FROTCOM®
INTELLIGENT FLEETS

ROI calculation
with Frotcom

by Valério Marques
CEO, Frotcom International

Who should read this paper?

CEOS | CFOS | COOS | FLEET MANAGERS | FINANCE EXECUTIVES

This paper helps you calculate the **Return On Investment** with Frotcom. It shows that with the adoption of Frotcom, it is possible to significantly improve cost efficiency, customer satisfaction and productivity, at the same time reducing downtimes. These practices apply not only to large road transportation companies, but also to companies with just a couple of vehicles.

1   WWW.FROTCOM.COM

Before we start

Let's cut to the chase. You are about to invest in Frotcom. You believe this system will help your company remove inefficiencies, cut costs, improve service and so forth.

Great. But how much money will it save you? What will your ROI (return on investment) be?

Let's find out.

About the ROI

The ROI of any investment is calculated as:

$$ROI = \frac{Gain - Cost}{Cost}$$

So far so good. The higher the ROI, the better, of course. It means you gain a lot more than what you need to invest.

Now, to calculate the **ROI**, we need to figure out what is the **cost** of implementing Frotcom and also the expected **gain**.

What is the cost of Frotcom?

The cost of Frotcom will vary, depending on the exact tracking devices you choose and on the modules you activate.

For instance, **Driving Behavior Analysis** (Eco-driving) or **Interact messaging** are specific modules in Frotcom, which require activation before you can use them.

The cost may also differ from country to country, depending on import levies, telecommunication costs and other costs.

In the three examples presented in this document, we will use some values which will certainly differ from the exact ones proposed to your company.

After reading the corresponding examples, please apply the same principle to your own case, working with the specific costs which fit you.

What is the expected gain from the use of Frotcom?

There are many gains a company gets from installing Frotcom. Let's just concentrate on these three:

	1.	Lower fuel consumption
	2.	Higher productivity
	3.	Increased customer satisfaction

The other benefits may be a little trickier to calculate, either for being intangible or because they depend on variables hard to know or estimate: **Better business planning, Enhanced security of drivers, vehicles and cargo,** and a **Lower carbon footprint.**

Let's concentrate for now on the 3 measurable gains identified in the table above.

1. Lower fuel consumption

Perhaps the most looked for features in Frotcom are the ones that allow you to control and reduce the fuel costs. This comes as no surprise, for fuel costs can account for 30% or more of the total fleet's costs, especially in vehicle centric companies such as road transportation businesses. Look at the following example.

Introduction

ACME is a road transportation company headquartered in Italy, with a fleet of 50 trucks travelling all around Europe.

The problem

The average mileage was 11,500km[1] per month per truck. The average fuel consumption was 32.5 L/100km, a value a little too high in comparison to other fleets operating in the same sector.

Moreover, it was clear from the fuel records that each truck's consumption presented a variation of up to 20%, for the same route, depending on the driver. Driving behavior was clearly influencing the total fuel being spent.

The solution

ACME's board decided to adopt Frotcom. The following modules were activated, along with the basic Frotcom tracking service:

- **Driving behavior analysis and CANBus data**
  Analysis of the driving behavior from data collected in the vehicle: acceleration, braking, excessive RPMs, excessive idling, etc.

- **Fuel management**
  Calculation of the exact fuel consumption, trip by trip, and the average fuel consumption as L/100km.

- **Route control**
  Assignment of the best routes to vehicles and control of the routes' execution.

The outcomes

The following outcomes were obtained from the use of Frotcom:

- Routes were assigned to vehicles based on the **shortest paths** and on the **closest vehicles available to collect cargo**;

- Vehicles not following pre-assigned routes would trigger an **Out of route alarm**;

- The misuse of vehicles reduced dramatically, since **all trips** shown in Frotcom's maps and tables **needed to be accounted for**;

- **Driving behavior improved rapidly.** The company decided to reward monthly the best 5 drivers based on their driving scores; the 5 drivers with the worst driving behavior in the period met individually with the fleet management, having been shown their performance as registered in Frotcom. They were also asked to attend a short class on how to excel in driving behavior, where its impact on costs and accidents was underlined;

- **Fuel consumption was also followed up on closely** and whenever a higher than expected consumption was detected, reasons for it were researched. Could be a mechanical issue, a driving behavior issue or simply the result of a complicated traffic day or a heavier than usual load.

---

[1] In this document, liters, km and euros are being used. You can easily convert them to your preferred units using sites such as www.convertworld.com

The results

The following results were reached from the previous actions:

- The average mileage was reduced by 2.5%. That's 14,375 km less per month, for the whole fleet.

- The average consumption per vehicle dropped from 32.5 L/100km to 31.0 L/100km. That's a 4.6% reduction.

- Overall, having in consideration that the average price of fuel was 1.25€/L, the company saved more than sixteen thousand euros per month. That's 7% less in fuel costs.

	Before	After
Mileage (km)	575,000	560,625
Avg. fuel consumption (L/100km)	32.5	31.0
Total fuel consumption (L)	186,875	173,794
Total fuel cost (€)	233,594	217,243
Monthly savings		**16,351€** *7.0%*

The total cost of ownership of Frotcom was approximately 25€ per month per vehicle, a total of 1,250€/month. On top of that, the class on driving behavior cost 1,400€/month.

The net savings – deducting already the driving behavior classes – were therefore 13,701€ per month and the ROI was 4.17. Not bad at all...

The savings above are not science fiction. The combination of a decreased mileage and of a better driving behavior typically lead to savings from 7% onwards, depending on the type of activity of the fleet, the total number of vehicles and the use of Frotcom as a real-time tool to manage and control routes and driving behavior.

It is strongly recommended that the Driving behavior analysis module's operation is complemented by actions to encourage good driving behavior and correct poor driving behavior.
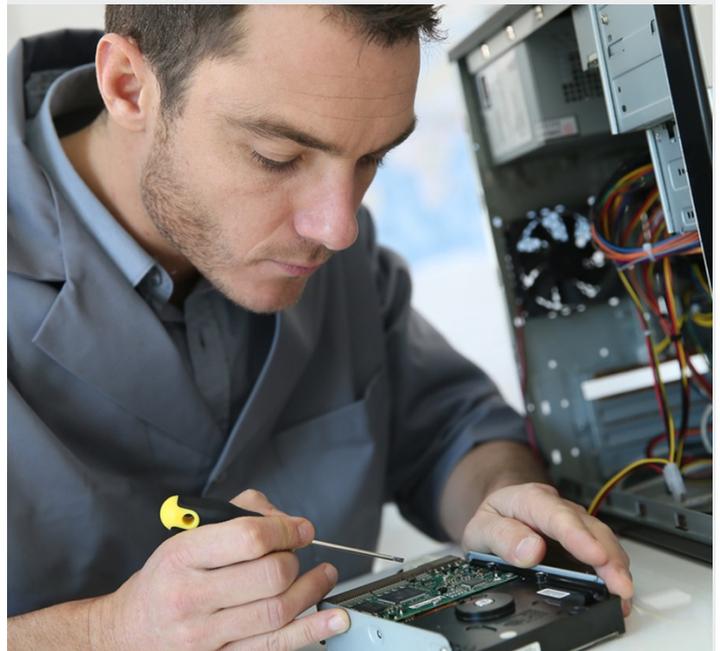
2. Higher productivity

The cost of fuel is always a major concern when it comes to fleet costs. Those are certainly easy to measure.

However, lack of productivity can represent a quite significant cost – or if you prefer, gain reduction. Check the following example.

Introduction

Stark Industries is a PC maintenance business located in Paris. Their field services team is composed of 30 technicians who use a fleet of vans to visit customers when repairs or installations are needed at the customers' premises.

The problem

The company was worried about the response time of their field services. After a customer request, it took quite some time and phone calls from the office to the technicians, to decide which ones would be free next and relatively close to the customer's location.

Because of that, the company was afraid to overbook services, in the absence of true real time information from the field. This resulted in a relatively low productivity at the end of the day.

In fact, although the majority of services started no more than 3 hours after being requested by customers, there was a significant part of the jobs starting with a delay that customers saw as excessive.

Time to start service on site, after request	Percentage
0-3 hrs	58%
3-8 hrs	18%
8-24 hrs	11%
24 + hrs	13%

Moreover, information about the job or its location was not always communicated correctly to the technician. Frequently, the address was incorrect, or the job description was not clear, sometimes resulting in an insufficient set of tools and materials to complete the work. This often meant that the vehicle would need to return to the headquarters before re-heading to the customer, or a different technician to be allocated.

On average, each technician executed 5.15 services per day, for a total of 154.5 services per month. For an 8-hour working day, this meant approximately 1:30 hours per service. The company knew that the average time a technician needed to actually complete a service on the customers' premises was 45 min. This meant that 50% of the available time of technicians was being spent elsewhere: driving, waiting for new jobs and just idling were recognized as main causes.

The solution

The company decided to install Frotcom in the vans. At the same time, the workforce management module was adopted as well, to ensure better communication with the drivers and a better grip on the status of each job.

The following modules were activated, along with the basic Frotcom tracking service:

- **Workforce management**
  Tablet based module in Frotcom allowing the companies to dispatch jobs, follow the job statuses in real time and receive filled in forms after the conclusion of the jobs.

- **Route control**
  Assignment of the best routes to vehicles and control of the routes' execution. Plus, the company started to use the notification messages option, which sent SMS messages to customers a few minutes before the arrival of the assigned vans to their customers.

The outcomes

The following outcomes were obtained:

- Routes were assigned to vehicles based on the **shortest paths** and on the **closest technicians available to perform the job**;

- Vehicles not following pre-assigned routes would trigger an **Out of route alarm**; similarly, jobs taking too long triggered alarms in Frotcom, allowing the management team to check and repair the situation before affecting the following jobs.

- Information started being always sent in written, from the office to the technicians, including customer addresses retrieved from the **CRM** section of Frotcom. The job description included made it easier for technicians to know upfront which tools and materials were needed.

The results

The following results were reached from the previous actions:

- The response time decreased:

Time to start service on site, after request	Percentage	Variation
0-3 hrs	63%	+8,6%
3-8 hrs	24%	+33,3%
8-24 hrs	6%	-45,5%
24 + hrs	7%	-46,2%

- The average number of services per day increased from 5.15 to 5.45 (+5.8%). At the end of the month, that represented 198 services more (considering the 22 working days per month).

- As a consequence, the company's turnover increased. With an average charge of 32.50€ per service, the gain was 6,435€ more per month. The net gain, after deducting extra fuel and other costs incurred with the additional services, was 5,930€ per month.

The total cost of ownership of Frotcom was approximately 30€ per month per vehicle.

The net gain was therefore 5,030€ per month and the ROI was 5.59.

It is worth notice that not only the productivity increased, but customer satisfaction also improved, due to the company's quicker response.

The next example deals specifically with customer satisfaction.

3. Increased customer satisfaction

Customer satisfaction is sometimes seen as something intangible. We usually know when customers are happy or unhappy, but that does not always show immediately in their checks – actually it may, if they're really unhappy!

The following example illustrates one specific case in which Frotcom improved customer satisfaction and it was actually possible to calculate the direct gain from that improvement.

Introduction

Mom Corp is a private company located in Lisbon, providing transportation for children, to and from schools. The company's fleet is composed of 8 minibuses with an approved capacity for transporting 15 children.

The problem

Typical routes imply picking up kids in the morning from their homes, dropping them at school, then picking them up again after school, and drop them back at home or at other designated places such as grandparents' homes or afterschool activities such as sports or performing arts.

Mom Corp had two problems:

First, traffic in Lisbon may be a little unpredictable in the early morning hours. Sometimes it was just not possible to pick up the children at the predefined time, which made them and their parents stressed when the minibus did not arrive on time and there was no information about its estimated time of arrival.

Calling the company did not do any good because the whereabouts of the vehicle were not known in the office. Besides, when parents made the call they would already be unhappy with the service. A better response was needed.

Second, because the exact time of arrival of the minibuses can vary due to traffic constraints, kids and parents would sometimes not be ready at the pickup spot when the minibus arrived.

In order not to compromise the arrival time of the children to school, drivers had orders not to wait for more than one minute unless the vehicle was ahead of time.

Again, this would infuriate some parents who now needed to take the kids to school in the family car and found themselves arriving late at their jobs. This whole situation created a series of unhappy parents who claimed that the service was unpredictable and unreliable.

As a consequence, the company was unable to grow as initially estimated. In fact, it was challenging keeping enough customers to justify the 8 drivers and minibuses.

The average number of rides (one ride is a pickup and a delivery for a child) executed per minibus per day was now 68; the original business plan estimated at least 80.

The full capacity of the minibuses (15) was now far from being used.

In less than 6 months, the company had to lower the average monthly fee charged, from 202€ to 166€, just to keep customers.

The total number of customers was 235.

The solution

The company decided to install Frotcom in the minibuses. Not only would this allow the office to know the whereabouts of vehicles, but drivers could also be warned about traffic conditions.

But most important, other modules were chosen, targeted at creating a direct channel of information to the customers:

- **Route control**
  The company started to use the notification messages option, which automatically sent SMS messages to the parents' and kids' mobile phones 5 minutes before the estimated time of arrival of the minibuses to their corresponding pickup spots.

- **Frotcom app**
  Parents and kids started also to use Frotcom's app for smartphones, which allowed them to know the exact location of their assigned minibuses, in real-time.

The outcomes

The following outcomes were obtained:

- Parents and kids started to know that the minibuses were about to arrive. They had enough time to leave home and head to the pickup spot in time not to miss the bus.

- Whenever minibuses got delayed because of traffic, parents and kids could use the smartphone app to check immediately its whereabouts. No longer was it needed to contact the company's office.

The results

The following results were reached from the previous actions:

- The number of cases in which kids missed the minibus at the pickup point for being late decreased dramatically.

- Not only that, but the tolerance used by drivers to wait for tardy kids became much less needed.

- Customer satisfaction increased. In fact, not only parents were happy with the new system, they started to promote the new technology by showing the smartphone app to other parents.

- As a consequence, the number of customers started to increase. In the following two school years the average number of daily rides per minibus had gone from 68 to 86.

- It was also possible to increase in two consecutive years the average monthly fee almost back to the original values (from 166€ to 195€).

- The company ended up with 40 more customers, for a total of 275 customers.

- Total monthly fees increased from 39,010€ to 53,625€ in the period. For that, 1 new minibus had to be purchased, with an associated total monthly cost of 2,040€ (mostly vehicle depreciation, driver wages and fuel). Hence, the monthly income, after deducting these costs, had increased by 12,575€.

The total cost of ownership of Frotcom was approximately 20€ per month per vehicle (9 vehicles now).

The net gain after deducting the investment in Frotcom and in the new minibus was therefore 12,395€ per month. The ROI was 4.58.

Conclusions

So there you go. Three examples on how Frotcom can generate impressive returns on your investment.

We encourage you to not just take the examples above and create your own scenarios.

In www.frotcom.com you will find many references of customers who adopted Frotcom and benefited from it. Maybe you will recognize some of them as being in the same business sector of your own company?

About the author: Valerio Marques is Co-founder and CEO at Frotcom International, a global provider of vehicle tracking systems for fleet management. Valerio has been working in vehicle tracking for the last 20 years. Frotcom International is a privately held company based in Portugal, providing fleet management solutions for clients around the world. Clients span from small companies with just a couple of vehicles, to cross-border road transportation companies with thousands of vehicles.