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Editorial

Executive summaries

Risk management formations – an alternative approach to the 3 lines of defense model

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The "3 lines of defense" (3LOD) model, which should provide a simple and effective methodology for improving risk management by clarifying roles and responsibilities among different members of an organization, has been used by many firms over the years. However, this approach has limitations, as three distinct "lines" do not always enable sufficient clarity, mindsets formed through deployment in one business can be difficult to break when considering another, and simplistic and inaccurate generalizations can be made about those in each line of defense. We propose that the limitations of the 3LOD model could be overcome by the use of risk management formations that can make responsibilities clearer and accountability more precise. The risk management formations approach makes it easier to identify and deal with "red flag" formations that could constrain the effectiveness of risk management systems in organizations. It also enables optimized alignment of risk management activities in organizations – helping firms take risks in a suitably controlled manner that meets the expectations of shareholders, customers and regulators.strong risk culture throughout the firm.

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Risk management formations – an alternative approach to the 3 lines of defense model

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Abstract
Many firms use the "3 lines of defense" (3LOD) model to clarify responsibility for risk management but this approach has limitations, as three distinct "lines" do not always enable sufficient clarity, mindsets formed through deployment in one business can be difficult to break when considering another and simplistic and inaccurate generalizations can be made about those in each LOD. In the complex environment of financial services, there is increasing discontent with the 3LOD model. This article explains a new way of describing risk management responsibility and how it can be used to optimize alignment and address "red flag" formations that can occur.

1. Introduction

Organizations can face significant challenges when trying to clarify responsibility and accountability for the management of risk.

The frequently used 3 lines of defense (3LOD) model has served many firms well in terms of improving the understanding that some people, usually the 2nd and 3rd lines, might be involved in the management of risk without having any direct responsibility for risk, which is typically the responsibility of the 1st line. This would seem to have helped with the development of 2nd line risk functions in financial services and other industries.

However, the 3LOD model has some limitations: three distinct categories (lines) are not always sufficient to enable clarity on responsibilities; mindsets associated with how the 3LOD model is deployed in one business can be difficult to break when considering how it is applied differently in another; simplistic generalizations can be made about those belonging to each line of defense, which can sometimes be unhelpful in firms.

These limitations are part of the reason why after so many years since the start of the financial crisis we still have the situation where responsibility for the management of risk in financial institutions is sometimes unclear. Unclear responsibility impacts the management of risk in many ways, including:

- Inability to provide confident attestations or statements on the effectiveness of risk management, including the controls in place
- Aggregate risk exposures at different organizational levels may not be given proper consideration, resulting in a lack of ability to track against appetite. As a result, actual risk levels may be significantly higher, or lower, than that expected or preferred
- The same individuals having conflicting responsibilities for the management of risk
- Restricted ability to bring about behavioral changes that will over time lead to improved risk culture
- Decisions can be made and actions executed without full use of specialist input and/or senior endorsement
- Lack of action in starting/stopping risk-taking
- Inability to report risks to stakeholders

- Inability to articulate and understand risk management capability development plans. It can be difficult to move the firm forward in relation to improving the management of risk, if responsibilities are unclear

It is easy to understand from these limitations, why improved clarity can be useful for stakeholders.

Alternatives to the 3LOD model typically relate to more lines of defense, i.e., 4 lines of defense or 5 lines of defense, or "the 1.5 line of defense". While being interesting, these alternative models can be subject to similar limitations as the 3LOD.

In an attempt to stimulate thinking on better alternatives, we set out to try and develop an entirely different way of approaching the challenge of clarifying responsibility for risk management.

2. The 3LOD model has its limitations – even in relatively simple organizations
A framework for clarity on roles and responsibilities is of fundamental importance in an increasingly complex and challenging environment. At first glance, the 3LOD model seems very straightforward and easy to understand and implement. However, it appears in practice that the implementation of the model is not uniform or consistent across financial services. Even beyond the refinement necessary to reflect different organizational designs, the basic application of the model is inconsistent. This inconsistency can make it difficult to bring about change and improvements using the existing, familiar terminology alone.

However, change and improvement are still desirable in many firms because there are regulatory and business reasons to clarify roles and responsibilities at the organizational and individual levels.

To demonstrate the problems associated with the current use of the 3LOD approach, we formed a small brainstorming group and considered a football club as a test case. We thought this to be a relatively simple and straightforward type of organization.

Case Study
To start with, we asked ourselves which members of staff will be assigned to which 3LOD layer.

The easiest ones were the players on the pitch – nobody disagreed in our initial brainstorming ... they were "first line." They take the decisions in the game along the lines laid out by the manager and they are responsible for delivering the actions.

We then discussed the position of the manager in the 3LOD model – he is not actually on the pitch but sets the formation prior to the game, ensures players have their objectives, motivates, shouts out orders, adjusts the team tactics during the game, etc. We had a bit more debate about this but eventually concluded that he was probably 1st line too (our rationale was that he would normally take ultimate responsibility for the team's performance and could take significant decisions which directly would affect the on-pitch performance even if he could not physically control it on the pitch himself. Moreover, he is responsible for the "team" and their objectives when playing. He is, after all, the boss and line manager of all the individuals on the pitch).

We thought about the substitutes on the bench and B-team members and thought they would probably be 1st line, even though during any particular A-team game they might not actually be involved directly (unless they were shouting advice from the touchline, in which case they ... we left it there, with a distinct impression that using the 3LOD model in a football club might turn out to be a bit more tricky than we had initially thought).

We then turned our attention to medics and fitness coaches. Would they be 1st line too? Well, they are not on the pitch. Also, they have no direct control over the activities on the pitch or the tasks players are assigned. However, they can influence who gets on to the pitch in the first place as they do play a part in the fitness of the individuals and can give "advice" to the manager on players' fitness and ability to play. This made us start to think about the fitness coach as 2nd line.

Case study continued

Then we realized that they could take decisions about a player's fitness after injury – affecting whether the player is selected. There could even be times when a fitness coach states that "under no circumstances should this player play until his injury has fully repaired." That would be fairly direct involvement. Maybe they could be overruled by the Manager? Is the fitness coach expected to be "independent," or shouldn't his advice be tempered somehow in the light of the value of the player to the team?

Our debate continued. Does the fitness coach have any responsibility for the results on the pitch? Clearly he does on an indirect basis. Does he have any direct control over what happens on the pitch? Well, although our initial reaction was "no," we soon realized that under certain circumstances, "yes." If a player is badly injured in the middle of a game, then the fitness coach might make the call to substitute him rather than run the risk of letting him play on, injured. Does that mean the coach is 1st line then even though it is the manager who decides which substitute to bring on?

Maybe the fitness coach would be what some refer to as line 1.5 … which would mean a break from the 3LOD model. The team felt this was a good example of how responsibilities can become foggy, just like in many other types of organizations.

Throughout this session, there were times when members of the brainstorming team felt they could describe, with confidence, how the 3LOD works in a football team but as time passed, we began to recognize that there were sometimes different, but equally confident, assertions being made. We concluded that strong but inconsistent views of how the 3LOD model would work needed to be reconciled somehow and we found this a challenge.

A football team, just like an insurance company or a bank, consists of people with certain skills, knowledge and talent. The team is formed from the resources that are available to the football club, like the managers, trainers, training facilities and fitness coaches. There are small teams and large teams with different styles and capabilities. For each game, every

Case study continued

player has a purpose or task assigned, just like a department, employee or committee in a financial services business. Every team does have the obligation to field a certain number of players, but can choose the formation in which they play.

Formations are defined or set according to the circumstances, opponents or wishes of the supporters. There are many factors that influence the choice of formation of a football team.

There are also a great number of different formations. They can play an offensive style or a defensive style, which will depend on the club's culture, philosophy and most importantly on the opponent of that day. Playing against Real Madrid is in many ways different than playing against Derby County.

A certain standard formation (independent of the opponent) can also be set by the manager, which means that the team has found an "optimized" way of playing. This all depends on the internal factors in the team and the external factors that impact the team and its organization.

The goal is to set the formation of the team in such a way that an optimal result is achieved. For this to succeed, the coach needs to be able to choose not just from one formation.

We began to realize that even in an organization as simple as a football club, the use of the 3LOD model to clarify responsibilities has its shortcomings. It is perhaps no surprise then that in complex organizational structures like those in many financial services businesses, the 3LOD of defense model has its limitations.

3. A new alternative approach – risk management formations

3.1 Risk management purpose and formations

3.1.1 Purpose and formations from our case study

In setting out to try and develop an entirely different way of approaching the challenge of clarifying responsibility for risk management in financial services, we did think back to the example of our football club case study.

We then thought about whether "purpose" and "formation" could be used as the basis for a better way to describe risk management responsibilities.

3.1.2 Risk management purpose angles

Whatever their strategic objectives, tactical focus and stakeholder priorities, we considered that people serve one or more of the purposes described in ***Figure 1*** when contributing to the management of risk.

We think it could be possible to describe all risk management roles using these five purpose angles. Individuals/teams/committees and boards could possibly use these angles to clarify what they are (are not) intended to do in relation to any particular area of risk in any part of an organization.

The purpose angles are not always mutually exclusive. Different individuals or groups will have different purposes in addressing the same risks.

For effective and efficient risk management in financial services organizations, the optimum combinations and permutations of purposes for different risks need to be formed and we considered that the use of formations could be a good way to do this.

3.1.3 Formations

The 3LOD model describes a formation of individuals and groups with specific purpose but is very rigid in structure and the activities are not always understood on the one hand and sometimes duplicated on the other.

Similar internal factors can be considered in financial services, such as risk culture, people traits, skills and resources available. There are external factors too, like the business cycle, regulatory expectations, customer expectations, market movements, etc. Every factor has a different impact on the company, its organization and the overall effectiveness of its risk management.

When addressing risk management, including the governance and control of an organization, defining the "right" formation is crucial. Roles and responsibilities need to be defined in such a way that everyone knows what their individual purpose is within a broader, cohesive group. Individuals need to be able to deliver on their purpose so constraints need to be considered, such as available resources. The ultimate goal is to achieve a formation, which delivers the required level of control and confidence in an optimized way, at the right point in time.

Holding on to a fixed formation, which is rigid and not well understood or implemented can reduce risk management effectiveness. It can be frustrating for all those involved.

3.2 Risk management formations

Risk management formations can be used to clarify the roles of individuals or groups. The key is to create a collective set of formations that suits the organization.

Different companies will have different formations. Smaller, less complex firms with fewer employees might adopt different formations than larger, more complex ones.

Table 1, shows single and multipurpose formations that could be adopted by individuals or groups in relation to certain aspects of risk. The same individuals or groups may, at the same time, adopt similar or different formations in relation to other areas of risk.

The important thing is that there is clarity on their individual and collective formations in relation to each area of risk.

Being clear on single-purpose formations for certain areas of risk can be useful in ensuring that all the roles are performed by at least one individual or group for each area of risk.

Certain single or dual-purpose (or multipurpose) formations can, however, create challenges.

The expectations of supervisors and other shareholders are often such that certain formations could be deemed to be undesirable or unacceptable. We have highlighted these "red flag formations" in the table.

For example, if someone has responsibility for taking risk (T) but not for keeping score (K), then this is a red flag (or in some cases grey) formation under the model because it suggests an inability to understand the level of aggregate risk being taken. A single T formation might not be acceptable, but a TK formation could be okay.

Another example is an individual with the purpose of taking risk (T) could most likely not also have a purpose of stopping the same risk (S). Although technically not desirable under our model, we think this could exist in practice and an individual could have and believe they have both roles. Hence, in our model, TS is deemed a "red flag" formation because of the lack of clarity on purpose.

Using the formations model, every purpose needs to be assigned in the organization for every area of risk. This means that for every risk there is responsibility for individuals and/or groups to take the risk, help take the risk, stop someone taking the risk (if necessary) and keep score of a certain risk. Additionally, independent review is undertaken but, by definition, the "I" formation cannot be combined with any other … for an individual or group, it only exists in single-purpose "I" formation form. Any other combination would therefore be a "red flag" formation.

"Amber flag" formations exist largely because of the principal of proportionality. In smaller, less complex firms, it may not always be possible to have different individuals performing combined roles that would typically be organized separately in larger, more complex organizations. Given the principal of proportionality, these formations might not always be deemed unacceptable but they are likely to be the subject of more scrutiny from stakeholders to ensure that certain responsibilities are not being missed.

3.2.1 Examples of red flag formations in an investment bank trading environment

3.2.1.1 TK formation example

Part of a trader's day-to-day responsibility is to manage the effect of price movements (market risk) that they are exposed to. As a result, there will typically be a TK formation on a trading desk, so that traders can accurately capture the risk they are exposed to and inform their hedging activity, while also reporting this activity to the functions responsible for policing their risk-taking. At a local level, this could work well.

However, there are other factors to consider for a full evaluation:

- For example, risks that are more subjective, such as reputational risks, may be harder to quantify and not necessarily recorded, resulting in a T formation. For example, a trader may structure a trade that is perfectly hedged so that no risk is recorded from a market risk perspective; however, if the trader takes advantage of various tax loopholes to increase profits on that trade, this may present the bank with a significant reputational risk that is not monitored.
- Another example could be aggregation of risk levels across desks and organizational levels. In other words, a trader might seem to be keeping score but they might only be doing it in relation to their own risks. Unless someone else is keeping score (K) effectively at the aggregate risk level then when looked at in the broader context, there is only a T formation in place (a red flag formation) at that higher aggr egate level. Heads of trading desks often play this role, but the principal still applies further up the organization where the ability to keep score on an aggregate level can be more challenging.

3.2.1.2 TS formation example

On a trading desk in an investment bank, often the first "policing influence" that traders face comes from the head of the trading desk. They will typically have to approve trades that exceed certain thresholds and monitor the risk taken by the desk throughout the day.

However, in some instances a TS (red flag) formation may occur where the head of the trading desk is also responsible for their own trading activity, without anyone else on the desk providing a policing role. This local level red flag formation could be countered by S activity existing at a higher level and exerting a policing influence on the head of the desk, meaning that at a more overarching level, the TS formation does not exist and there is a more acceptable formation in existence (e.g., separate T and separate S formations). However, if it does not exist or is ineffective, then the local TS formation would probably be deemed unacceptable.

3.3 Application of formations to organizations

3.3.1 Scoping and applying formations to the organization

Having an understanding of the formations adopted by different parties facilitates clear articulation of accountability for particular areas of risk.

However, for full clarity, the "area of risk" needs to itself be defined clearly and proper structure is necessary for precise delineation.

This particular subject is not the focus of this paper, but we have included references to it because not all firms have robust mechanisms for enabling specific assessments of risk management effectiveness.

We consider that risk management effectiveness scoping includes consideration of (1) the risk management toolkit (policies, procedures, systems) as applied to (2) specific risks in the underlying business processes and activity by (3) individuals or groups, all underpinned by (4) the cultural environment of the business. Effectiveness assessments can be scoped using combinations of these four dimensions. Application of risk management formations can, therefore, be done using the same approach to pinpointing areas of risk

3.3.2 Groups

Groups of companies can present particular challenges when it comes to responsibility and accountability for the management of risk. This paper does not address these in detail but we include references to them in recognition that most firms will need to take organizational layers and matrices into account when clarifying responsibilities using the formations model.

The example provided earlier in relation to the absence of a TK formation at an aggregate level (even though TK formations were present at a desk level) shows how organizational layers present challenges that need to be addressed.

This can be a complex task and is already addressed by many firms using the 3LOD model. In large and complex groups, those operating at group level in the first LOD often comment that they are in fact operating in the second LOD because they challenge the underlying businesses where many of the risk-taking decisions are made. Whether that is a correct interpretation or not is another matter, but we would suggest that the use of our formations model should also help those firms grappling with the possible ambiguity that the 3LOD model brings.

3.3.3 Dynamic and optimized use of formations

Organizations tend to want to achieve different things at different points in time. It is not unreasonable, therefore, to expect that resource allocation in relation to risk management activity might change over time. It follows then that the formations adopted by individuals and groups within organizations might change from time to time. Clearly, if changes are too frequent then there can be a loss of clarity in relation to accountability because even if the individual or group concerned is clear on what its roles and responsibilities are at any point in time, it can be difficult for others in the organization to keep up — running the risk that they believe someone is still responsible for something when in fact they no longer are, etc.

However, there needs to be some degree of dynamism in order that risk management activity remains cost-effective in relation to the business goals of the organization.

As circumstances change and the organization changes, the risk management formations can change with them. Individuals/ groups can adopt different formations at different points in time but using the formations framework helps ensure clarity, effectiveness and efficiency at any particular point in time. This should, in turn, also help ensure that changes in responsibility are accompanied by appropriate training and necessary supporting resources.

Clearer responsibility is not just helpful in terms of understanding accountability. Clarity of the roles and responsibilities can also help ensure that a process can be designed more effectively in the first place.

3.3.4 How formations influence risk culture

Risk culture underpins the effectiveness of governance because it influences the behavior of individuals and groups – whatever their role. It is a complex and wide ranging topic centered on "the way things are done around here" and representing the apparent collective values and beliefs of employees.

How people react, respond, manage and escalate are keybehavioral factors that contribute to and are influenced by the risk culture of an organization.

Ambiguity in relation to responsibility and accountability means that the anchor points for measuring behaviors, and the effectiveness of overall governance, will not be clear. Although risk culture might improve behaviors in situations where responsibility and accountability is unclear, risk culture is unlikely to be optimized if the responsibility and accountability is unclear in the first place; because the ability to measure behavior against expectations will be limited. Reward mechanisms are examples of mechanisms that in turn may not operate as well as they could.

Consequently, using the formations approach to better articulate responsibility and accountability should assist with optimizing the risk culture of an organization, a topic which is of growing interest across financial institutions.

3.3.5 Responsibilities in operational risk and control assessment processes

Much progress has been made by some firms in relation to clarifying roles and responsibilities for operational risk and control, including where operational risk and control influences exposure to all other risk categories. More advanced firms tend to have assigned responsibilities by process, by risk and by control as well as responsibilities for the operational risk and control framework itself.

Although this is not the focus of this paper, we recognize that progress has been made in this respect. In comparison to our formations model, we consider that such approaches are not designed to enable clear identification of red or amber formations, although we acknowledge that conflicts of interest may be identified and dealt with during control design and/or evaluation of the effectiveness of individual controls.

We, therefore, believe that our formations model is compatible with approaches typically used for the purposes of operational risk and control assessment frameworks.

4. Conclusion

Limitations of the 3LOD model could be overcome by the use of risk management formations that can make responsibilities clearer and accountability more precise. The risk management formations approach makes it easier to identify and deal with "red flag" formations that could constrain the effectiveness of risk management systems in organizations. It also enables optimized alignment of risk management activities in organizations – helping firms take risks in a suitably controlled manner that meets the expectations of shareholders, customers and regulators.

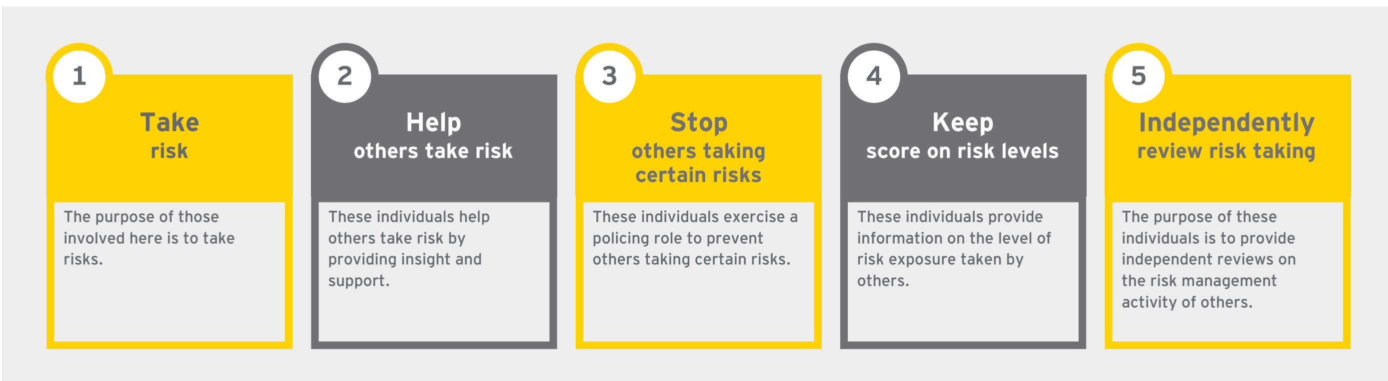
3LOD terminology is so prevalent in financial services that it is unlikely that firms could easily move away from using the terminology in internal and external dialog. However, the use of the risk management formations approach in conjunction with 3LOD terminology should help firms ensure that they can overcome the limitations of 3LOD and provide a platform for better risk-taking.

Appendix

Risk management formations – an alternative approach to the 3 lines of defense model

APPENDIX: Risk management formations – an alternative approach to the 3 lines of defense model

Figure 1: Risk management purpose angles



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APPENDIX: Risk management formations – an alternative approach to the 3 lines of defense model

Table 1: Formation table

Formations	Description	Take	Help	Stop	Keep score	Ind.* (review)
Take	Those using the T formation have responsibility for taking risks effectively. They do not have direct responsibility for reporting/monitoring risk levels.	▶				
Help	H formation does not hold responsibility for taking risk but its purpose is to provide insight and assistance to help others take risk. Those adopting H do not have direct responsibility for reporting/monitoring overall risk levels.		▶			
Stop	Those using the S formation role are there to exert a "policing influence" on the risks taken by others. Their job is primarily to ensure that certain risks and/or levels of risk are not taken by others. They do not have direct responsibility for reporting/monitoring overall risk levels.			▶		
Keep	K has responsibility for ensuring that there is sufficient transparency and reporting of the risks being taken. However, they have no direct responsibility for taking risks or for helping others to take risk. They have no direct responsibility for policing the risk-taking of others.				▶	
Take and keep score	Those using the TK formation have responsibility for taking risks effectively and for ensuring that there is sufficient transparency and reporting of the risks being taken.	▶			▶	
Take and help	The TH formation takes risk and helps in taking the same risks by providing insight and information. It does not make sense for an individual to perform both at the same time in our model because they would be taking risk and helping themselves to take risk simultaneously. In substance, this would be more like the T formation.	▶	▶			
Take, help and stop	The THS formation takes risk and helps in taking a certain risk by providing information and oversight. However, it also stops risk-taking at the same time. It is not desirable for these roles to be performed by an individual at the same time in our model and the T and S combination, in particular, makes this red.	▶	▶	▶		
Take, help, stop and keep score	Those using the THSK formation take risk, help take risk, stop risk-taking and keep score, all at the same time. This is not desirable for an individual in our model and, in particular, the T and S combination makes this red.	▶	▶	▶	▶	
Take, help and keep score	Those using the THK formation take risk, help take risk and keep score. The combination of T and H does not make sense for an individual in our model and in substance this would be more like the TK formation.	▶	▶		▶	
Take and stop	Those using the TS formation take risks and stop taking risks at the same time. It is not desirable for the same individual to have both roles as a primary purpose at the same time. However, in recognition that it might exist in practice (and in our view it needs to be corrected), we have given it a red flag status.	▶		▶		
Take, stop and keep score	TSK formations take and stop risk while keeping score. It is not desirable for the same individual to take and stop risk at the same time. However, in recognition that it might exist, we have given it a red flag status.	▶		▶	▶	
Help and stop	The HS formation helps in assessing and giving insight in certain risks and ensuring that people do not take certain risks.		▶	▶		
Help, stop and keep score	HSK formation does not hold responsibility for taking risk but does have responsibility for helping to take risk, stopping risk and keeping score.		▶	▶	▶	
Help and keep score	HK formation does not hold responsibility for taking risk but its purpose is to provide insight and assistance to help others take risk. HK also has responsibility for ensuring that there is sufficient transparency and reporting of the risks being taken.		▶		▶	
Stop and keep score	Those using the SK formation role are there to exert a "policing influence" on the taking of risks by others. Their job is primarily to ensure that certain risks and/or levels of risk are not taken by others. SK also has responsibility for ensuring that there is sufficient transparency and reporting of the risks being taken.			▶	▶	

Classification: white boxes represent good formation, which means there are no apparent problems and the formation could contribute to effective risk management. Amber boxes, which represent amber flag formations, may be problematic but could be acceptable for proportionality purposes as long as the implications are understood. Red boxes, which represent red flag formations, are likely to be problematic for managing risk because they appear to contain conflicts of interest for individuals. Grey boxes, which represent grey formations, do not have red or amber properties but they also seem to be nonsensical in nature. If applied in practice they would in substance be the same as a different, more straight-forward and easier to understand, formation.

*The inclusion of "I" in combination with any other purpose would automatically make that formation a red flag formation. Note that the role of "quality assurance" within an internal audit department has not been included in this model but would likely be treated as an additional column in this table with conflict potentially arising in the event of a formation which combined "I" with the new column.

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