KEY FRAUD INDICATORS (KFI): A NEW APPROACH TO SET UP AND USE EFFECTIVE FRAUD INDICATORS

Most companies set up key performance indicators (KPI), but when it comes to fraud, it is more difficult to find indicators that meet their needs and to use them efficiently. Through real examples of key fraud indicators (KFI) building processes, you will learn how to design your own KFI and how to look for significant and effective data. You will also discover innovative approaches that will help you get the best of these indicators in order to detect and prevent fraud.

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Introduction

Key fraud indicators (KFI) are tools that will enable you to detect and investigate any wrongdoing in some part of your business. The indicator by its presence can also help in prevention.

A KFI is not only a financial indicator, and it might have no connection with finance. The way you set up a KFI is very different from the usual methods to set up a KPI because your needs are more complex and challenging.

More than methods and checklists, this presentation intends to let you think and react differently to be able meet these specific requests and conditions.

What Is a Key Fraud Indicator?

What Makes a KFI Different from a KPI?

To set up a KPI, you need to meet several criteria, but you will need to think differently when it comes to KFI, as explained in this chart.

KPI Basic Criteria	Differences with KFI
-A way to reach an **objective** **-Gives way to actions** (you know what to do according to results)	For KFI, it is not different because you have an objective that is to identify fraud, and results will trigger actions such as investigating.
-Made according to **norms** **-**Can be **benchmarked**	Except for really standard measures, you will not work according to norms because you are working on the own and specific weaknesses of your company, and there are no norms to rule it. For the same reason, it would be difficult to try to benchmark it with other companies. Most companies will not share their results because it is not compulsory and when they do, it can be difficult to trust them.

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-Easy to **understand** -No interpretation	Because what you are measuring can be complex and specific, it cannot be understood easily. Sometimes, as new things can erupt, it can be challenged and interpreted in different ways.
-**Accurate** -Made on a **regular** basis	Your indicator does not need to be accurate, as we will see further, mostly because you will be looking for trends rather than exact figures. The results can also evolve as you find new ways to refine your results. Regarding frequency, it will be difficult to define the best frequencies for your indicator as you do not know what you are looking for.

To set up your KFIs, you are alone, but here are some points that will help you.

Why Is Detection So Important?
Detection is all the more relevant that the sooner you find the cases, the lower your impact will be because, as you know, the first small amounts can later turn into bigger frauds. You need to be ready before if takes off.

There are two kinds of KFI that can help you for detection:

- The ones that will identify the direct losses (e.g., asset disappearance, over-invoicing, etc.)
- The ones that will identify the hidden losses (e.g., fraud through embezzlement, bribery, deception, etc.)

If it seems obvious that the latter will be harder to set up because losses are hidden, the difficulties for direct losses indicators can come from the complexity of your processes and the issues to get the right data.

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Do You Need KFI?

This presentation will deal with regular fraud cases that can last and that you could detect in time. To see if you need KFI, you should conduct a fraud risk assessment.

You first need to wonder whether you have the feeling that fraud is part of your business and that at the end of the day there will be a fraud committed in your company. Let's look at what could help you.

Here are the three basic points to address:
- First, you should consider the attractiveness of your business.
- Then, look at your processes and check if they are open (retail) or not.
- Finally, you should review the volume of your transactions and third parties.

If you have one of these points, you should have KFI, taking into account everything that is specific about your firm. If not, you should still have standard controls because there is always something to steal and you should remain vigilant.

You can go further and benchmark with other companies of your industry to see if they had fraud cases and what was at stake. The most difficult part of this process is to assess objectively the attractiveness, as what is obvious for some is not for others.

It is also important to check what is specific about your company policies:
- Do you have complex processes or a light organisation that could create opportunities for fraud?

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- Do you have loopholes in your internal controls because of a strong feeling of risk acceptance?
- Are you working in a complex and changing environment that could help conceal unusual items or variances?
- Is your financial situation so bad or so good that fraud could be concealed because of self-confidence or discouragement?

Now that you are aware of the risks, let's see what issues you will face.

Issues You Will Face

How to Identify Fraud Through the Review of Financial Data?

It is clear that in case of fraud, you might get a loss at the bottom line on your P/L one day. But, you might not notice it because it is not a relevant amount, so you need to go back and look in the different parts of your P/L and B/S for clues. However, looking at your key financial data might not be sufficient to find it. You need to go further and deeper, but also look beyond the financial data and search for operations data that will help you set up your KFI.

What Are the Limits of the Usual Controlling Method?

Checking margin variances and unusual items is often presented as the solution, but it will not be sufficient in most cases because there can be many explanations for margin variances, and most of the time your explanations will not be precise enough. Margin is also not the right option, as it will not reveal all the potential frauds, and you cannot rely on it because what you are looking for is too small. It will be too complicated to look regularly at margin for every client, product, and

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so on. For the same reasons, budget monitoring will not be an option either, except for very significant amounts.

Small Is Beautiful
You should not expect big amounts at first, but look for cumulative amounts on a long run. The main difficulty is to spot these small amounts in the ocean of other amounts. KFI will help to automatize the identification and gathering of the case that will help you assess the impact of the potential fraud.

You might find directly unusual cases, but most of the time, you will detect trends that will help you identify unusual items.

How often are you going to run your KFI? This is one of the biggest difficulties, depending on your period of analysis:
- Short period—Your variances will not be significant or your unusual items not relevant.
- Long period—You can miss something.

You need to adapt the search period to your needs.

The Multiple Sources of Variances and Unusual Items
When you set up your KFI, your results will be affected by the other sources of losses that you encounter, such as mistakes, errors, and performance issues. They will create specific situations and impacts that you can take for granted as fraud, and you will need to identify them to clear your results.

At Brakes, I created a tool that identifies all the sources of losses by causes (e.g., performance, mistakes, and

fraud) and parts of the P/L. This way, we know what to expect in the analysis.

Your first move when you have a result is to share it with management, sometimes because you want to report, but often because you need more time or means to go further and you want to justify your efforts with a figure. You definitely need to prepare for this step.

The Difficulty of Communicating Through Fraud Indicators

You can have two types of reactions:

- An overreaction (What?) that could lead to speed up the file and make mistakes
- No reaction (So what?) because people do not see whether it is bad, you cannot explain it

At this stage, you should remember that in most cases you will not reach a level of zero fraud (e.g., shoplifting). Some managers understand that, and they expect an analysis. You will find some methods at the end of this presentation to help you explain it.

To reach that level, you will need to find the right data, and that is not as easy as you think.

The Lack of Data Issue

The more innovative and bold you are, the fewer data you will find.

This lack of data will come from:

- The fact that the information is not traced.
- The information is not detailed enough.
- The information cannot be linked to other information.

You need to solve these situations or find alternative solutions.

Case Study: The Shrinkage Computation
At first look, the shrinkage computation seems simple, as a direct loss indicator that consists in assessing what is missing through stock adjustments.

But, when products sales/returns processes are complex and some transactions are not traced, it can be difficult. That is why to set up the shrinkage indicator, we have to review all the processes that could disturb the stock adjustments. And for each process, assess the impact and make assumptions when data are not available because they are not traced.

Now, let's look at how to find relevant data.

Looking for Data
Despite the digital miracle and big data solutions, getting access to data can still be difficult.

In terms of data, today everything seems to be easier, as a lot of documents are scanned and stored on what is called *big data*. In theory, you can have access to all the data you want.

When you consider looking for data, you need to take into account a few points. First, it can take time to obtain data through extraction as you are looking for integrity, and sometimes it could incur an extra cost if you need the use of an IT specialist. Then, especially if your specialist is internal, you will need to deal with confidentiality issues and make sure no one can find out what you are doing with the data. Data can also be confidential and sensitive for the company, and their access restrictive. Lastly, you need to

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check that your search is legal because in some countries, such as France, the use and storage of some data need to comply with the law.

The Multiple Sources of Data

In addition to the usual financial data, you should look for other types of data such as HR or operations. The sources of your data can be multiple, as you can look in your own system, but also at your contractors or suppliers and ask them for data. It is useful, especially if you are outsourcing some of your services.

It is important that you be familiar with all the types of data in case you need them, so that the day you will review your needs for KFI you will visualize what is possible. You can set up a data map that will inform you about all the potential data you can get.

Now, regarding data, the real added value should be the way you will use them, and it is important to consider the methods in place in other areas to process this data.

Beyond Data, Look for Work Methods

You should wonder what people in other departments are doing with this data and information, and how they are processing them. It is relevant to directly use or learn from these methods that are not only numerical analysis, but also approaches/visions. To get this information, you should discuss with staff, look into reports, and study books and articles, the main methods that are in place.

Methodology

Define Your Target(s)

You can be going to work on other data than financial ones, but keep in mind your target will be financial items and that should be your starting point.

So, before starting to set up your KFI, you should run a risk assessment and identify the potential targets:

- Turnover
- Costs
- Inventories
- Cash
- Fixed assets
- Others: patent, reputation, value?

Each target could be affected by issues in several processes—you need to identify which processes could be affected and how.

To monitor the targets and processes, we use the tool "Sources of Losses Matrix" that lists the cases where we can suffer a loss grouped into three categories (i.e., performance, mistake, fraud). For each case, we identified the relevant indicator that can help track these variances.

	PERFORMANCE	**MISTAKE**	**FRAUD**
REVENUES	Case	Case	Case
…	Case	Case	Case
COSTS	Case	Case	Case
…	Case	Case	Case

Prepare for a Long Search

Your indicator should be able to give you two kinds of results: trends that should warn you against danger, and unusual items that could lead you to fraud cases.

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You will need to remember that this is a long run search, as you will need to wait for relevant points to act and start the investigation and to try to catch fraudsters red-handed when you feel ready.

To prevent interpretation and litigation, it is essential to be able to identify what is normal and what is unusual to clean your indicator.

KFI will help you identify clues that can lead you to potential fraudsters, but it will take some time to gather all the information. This can be a slow process because you will need to investigate a lot of cases before finding the right ones.

Best Practices
Here are some tips to gain in efficiency.

The most important thing is to work with raw data and not premade reporting. This way, you will have all the data available and you will not have to check on integrity. This will enable you to form your own opinion. The fact that you will have several data will help you make connections between datasets (e.g., date, hour, reference, amount, clients, products, type).

You should select significant data from the start to reduce your scope and simplify your analysis. When possible, you should identify a target list where there could be a risk. For instance, when I set up a review on lapping issues (cash borrowed temporary by cashiers), I identified that it was possible only for some of our clients. The indicator takes into account only these clients. You can also identify a scope through maximum risk and set up a threshold that will define your scope of data to analyse.

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Your indicator should be detailed and documented enough to start investigating and support your results.

Lastly, you should benchmark results inside your own firm between business units. It will help you if you make sure computations are made in the same conditions and that you are able to explain the potential variances.

Play with Data: The Semi-indicator Concept
As mentioned before, in my opinion, KFI should not need to be accurate, and you should dare working with gross results. It will not be accurate because you are using data that are not available or because you are not able to guarantee whether results are unusual, but it will be useful.

Concepts	Description	Example
A–Use of a fixed assumption to provide at least one amount	You have the information, but one of the parameters cannot be traced and you need to assess its value.	You cannot get information about COGS for instance, so you make an assumption based on another amount and a fixed rate.
B–Based on Hypothesis: Give a range of amounts at stake	Information is not traced, but you need it to get an impact. Make reasonable hypothesis and give a range of results.	If you have a range of hypothesis from 1 to 4 for a missing data, you will give a range of results corresponding to the results of the computation.
C–Use of fixed assumptions to select unusual items	You do not know what variance can be unusual, so you make an assumption of what you think is unusual and see how much it represents. This will be a scope for your further tests, but also a base to monitor trends.	You can consider that all the elements in your review with a variance of 20 percent against your landmark are unusual. You will get a list of potential suspects to review and monitor the volume it represents.

How to Communicate with Fraud Indicators?
You should stick to the needs of your audience and talk to high-level and CFOs with KFI linked to financial indicators (e.g., margin, turnover). When it comes to

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field managers, it is better to talk about something familiar, such as volumes (e.g., kg, boxes, litters). You can also use financial amounts mixed with volumes.

One important point on communicating about fraud indicators is that you should not disclose your methods to set up indicators to your audience, because they should not know the details behind the figures. Especially when you train staff on risk assessment, they just need to be aware there is a risk.

Nevertheless, it is relevant to communicate widely about the fact there is an indicator so that people understand it is under control.

A Case Study: The Variable Weight Process
This case study is about a situation you can find in some companies, as explained before. What makes the situation and the KFI specific are the way the situation is managed in my company.

Variable weight products are products such as fish, meat, or cheese that never have the same weight because animals have different sizes or because they are not industrial products, but they are sold under the same reference. The weight difference is not managed in the IS system, and all the units have the same COGS, but when products are sold, they are invoiced according to the weight on the products that is scanned or typed.

It all started with a fraud risk assessment on products when I found out that the system was taking into account the weight and the unit price by kg, but one could type what volume of units he wanted because it was not taken into account to match with the invoice. To sum it up, someone

NOTES

could take away products without any trace because they did not need to be recorded.

The first solution was to set up an indicator that could compare the average weight sold and bought over a long period of time and analyse the variances line by line. The first result was significant, and we had to react quickly to find some reasons for the variances. We found some of them by identifying the unusual items (wrong invoicing), but we also found cases of fraud at suppliers (over-invoicing). We focused on suppliers, and as we could not prove anything in most of the cases, we only warned them about our controls (new scales and black list).

Later, we had a case that changed our minds. We found some staff was illegally selling products to third parties, but we had no impact in the current indicators, such as shrinkage, as nothing was missing. So, we understood it should be the risk I identified before, but the issue was that our indicator was not precise enough to help us see it. We changed the ways to control by putting an indicator for each part of the process (e.g., suppliers, invoicing, etc.) to be able to find where the issue would come from.

Then, when we launched the new KFI, we had another surprise, as a significant figure could not be explained. So, we looked for other reasons to have unusual items and we found that the rate of products with a round weight (5.00 kg) was not consistent, as only 1 percent of the products should be round. So, we developed a new indicator based on this case and we found that some of the staff did not bother reading the label and typed what they assessed as the lowest weight. This is a kind of fraud and we stopped it, but what was important to us was that we could skip this source of unusual items, clear the results, and focus on the real potential cases.

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Then, I had to present the situation and its consequences to management, but they could not understand clearly the impact, as I was talking about average weight and operations data. So, I had to adapt my communication and find a link to a financial value. Finally, as the original indicator was quarterly, we decided it was too long and the frequency should be weekly.

The KFI we now use has several specific features:

❑ It is still based on comparing average weights, but we added another indicator on cogs per kg to meet financial staff request and make communication with them easier.

❑ Each part of the process is monitored by a KFI.

❑ The frequency of the KFI has been raised and adapted to needs (e.g., weekly for sales, monthly for goods in).

❑ To monitor the evolution of potential fraud, we use a semi-indicator, as we do not know for sure when a variance is at risk and the indicator gathers all the transactions where the variance is above 20 percent. We monitor the trends through this and make thorough analysis on the selected items to find new trends.

A New and Simple Approach

Once you have your KFI set up with the right data and you found ways to clean results from other causes than fraud, you can start thinking about analysing it and looking for conclusions. But, as nothing is perfect, this approach can also help determine if there is no other element that should be taken into account to make your indicator more accurate.

As explained before, KFI, like KPI, need comments and interpretation because you cannot communicate on it without a thorough analysis.

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(K)no(w) (on) More Fraud

To understand your results, you need to assess two things:

❑ Understand what is at stake and determine, "How come you missed it?" To do so, you can use the activity-based fraud indicators method (ABFI).

❑ Assess the biggest amount of fraud you think could be possible in this situation and wonder, "How is it possible to reach that level?" This assessment will be made possible through the simulation method.

These methods are simple and inspired by other methods you can find in other areas of the company.

The ABFI approach

The ABFI is inspired by the ABC cost method that will combine financial and operations data to distribute costs to items. Here, we will take one point from this technique and combine our amount with all the data from operations we have, such as time, places, and volumes.

Turned into operations data, it will be easier to review what happened and understand what is at stake.

Here is a simple example based on stock counts in a postcard shop in the Musée du Louvre in Paris. To assess what could have been the impact of shoplifting, the ABFI technique was used. The amount of shrinkage identified through the KFI was first converted to volume, and then time was taken into account to assess how many postcards were stolen every hour. The average volume obtained (154/hour) was too high considering that the shop was too small and under the surveillance of three salespeople. So, we understood what was at stake, and shoplifting was not the only option, so we investigated skimming, but we also found there were issues during the goods in process and we could solve the issue.

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NOTES

It is interesting to note that this method can also help to communicate with field managers because they are more familiar with volumes than values—sometimes they are not aware of the values. That is why at Brakes, we communicate on boxes and pallets with warehouse managers instead of values.

We could also have asked, "Why stealing postcards?" with the simulation method.

Simulation Approach

The simulation method is based on the worst case scenarios (used in risk management and insurance) and aims at assessing what is the highest loss you could get in this situation.

There are two sub methods according to the context:
❑ If you are exploring the potential of a loophole, you will use the **backwards method**.
❑ If you are exploring the potential for assets, you should use the **motivation method**.

They can be combined if the situation needs it or if you need to consider several red flags at the same time.

With the backwards approach, you will assess what you could lose because of risk acceptance and the loopholes it created.

With the motivation approach, we will use marketing survey techniques, but we will extend it to the environment by reviewing not only the needs/demand, but also the means and the environment because you can combine with risk acceptance and check what is easy to steal.

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If you consider products at risk in the food industry, people always think of expensive goods such as meat or seafood, but what they do not know is that milk boxes represent one of the highest amounts of loss. Why? Because there is a need and no one cares about these products and disappearances will not be noticed. The lack of security can be a motivation.

Here is an example of motivation method with an analysis related to shrinkage called the food scale.

Motivation to steal products within the company have been identified and defined in four categories:

❑ Eat on site
❑ Feed family
❑ Treat oneself
❑ Embezzle/resell

Then, through different hypothesises (e.g., rates of fraudsters, frequencies, volume of needs), we assess how much it could represent, determine a danger threshold, and compare it with the actual figures of the KFI to see if the threshold is reached. This way, we can answer the question ("So what ?") because we can assess the severity of the situation.

These methods are meant to help you make your own benchmark and have an opinion on the figures you will get through the KFI.

Conclusion

The Ideal Fraud Indicators
There is no ideal fraud indicator, because you could still miss the point. But, some points are important to take into account in your reflexion:

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- Use a specific, documented, and updated approach adapted to your business and levels of controls.
- Set up not only a simple reporting, but also a detailed tool to support your investigation.
- Create your own benchmark to be able to explain the impacts.
- Reduce the odds of being mistaken and reduce possibilities of interpretation.

Now, you should be ready to set up your KFI and use them efficiently.

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