus) for almost half a century, but a variety of factors in the 1970s, 1980s and 1990s – including fuel price spikes, decayed road infrastructure, currency devaluation and a no standing passenger rule (Klopp and Mitullah 2015) – made viable operations difficult. The quality and quantity of formal, scheduled bus service declined as a consequence.

With Kenyan independence in 1963, urbanisation restrictions were removed and the demand for public transport increased. *Matatus* emerged to satisfy this demand. These informal services were tolerated by the authorities because they filled the gap left by the collapsing formal bus system. In 1973 Jomo Kenyatta issued a presidential decree declaring *matatus* legal, enabling them to carry fare-paying passengers without obtaining Public Service Vehicle (PSV) licenses from the Transport Licensing Board (TLB). This resulted in exponential growth of the city' paratransit vehicle fleet, observed in 2012 to be 9 554 PSVs (Envag Associates 2012).

A group of acts (the Transport Licensing Act, the Traffic Act, and the Regulation of Wages and Conditions of Employment Act), together with various associated legal notices, provided a framework for the regulation of the emergent *matatu* industry. An important policy intervention emanating from this legislation was the introduction of requirements in 1999 for *matatu* operators to register with the TLB, and to obtain PSV licenses. The provisions of the acts and legal notices that made (and continue to make) up the paratransit regulatory framework were not fully implemented, however, resulting in a variety of service quality and safety problems. To address poor service quality, a set of legal notices were introduced (or at least reaffirmed) between 2003 and 2005 (known as the 'Michuki Rules' after the responsible Minister for Transport and Communication, John Michuki) which required PSV owners to, *inter alia*: fit speed governors; install seat belts; employ drivers and conductors on a permanent basis; issue badges and uniforms to PSV crews, re-test drivers biennially; and display route details (Klopp and Mitullah 2015). These legal notices were the most successful in improving regulatory compliance, but their effects were short-lived. After the Minister left office most *matatu* operators reverted to their old practices, and by 2009 any improvements had effectively been eroded.

The key regulatory intervention from the perspective of this paper, as mentioned earlier, was a legal notice in 2010 which required all PSV owners to join either a SACCO or a transport management company in order to be licensed. This was followed by a further notice in 2012 issued by the National Transport and Safety Authority (which replaced the TLB in that year) which required that SACCOs have a minimum fleet of 30 serviceable vehicles, and that they install digital speed governors and, for those travelling at night, a fleet monitoring system. In 2014 a further notice was introduced which required PSV operators to implement a cashless fare payment system.

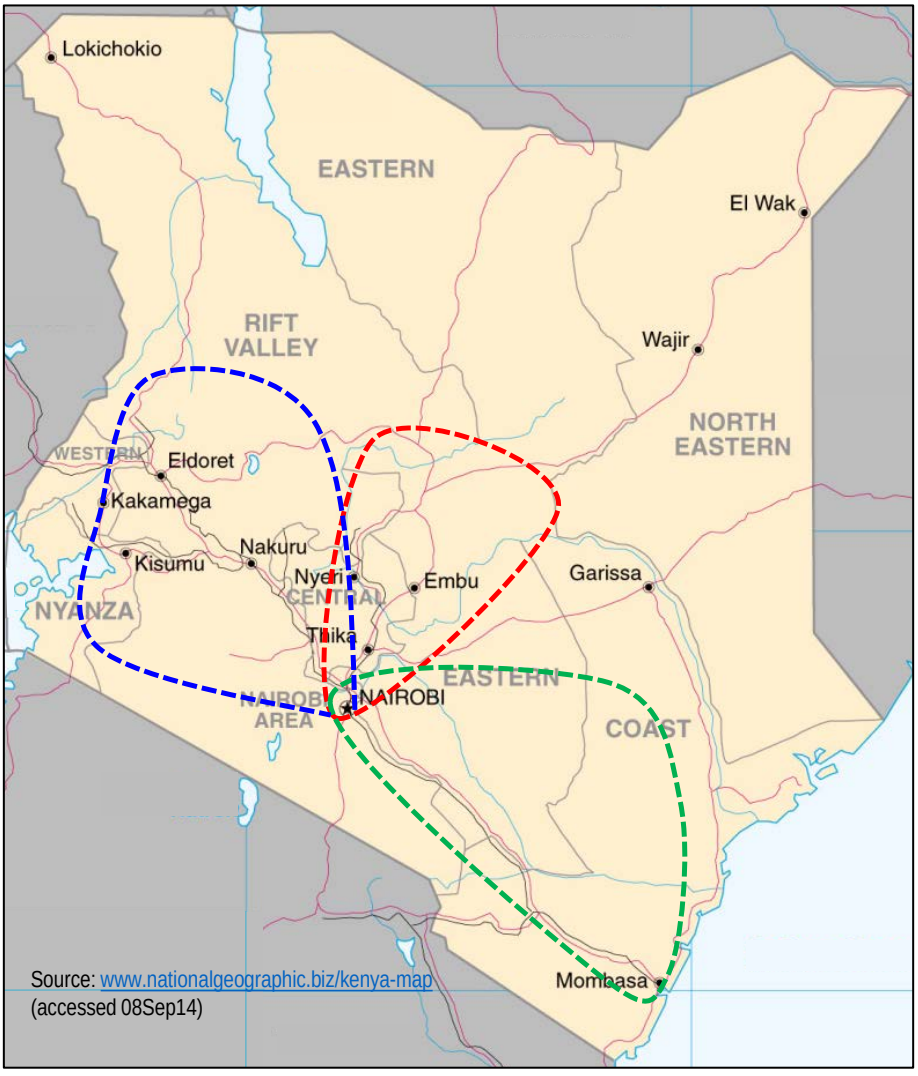
3. STUDY METHOD

The research conducted on inter-city public transport SACCOs adopted a qualitative case study method. This method is described in terms of: instrument design; case selection; and data collection and analysis

3.1 Instrument design

Interview guides were developed for the purposes of administering semi-structured personal interviews with two groups of respondents. The first group were officials from selected case study SACCOs. A standard interview guide was used for this group. Questions related to: the formation of the SACCO; the structure of the

SACCO and its management; vehicle ownership and management; the benefits of SACCO membership; interactions with other SACCOs who share routes and termini; and the impact of government regulations. The second group of respondents were key industry stakeholder informants from: the Department of Transport within the Ministry of Transport and Infrastructure; the Department of Cooperative Development and Marketing within the Ministry of Industrialisation and Enterprise Development, the SACCO Societies Regulatory Authority; Frotcom East Africa, a provider a vehicle tracking systems; and the CIC Insurance Group, a provider of insurance cover specifically for cooperatives. Each key informant interview guide was composed of three general questions concerning SACCO registration requirements and the quality of SACCO management and services, and a further set of specific questions on their involvement with SACCOs tailored to the nature of their organisation.



	Rift Valley and Western Region	Central / Mount Kenya Region	Eastern, South Rift and Coastal Region
1980-1999		**S1** (established 1993)	
2000-2009		**S4** (established 2000)	**S2** (established 2003) **S9** (established 2003) **S3** (established 2004)
2010-2014	**S5** (established 2011) **S10** (established 2011)	**S7** (established 2010) **S8** (established 2010)	**S6** (established 2011)

Figure 1. ***Case study selection, by geographical area and period of formation***

3.2 Case selection

The unit of analysis for the study was the SACCO as an organisation, and the sampling frame was a list of 509 SACCOs registered with the Department of Cooperative Development and Marketing. Ten SACCOs (2% of the sampling frame) were selected on a purposive basis. Originally 13 SACCO cases were selected, but this was reduced to 10 when it became evident during fieldwork that one of the SACCOs selected had merged with another which was also part of the original group, and a further two were unresponsive to interview requests.

Three criteria for non-random case selection were applied. The first, for pragmatic fieldwork reasons, was that the SACCO should have a service route destination in Nairobi. The second criterion was to cover a diversity of geographical regions (see figure 1). Since public transport SACCOs first emerged in the central Kenya region, the researchers sought to compare SACCOs operating in this region with those operating in eastern and western Kenya. The third selection criterion was to compare SACCOs that were registered over different time periods and are thus more or less established (see figure 1). The delimitation of these periods was derived from shifts in paratransit regulatory requirements and the growth of the Kenyan cooperative movement. The fact that one SACCO was reputed to have been founded in 1987 suggested that the first period should extend from the 1980s. At the other end of the time spectrum, it was clear that the 2010 legal notice regarding mandatory SACCO membership was a critical divider. The definition of the middle period is associated with a period of expansion for cooperatives in the 2000s. Thus three periods were defined: 1980-1999; 2000-2009; and 2010-2014.

3.3 Data collection and analysis

Industry stakeholder informant interviews were conducted between February and May 2014, and SACCO official interviews were conducted between April and May 2014. Interviews were conducted in the offices of the respondents concerned. One or two researchers and a field assistant were present in all interviews. The field assistant took detailed notes that were transcribed after the interview. In the case of the SACCO official interviews, the interview record was complemented with the researchers' site observations with respect to vehicle branding, the location and condition of the SACCO's terminus, the staffing of the SACCO office, and the use of computers and telephones in the tracking of vehicles and the management of passengers and SACCO members.

Thematic qualitative analysis of the interview notes was undertaken in terms of the following themes: SACCO size and organisational structure; education qualification of the SACCO officials; allocation of responsibility between the vehicle owner and the SACCO; investment in vehicles and other businesses; driver employment variations; codes of conduct; competition; fare setting; vehicle monitoring; SACCO benefits; policy formulation and participation; and police corruption and litigation. A stakeholder workshop was held on 7 August 2014 at which (20) participants in the study were given an opportunity to discuss and provide feedback on preliminary findings (Ommeh 2014).

Figure 2. ***Example of a 14-seater inter-city matatu vehicle***

Figure 3. ***Example of an inter-city matatu terminus***

4. STUDY FINDINGS

The key findings of the study are reported in terms of: SACCO structure and resources; vehicle acquisition and maintenance; driver employment and management; service operations management; and business resilience and diversification. A summary of SACCO case study information is presented in table 1. Figure 2 illustrates the typical vehicle used to provide service, and figure 3 illustrates an example of the termini out of which these vehicles operate.

Table 1. ***Summary of SACCO case study information***

	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**	**S8**	**S9**	**S10**
No. of members	700	26	40	150	29	15	35	16	125	3
No. of vehicle-owning members	350	26	40	150	29	15	35	16	125	3
No. of routes operated	10	1	1	1	2	1	2	3	2	1
No. of SACCO office staff	38	2	n.i.	23	30	n.i.	27	n.i.	13	25
Total number of vehicles	600	63	100	204	55	30	56	31	200	40
No. of member-owned vehicles	598	60	94	200	55	30	56	31	200	n.i.
No. of SACCO-owned vehicles	2	3	6	4	0	0	0	0	0	n.i.
Member: vehicle ratio	1:1.7	1:2.4	1:2.5	1:1.4	1:1.9	1:2	1:1.6	1:1.9	1:1.6	1:13.3
Limit of member vehicle fleet	6	n.i.	3	4	none	none	none	none	n.i.	n.i.
'Share capital' (KES millions) [1]	189.0	n.i.	3.0	60.0	0.0	0.7	n.i.	0.2	62.0	n.i.
'Share' payment (KES/veh/m) [2]	11 700	5 200	n.i.	3 000	0	2 250	n.i.	7 800	n.i.	2 000
Max. loan value (KES millions)	3.0	n.i.	0.8	2.0	none	none	none	none	4.0	n.i.
Loans for vehicle purchase	Y	n.i.		Y					Y	n.i.
Loans for vehicle repairs	Y	Y	Y	Y		Y	Y	Y	Y	Y
Vehicle tracking	Y	Y	Y	Y	Y	Y		Y		Y
Speed governors	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fares collected by SACCO	Y	Y	Y	Y	Y	Y			Y	Y
Salaried drivers	Y	Y			Y		Y			Y
Drivers employed by SACCO		Y	Y							Y
Drivers monitored by SACCO	Y	Y		Y	Y	Y	Y		Y	Y

Notes:

1. mean April-May 2014 rate of exchange = KES 1:ZAR 0.12)
2. 'share' payment comparison estimation assumptions: 26 vehicle operating days in 1 month; 6 vehicle operating days in 1 week; 1.5 vehicle trips in 1 vehicle operating day
3. The member:vehicle ratio is calculated on the basis of vehicle-owning members, and the total number of vehicles.

4.1 SACCO structure and resources

SACCO organisational structure is largely dictated by the Cooperative Societies Act, which stipulates basic operating rules and procedures. Important amongst these are that SACCOs prepare annual estimates of income and expenditure, and keep accounts which must be audited. The governing body of every SACCO is a Committee, which is subject to an Annual General Meeting (AGM). The Committee has between five and nine members, from which the members elect a chairperson and a vice-chairperson. According to the Act, members must be over 18 years of age, with occupations consistent with the purpose for which the SACCO was formed, and resident within the society's area of operation. No member may hold more than 20% of the 'share capital', and members must make regular payments to the SACCO. Generally, members may not be a member of more than one SACCO having the same or similar objective.

It was found that, in addition to vehicle crews, the SACCOs employed managers, office staff and terminus staff. In the more established SACCOs (e.g. S1 and S9) managers are employed full-time and hold postgraduate degrees in business. Office staff in the larger SACCOs take the form of secretaries, accountants, information technology support technicians and clerks responsible for the booking office, while in the smaller SACCOs one or two people perform these tasks. Terminus staff, typically employed on a casual basis, were found to manage the queuing and departure of vehicles, load luggage and in some cases handle packages sent via courier services.

SACCO membership and vehicle fleets were found to vary widely, from 700 (S1) to three (S10) in the case of members, and from 600 (S1) to 30 (S6) in the case of vehicles. Figure 4 illustrates, unsurprisingly, that the older SACCOs have more vehicle-owning members and larger vehicle fleets.

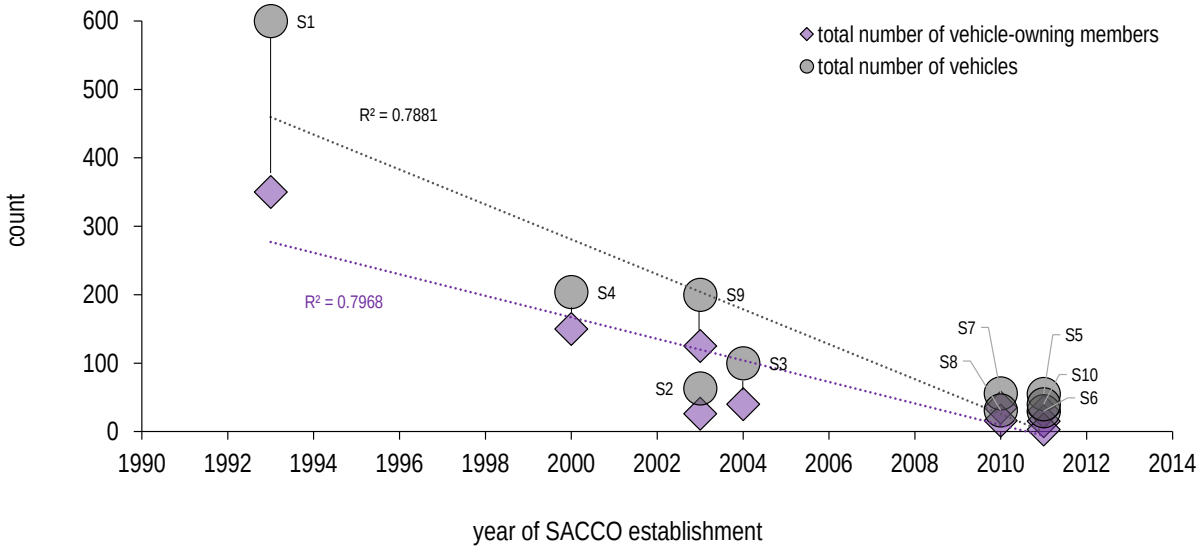


Figure 4. ***SACCO membership and vehicle fleet, by year of establishment***

Some SACCOs reported limiting the number of vehicles a single member can own to between three (S3) and six (S1), in order to prevent larger businesses from dominating the cooperative. A strong correlation was therefore observed between the number of vehicle-owning members and the size of vehicle fleets (see figure 5). Outliers are S10 which has only three members and a member to vehicle ratio of 1:13, and S1 which reported that half of their 700 members are no longer active in the public transport business, but maintain their membership in order to continue saving and qualifying for loans.

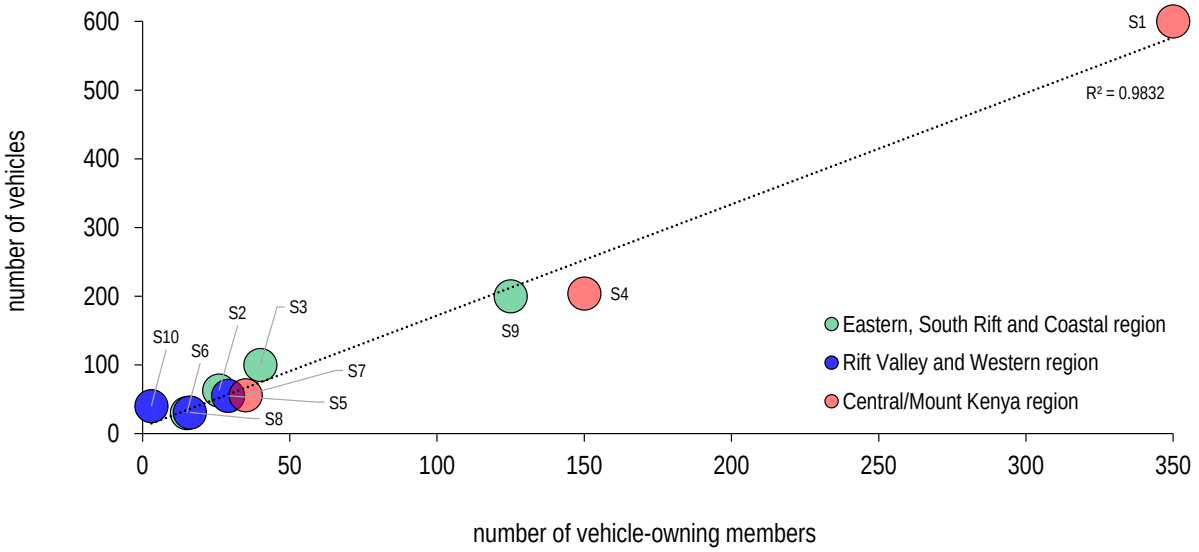
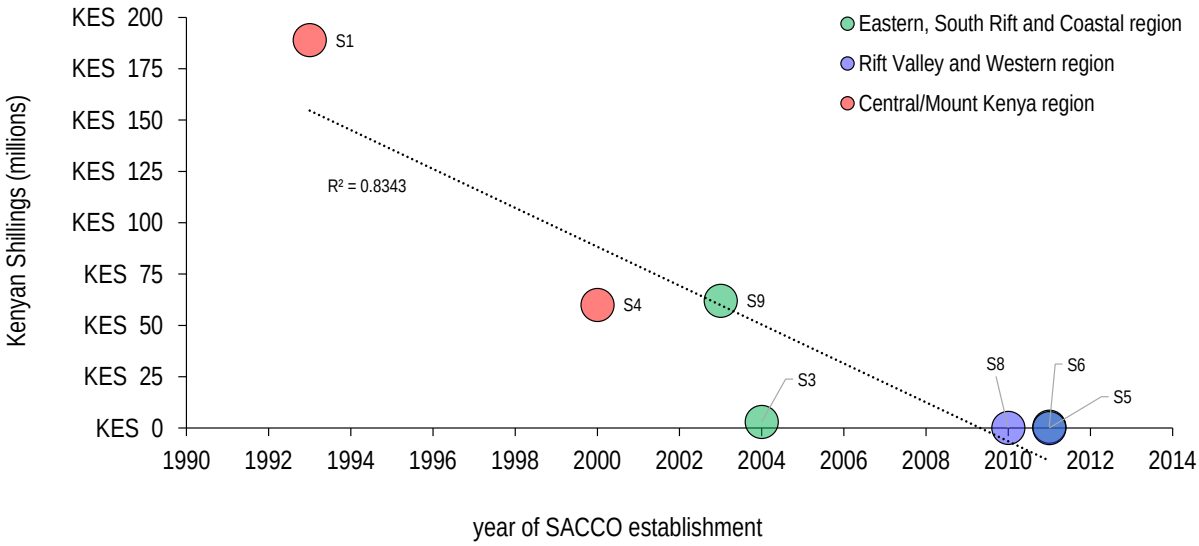


Figure 5. ***Correlation between SACCO membership and vehicle fleet***



Note:

1. mean April-May 2014 rate of exchange = KES 1:ZAR 0.12)

Figure 6. ***SACCO 'share capital', by year of establishment***

With one exception (S5), all the SACCOs reported that members make contributions to the SACCO's 'share capital' on a per trip, daily, weekly or monthly basis. 'Share capital' refers to the accumulated funds, typically invested in the Cooperatives Bank of Kenya, from which loans to members are advanced, and from which annual dividends are sometimes paid. The 'share' contribution is set during the AGM, and was found to range between KES 2 000/veh/m (S10) and KES 11 700/veh/m (S1) (ZAR 230/veh/m and ZAR 1 360/veh/m at the mean April-May 2014 rate of exchange respectively). Two SACCOs (S6 and S9) reported that a member could voluntarily increase his or her contribution in order to qualify for bigger loans. In the case of S5, member contributions are used solely for purposes of employing SACCO staff, but plans are in place to initiate 'share capital' contributions at a later date.

The financial strength of SACCOs can be measured by the size of their 'share capital'. From the financial information provided it appears that capital reserves range considerably, from KES 189 million (S1) to KES 150 000 (S8) (ZAR 22 million and ZAR 17 000 respectively). As in the case of membership and fleets, figure 6 suggests a correlation between SACCO age and the size of 'share capital'.

4.2 Vehicle acquisition and maintenance

An important role of paratransit SACCOs is the advancing of loans to acquire (or at least finance a bank's down-payment requirements) and repair vehicles, with the prior monthly 'share' contributions approximating a form of vehicle depreciation costing. The SACCOs with less 'share capital' are only capable of providing loans for vehicle repair and maintenance. The amount of a loan was in most cases determined by three factors: the 'share capital' available; the loan ceiling; and the applicant's accumulated 'share' contribution. The SACCOs typically set the loan ceiling as double the applicant's accumulated 'share' contribution, subject to maximums which ranged from KES 4 million (S9) to KES 800 000 (S3) (ZAR 465 000 and ZAR 93 000 respectively). A member typically contributes 'shares'

for at least 6-12 months before he or she can qualify for a loan. Loans attract interest at the rate of 1% per month on the reducing balance.

Some SACCOs have invested in collectively owned vehicles. In most cases, however, the number of SACCO-owned vehicles is small relative to the number owned by members (e.g. S2 reported acquiring three 51-seater buses, but has 60 14-seater vehicles owned by members). In other cases, the number owned by the SACCO is substantial (e.g. S10 reported that the SACCO from which it split had a fleet of 99 collectively owned vehicles.

4.3 Driver employment and management

Driver remuneration has been an area of contention between *matatu* vehicle owners and regulatory authorities since the 2004 legal notice which directed that vehicle crews be employed on a permanent salaried basis. *Matatu* drivers have conventionally been remunerated on the basis of a 'target system', in which vehicle owners claim a fixed daily revenue target from vehicle crews, who in turn keep the balance of the daily fare box, less vehicle operating expenses, as income. This system underlies many of the problems commonly associated with the paratransit sector: strong structural incentives exist for drivers to compete aggressively 'in the market', drive dangerously and overload vehicles. A likely precondition for significant improvements in service quality is therefore the establishment of an alternative to this operating model. The appeal of SACCOs, from a regulatory perspective, is that they can facilitate the ceding of individually owned vehicles to collective management, the pooling of fare box revenue, the salaried remuneration of drivers, and the distribution of income to owners on the basis of the quantity of service provided.

The study findings indicate that the inter-city SACCOs are moving away from the 'target system': 50% of the case SACCOs reported that drivers are remunerated on a salaried basis (S1, S2, S5, S7 and S10); and two of the five SACCOs that are still paying drivers on a daily target basis reported that they are making preparations to introduce salaried remuneration (S6 and S9).

> "The owner used to pay the driver but they now take the salary of the driver to the SACCO. The driver will have to be paid whether the vehicle is on the road or not". (S2 SACCO manager)

> "Drivers will earn KES 15 000/m (ZAR 1 750) and there will be an agreement form that they will have to sign. The owner will have to bring KES 500/d for the salary of the driver. He will also have to provide the driver's breakfast and lunch". (S3 SACCO official)

Three SACCOs reported that drivers are recruited and employed by the SACCO (S2, S3 and S10), while six reported vetting driver recruitment by members (S1, S2, S4, S5, S6 and S7). With respect to driver discipline, some of the SACCOs reported that complaints relating to driver behaviour, if verified by other passengers, result in drivers being warned or fined (S1, S4, S5, S9 and S10). Some of the SACCOs reported that SACCO staff monitor driver behaviour on the road (S1, S4, and S9).

4.4 Service operations management

In most cases, the allocation of vehicles to routes is determined by the PSV licence, and therefore the SACCO does not perform this role.

> "We are restricted by the by-law; if you do not have a sticker to terminate at Thika then you cannot go there". (S4 manager)

All the SACCOs reported that they manage termini in order to ensure fair vehicle rostering with respect to departures during peak periods (either on a 'first-come first-served' or rotational basis), but SACCO-owned vehicles are given priority (S1). In instances where drivers are employed by the SACCO (S2, S3 and S10), the SACCO assigns drivers to vehicles.

> "If you have a vehicle in the SACCO, you will not know who will drive the vehicle" (S10 official).

While some *matatu*s have introduced card payment systems (e.g. the BebaPay and My1963 cards), none of the case study SACCOs reported adopting cashless fare collection. The SACCOs reported collecting fares in cash, and issuing paper tickets at their ticket offices at route termini. When a vehicle makes intermediate stops, fares are either collected at ticket offices located at all stops, or on-board by the vehicle crew.

Some SACCOs collect fares and deduct from the fare box revenue what is due to it, in the form of member payments, before remitting the balance to the member. Disbursements to members are made either via the driver with cash and a delivery note which gives a breakdown of the deductions, or via electronic funds transfer (S4, S7 and S9).

Fare setting practices were found to vary across SACCOs. Some claimed to be pace setters (S1 and S9), some follow the general trend (S2, S3, S5 and S7), while others reported waiting for competitors to change fares and then undercutting them (S10). One SACCO has its fares set by an umbrella association of which it is a member (S4).

Fleet management systems have been a requirement for inter-city *matatus* since 2012 (for intra-city services they remain optional). Seven of the SACCOs reported that these systems have been installed in their vehicles (S1, S2, S3, S4, S5, S6, S8 and S10), and one was in the process of installation at the time of the interview (S9). In some cases vehicles can be monitored by the SACCO staff, as well as by the respective owners, via laptop or mobile phone (S1, S3, S5, and S10). In other cases just the owners can track their vehicles via mobile phone (S4 and S8). It was reported that tracking data are used to ensure that vehicles stick to their designated routes, and adhere to speed limits (S1, S4, S9, and S10).

All SACCOs reported that vehicles have been fitted with speed governors (as required by legal notice), with some reporting that they had purchased speed governors for members who could not afford them (S4 and S9). Speed governors were reported to have reduced vehicle fuel consumption costs, and to provide useful

evidence in refuting false speeding charges (S1, S4, and S9). Concerns were raised, however, with the expense and timeframes for compliance.

> "The time limit for installing speed governors was not adequate, given that the market did not have enough devices. The device costs KES 38,000 (ZAR 4 400). There are cartels which have over-priced the devices … There are 20 companies licensed to sell speed governors, most of these are linked to officials in government". (S5 SACCO official)

Most of the SACCOs interviewed reinforced a common view that corruption is widespread in the public transport sector, that operators frequently encounter demands for bribes which they have to pay in order to stay in business, and that increasing fines simply results in increased bribes (S2, S3, S4, S5, S6, S7, S8, S10).

> "We are harassed by traffic police, when our bus goes on the road; police stop it so that they can get a bribe. If the driver does not give a bribe then the bus can be charged for anything. The magistrate in court follows what the traffic police have written as the offence. We are forced to give traffic police KES 600 (ZAR 70) on a weekly basis. … People would rather pay a bribe than go to court to pay a high fine." (S2 SACCO official)

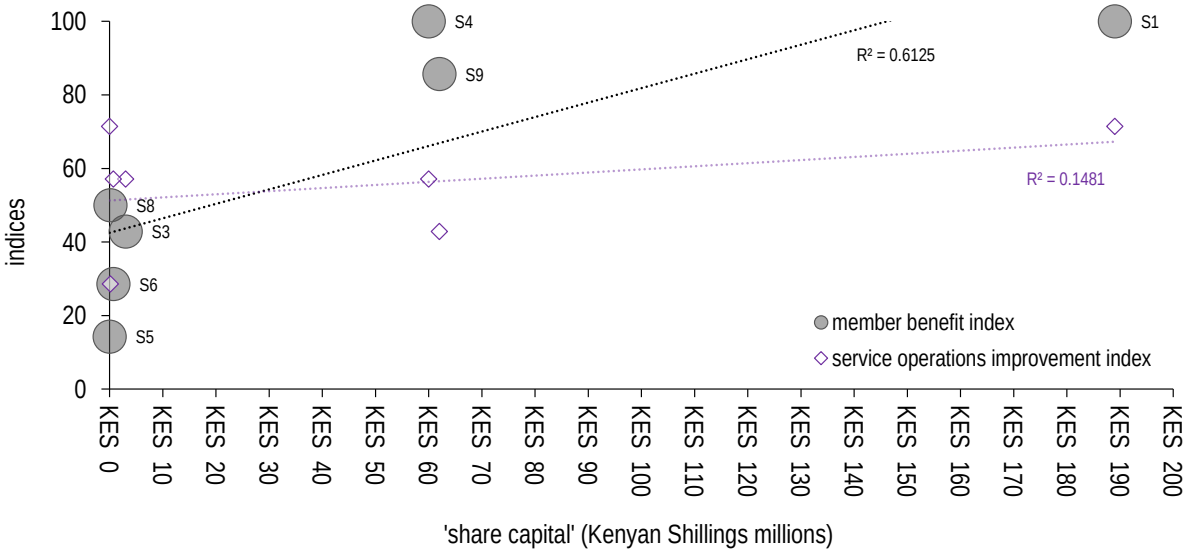
> "The traffic police have taken advantage of the increased fines; they see it as a loophole. Before we used to give them KES 50 (ZAR 6) every day. They were ready to accept KES 1 000 (ZAR 120) when you commit an offense. Today no traffic police is taking less than KES 2 000 (ZAR 230). Some even ask for KES 20 000 (ZAR 2 330). Since the fines went up the bribe has also gone up. The government is encouraging corruption". (S7 SACCO official)

4.5 Business resilience and diversification

SACCOs enhance paratransit business resilience through providing loans to assist members with unforeseen personal expenses, supporting their members with legal representation when they are charged in the courts, and arranging insurance cover. All the SACCOs reported advancing short-term (<1 year) loans for personal business or welfare purposes, subject to the extent of the applicant's prior 'share' contributions and various loan ceilings. Legal assistance comes in the form of either hiring a lawyer for the member in need (S1, S3, S5, S6, S9 and S10), or extending financial assistance for this purpose (S7 and S8). It was found that third party liability insurance services are either arranged by the SACCO for all the members from one source (S2, S5 and S10), or by operators individually using the same insurance brokerage specified by the SACCO (S4, S6, S7 and S9). New vehicles purchased via bank loans generally do not require separate third party insurance via the SACCO, as the banks insist upon comprehensive insurance while the loan is being repaid.

To minimise income leakage and generate additional revenue, some SACCOs have established insurance agencies as a service to their members (S1, S4 and S10). Other initiatives reported to diversify SACCO income included: ownership of petrol stations (S1, S2, and S9); dealing in vehicle parts (S4); operation of a financial service (S1); and operation of mobile telephone money transfer services (M-Pesa) (S1 and S4).

Figures 7 and 8 suggest that more established SACCOS, with larger ‘share capital’, are better able to offer members benefits and services that enhance their business resilience.



Notes:

1. The ‘member benefit index’ is calculated on the (unweighted) basis of whether the SACCO provides the following: business diversification; loans for vehicles, repairs and personal emergencies; legal assistance; and collective insurance cover.
2. The ‘service operations improvement index’ is calculated on the (unweighted) basis of whether the SACCO has adopted the following practices or technologies: vehicle tracking; speed governors; cashless fare collection; collective fare management; salaried drivers; collective driver employment; and driver monitoring.

Figure 7. ***Correlation between SACCO ‘share capital’ and indices of member benefits and service operations improvement***

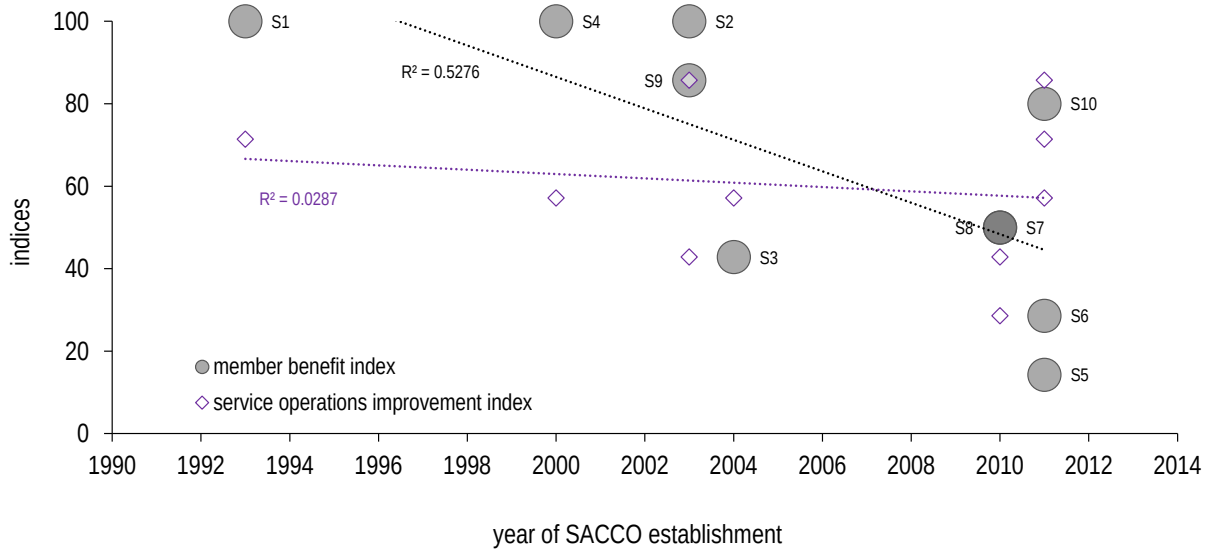


Figure 8. ***Correlation between SACCO age and indices of member benefits and service operations improvement***

5. CONCLUSION

This paper set out to investigate: how public transport SACCOs are organised; the benefits they offer inter-city services; and the lessons the Kenyan inter-city public transport SACCO experience has for paratransit reform elsewhere.

With regard to how public transport SACCOs are organised, the paper has demonstrated that variation in size, driver employment, vehicle management and member benefits is considerable, and that there is therefore no single public transport SACCO model. Variations arise from different financial resources and managerial capacities. With regard to the benefits public transport SACCOs offer inter-city services, it is concluded that the organisation of *matatus* into SACCOs has been an important step in rationalising service and improving quality. They provide a means of preserving business capital, impose a form of vehicle depreciation costing through 'share' contributions, provide finance for fleet renewal, repair and maintenance, and, when drivers are salaried and collectively managed, they offer a means of removing the negative driver behaviour incentives associated with the 'target system'. SACCO dividends from diversified business interests provide additional income, and member benefits and services reduce vulnerability to the risks that typically afflict small paratransit businesses. In recent years SACCOs have also demonstrated a readiness to adopt vehicle management and fare collection technologies, which dovetail Government's efforts to improve regulation and counter corruption, provided they make business sense.

What then are the lessons the inter-city SACCO experience offers paratransit reform elsewhere? It is remarkable that a few voluntarily formed cooperatives have inspired an entirely new way of regulating public transport in Kenya. Mandatory SACCO formation requirements have coincided, however, with other directives, such as the installation of digital speed governors, fleet management systems and cashless fare payment, which some operators have found too expensive, too challenging, or just too much at one time. Operators may simply need some time to absorb one change,

before others are introduced. Indeed, the strength of the SACCO model is perhaps its more incremental path to reform, compared to the capital and capacity intensive approaches that have dominated Sub-Saharan public transport policy discourse in recent years.

A related observation concerns the philosophical foundations of SACCOs. Cooperatives are by definition voluntary organisations, with structures such as Committees and AGMs designed to foster cooperation among members. The inherent contradiction between the voluntary nature of the SACCO, and its mandatory status in the Kenyan public transport regulations, has yet to be fully understood. This study has illustrated that several years are required for a SACCO to build up a sufficiently large member and 'share capital' base from which to offer dividends, benefits and services. Time will tell whether mandatorily formed SACCOs will yield the same benefits as those that have emerged from voluntarily formed SACCOs.

A variety of research needs arise from the study conducted. While the research has developed insight into a particular group of inter-city SACCOs, its findings and conclusions cannot be generalised. Successfully applying the SACCO model to other areas of public transport, particularly intra-city and short- to medium-distance rural services, will undoubtedly require adaptation to context. Collective service operations management and fare collection, for instance, are likely to be easier to implement on inter-city shuttle routes with fewer stops and less on-board fare collection, than intra-city routes. It is therefore necessary to conduct comparable studies of SACCOs operating in these contexts.

There is also a need to measure the benefits of new practices and technologies for operators and passengers. A limitation of the cross-sectional case study method employed in this research is its inability to produce quantifiable metrics of benefit and change (e.g. ridership, vehicle productivity, operating costs, revenue, reliability, overcrowding, etc.). *Matatu* passenger satisfaction surveys, and longitudinal panel studies of SACCOs, hold promise in this regard.

Notwithstanding the limits of the small sample of SACCOs, the study suggests somewhat murkily and inconclusively (see figures 7 and 8) that, while the provision of greater member benefits and services might be explained by how well established the SACCO is and the size of its 'share capital', the successful adoption of innovative technologies and practices appears to be less correlated to these variables. What motivates paratransit operators to innovate and adopt service operations improvement technologies and practices, and the implication this has for public transport policy and regulation, therefore also needs to be better understood.

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