Introducing Decision Free Solutions© - A Generic, Systemic Approach to Minimize Risk by Avoiding Decision Making

Jorn Verweij
TreeswithCharacter.com
Hilversum, Netherlands

"Decision Free Solutions" (DFS) is a generic, systemic approach to minimize risk in achieving an aim by avoiding decision making. Applying DFS will benefit those who have an aim, and those who have expertise. DFS is based on Information Measurement Theory (IMT) and the Kashiwagi Solution Model (KSM), and is congruous with the Best Value Approach (BVA). Despite BVA being an approach aimed at utilizing expertise (and thereby minimizing risk), and not a procurement system, BVA and its applications are very much intertwined with procurement. This makes it challenging to apply BVA to other fields. Establish a generic, systemic approach to implement the technologies of IMT/KSM in any field. Analyzing existing BVA and IMT/KSM documentation, identify the logic and the principles by which expertise is utilized. Define a generic, systemic approach to minimize risk and demonstrate it by applying it to a field other than procurement. Avoiding all types of decision making was identified as the core principle to ensure the utilization of expertise. An approach consisting out of four steps (labelled DICE) and the consistent application of five principles (labelled TONNNO) has been proposed. The approach has been applied to the field of Lean. A generic and systemic approach to minimize risk by avoiding decision making has been introduced which can be applied in any field. It has been applied in Lean, where it addresses several of Lean's weaknesses as perceived in practice and where it was demonstrated to reduce the risk of project failure. DFS can be considered a risk minimization method to which risk management is integral. DFS makes expertise matter.

Keywords: Decision Free Solutions, DICE, TONNNO, Lean.

Introduction

The concept of Best Value Procurement (BVP) was immediately recognized as the way forward in purchasing complex, innovative medical technology worth several tens of millions of euros. With a group of clever physicists, we were working on a list of about 400 technical requirements for equipment designed to treat cancer using protons. Everybody understood the futility of writing often interdependent requirements for extremely complex equipment that already existed. None of the physicists ever doubted the logic of using BVP as a procurement methodology.

After attending the Best Value Conference, and with the assistance of an A+ certified Best Value (BV) expert, I (the project leader) was able to successfully argue for running a BV-tender to procure the equipment. In preparing for the start of the tender I was asked many questions with respect to the underlying theories of BVP (the team did not doubt the procedure of BVP, but they did want to understand its underlying logic). Many of these questions challenged my actual "understanding" of the procedure. When attending the Best Value Conference a second time my focus had shifted from how to run a BVP process to understanding Information Measurement Theory (IMT) and the Kashiwagi Solution Model (KSM), on which BVP was based.

Getting a better understanding of IMT/KSM concepts (explaining how you identify an expert by observing certain characteristics, why the behavior of individuals and organizations is predictable, why decision making increases risk), its appeal and its application became universal. It was clear that decisions increased risk not just in procurement, but in any field, and thus also in project management. While I tried to avoid decision making by the steering group, one steering group member objected to having had a meeting because "there were no decisions to be made". At another meeting another member perceived a risk that was not there and insisted on making a decision (going against the substantiated choice of the project team) which cost the hospitals a quarter of a million euros. Why did he do that? What had I missed? How could I have prevented that?

Attending the Best Value Conference a third time I was actively looking for the "universal" principles of BVA, which could be applied in any field. From procurement, to project management, to Lean to management, to sales, to how to determine the holiday destination when going on holiday with two families. I did get pointers, but overall I failed to separate BVA from procurement. Both at the conference and in the conference's textbook titled "Best Value Approach" (Kashiwagi, 2016).

But I did take one challenge home with me. Following the documented success of BVP, its wider adaptation resulted in "hybrid" versions of BVP and traditional procurement. These hybrid tenders were often still labelled as BV-tenders. Predictably, many of these hybrid versions strayed too far from the underlying principles of BVP and failed to replicate BVP's success. This was as unfortunate as it was predictable for the buyer's organization. But this non-performance by so-called "BV-tenders" damages the reputation of BVP and could have serious repercussions on the wider proliferation of BVP and BVA. What if there would be a simple checklist, requiring no BVA-expertise, to assess whether a tender actually followed the BVA-principles?

In working on a Best Value Quality checklist, (Verweij, 2016) I developed the approach of Decision Free Solutions (DFS) as introduced here. This article takes BVA as its starting point. This is a logical place to start, but may also considered to be a weakness. To a large extent this introduction assumes a familiarity with BVA. What is missing is an analysis of how Decision Free Solutions, or an application like "Decision Free Management", compares to existing decision making or management philosophies. Which is, perhaps, to say that this is only an introduction. For the same reason a discussion is also not provided.

As DFS follows from IMT/KSM, it is fully congruous with BVA. It provides a generic, systemic approach to minimize risk in achieving an aim by avoiding all types of decision making. In this article, to demonstrate it is indeed a generic approach, it has been applied to Lean. I have chosen Lean as there are some obvious parallels with the BVA-approach (utilization of expertise), and because I am, by training and by observation, familiar with both its strengths and its weaknesses. Weaknesses that the approach of DFS addresses. I have also applied DFS to "birthing" (avoiding decision making to empower the expectant mother to achiever her personal birthing aim), which can be found elsewhere (see Verweij, 2016a).

Problem

The technologies of IMT/KSM can be applied in each and every field. The Best Value Approach applied the technology first in procurement in the construction industry. While BVA is not exclusively a procurement system, BVA is still very much linked to procurement, both in the used definitions and terminology in the founder's text books. This association, combined with the absence of a generic approach as to how to apply the technologies of IMT/KSM in other fields, is perceived to be a hindrance to the further proliferation of BVA and its application in other fields.

Proposed Solution

Analyze BVA to find the underlying principles by which decision making and management, direction and control (MDC) is replaced with the utilization of expertise. Based on these principles develop a generic and systematic approach to minimize risk by utilizing expertise in any field. Demonstrate the generic and systematic nature of the approach by applying it to a field other than procurement.

An Analysis of BVA

The Best Value Approach is based on IMT and KSM, first published in 1991 by Dr. Dean Kashiwagi, and documented in annually updated textbooks (Kashiwagi, 2016; Kashiwagi, 2016a). The analysis is performed on these textbooks.

BVA Replaces Decision Making, MDC, and Thinking

The Best Value Approach "replaces the owner/buyer's decision making and management, direction and control (MDC) with the utilization of expertise" (p.1-1, Kashiwagi, 2016). In this definition "thinking" is not included as something that needs to be replaced, but it is often mentioned in conjunction with decision making (e.g. on the topic of metrics, stating that it "[stops] the non-experts from getting involved in thinking, decision making, and attempting to direct and control experts", and one of the main objectives of the PIPS process is to "minimize decision making, thinking, and participation of all parties"). A critical function of BVA is to also minimize the non-expert's "thinking" by better utilizing expertise.

Decisions, Manifestations of Decision Making, and Types of Decision Making

A purpose of IMT is to "minimize subjective decision-making through the use of dominant information" (p.2-2, Kashiwagi, 2016a). In IMT the term "decision" is not explicitly defined. Referring to "what is more commonly known as decision making" it defines "decision making" as: "when an individual uses personal experience rather than accurate information to draw conclusions, […] applying their personal, subjective bias which is incomplete and limited" (p.2-1, Kashiwagi, 2016a). A "decision maker" is defined as "an individual who does not have enough information to identify or predict the future outcome" (p.3-2, Kashiwagi, 2016a).

The term “decision” is pivotal in both IMT and BVA. Within BVA a decision is associated with risk, unlike in almost any other approach or management philosophy. For this reason, it is felt that a clear definition of the term “decision” is required in establishing a generic and systemic approach centered on replacing “decision making”.

The Oxford Dictionary definition of “decision” is “a conclusion or resolution reached after consideration”, and the definition of “choice” is “an act of choosing between two or more possibilities”. A decision may thus be regarded to be a choice, as, after consideration, the one or the other may be concluded (yes or no, act or not act, option one or option two, etc. etc.).

The word of interest in the definition of “decision” is “consideration”. Libraries have been written about what, when, how and by who “to consider” in making decisions. Again from the Oxford Dictionary, the definition of “consider” is to “think carefully about (something), typically before making a decision”. Consideration directly implies that ‘something” is not transparent. When it would be transparent, no decision would have to be made. Then, instead of having to conclude or resolve, one would merely have to “approve”, “acknowledge”, or “give the go ahead”.

When something is “not transparent”, then by definition it is “not transparent” to the non-expert. As a result the non-expert needs to think. When the non-expert then comes to a “conclusion or resolution”, in absence of transparency, risk is introduced. The risk is that the choice made by the non-expert may not contribute to achieving an aim a person, a project, or an organization is set out to achieve. Because of a lack of transparency, the conclusion reached after consideration cannot be substantiated to contribute to achieving an aim.

From this follows that a “decision” may be defined as “a choice not substantiated to contribute to achieving the aim”.

Providing this definition carries consequences. According to this definition there can be no such thing as a decision when there is no aim. A choice that does not have to be substantiated to contribute to anything (as there is no aim) remains simply a choice. The aim comes before the decision.

Furthermore, all that which is to replace by the utilization of expertise (decision making, MDC and thinking by the non-expert) cannot be substantiated to contribute to achieving the aim. Decision making (unsubstantiated choices), MDC and thinking can thus be regarded to be different manifestations of “decision making”.

Following the definition of “decision” as proposed here, three different types of decision making can be identified: “decision making” itself (i.e. an unsubstantiated choice), “decision making from the past” (e.g. protocols) and “a precursor to decision making” (i.e. thinking).

The most easily recognized form of decision making is a non-expert making a choice which is not substantiated to contribute to achieving an aim. When a non-expert applies MDC, it restricts the expert in utilizing its expertise fully. When the expert is told to follow “company policy” or

existing protocols, these can be characterized as "decisions made in the past" as the aim the expert is to achieve was not considered when the policy or protocols were drafted.

Thinking, when done by the non-expert, can be characterized as a precursor to decision making. Experts eliminate decision making for all parties by making things simple to understand, and assisting others to "see into the future" by using "dominant information" (defined as "information [that] can be understood by almost everyone due to its simplicity and it does not require technical detailed knowledge that only a few may possess" (p.2-1, Kashiwagi, 2016a). The expert is to make it as simple as is required to prevent non-experts from thinking.

In support of defining "thinking" as a precursor to decision making two natural laws are to be considered: humans are predisposed to think in terms of causality (cause and effect), and humans are social animals who are both highly perceptible of and interested in their place in social hierarchy. In other words, humans will start to "think" in response to an observed effect when the cause is not fully understood, and humans are acutely aware of who is "entitled" to make the decisions. KSM recognizes that different people have different capacities in perceiving information, and from this follows that their thinking will automatically result in different outcomes (with every individual perceiving to her/his capacity). As humans tend to operate in hierarchical structures, where it is generally well-established who is entitled to make a decision, decision making will be swift. When the non-expert starts to think it leads to more decisions.

Decisions, Manifestations of Decision Making, and Types of Decision Making

Experts do not need to make decisions. KSM defines an "expert" as "someone who perceives all initial conditions and natural laws" and thus "knows there is only one outcome [and there] will be no decision making" (p.4-4, Kashiwagi, 2016a). In other words, an expert makes no decisions (only non-experts do).

BVA recognizes that the expert makes no decisions, and that it is also the responsibility of the expert to avoid the non-expert from decision making (often in the form of MDC) in achieving the aim. Decision making by the expert is often the result of emotional discomfort when something remains unclear. The expert is to be transparent in communicating its expertise to the non-expert (to be identified as the expert). The expert is to be transparent in explaining how the aim will be achieved (making a plan). The expert is also to be transparent in communicating the status of the plan during "plan execution".

It is easy to observe an expert; the expert-in-achieving-the-aim is to be identified

From IMT/KSM it follows that in order to become an expert one has to be able to accurately perceive information. The more information is perceived, and the quicker it is processed, the higher the rate of change, resulting in a still higher perception of information. Different people (and organizations) have varying abilities to perceive information and different processing speeds. While these abilities are difficult to measure, IMT states that all characteristics (of a person or organization) are relative and somehow related to the capacity (of a person or organization) to perceive, process, and apply information.

In KSM, the IMT concepts are used to show the relationship between different characteristics, many of which are easy to observe. For example, an organization that is late in replying, is inefficient, uses many resources, relies on contracts, has many management layers, and thinks in win-lose, such an organization will make many decisions. This means that simply by observing a person's or an organization's characteristics it is possible to identify whether they are an expert (i.e. capable of avoiding decision making).

Whether an individual or an organization is an expert (highly capable of perceiving and processing information) is relatively easy to observe.

The task at hand in order to minimize risk is to identify the expert who is the expert-at-achieving-the-aim.

Analysis of BVA

Summarizing the analysis of BVA above:

1. "Decision making", "MDC" and "thinking" are different manifestations of the decision process.
2. Decisions are choices not substantiated to contribute to achieving an aim.
3. Experts avoid making decisions and have a responsibility to avoid non-experts from making decisions.
4. To become an expert, one has to be able to perceive information and to process this information.
5. Experts share characteristics linked to the ability to perceive information, many of which are easy to observe.
6. To achieve an aim against minimal risk (i.e. by avoiding all types of decision making), the expert capable of achieving an aim should be identified.

In studying BVA and IMT/KSM the following observations were made:

1. While BVA is an approach and not a procurement system, the annually updated textbook on BVA (Kashiwagi, 2016), does not clearly make this distinction. The first chapter, "The Best Value Approach", is entirely focused on procurement. The definition of the Best Value Approach in fact includes the terms "owner/buyer" and "vendor". In practice the term BVA is often believed to be synonymous with a procurement system, and often even "misused" to the extent that it used as a label for tenders which do not follow the IMT/KSM principles upon which BVA's application in procurement is based. As a result, it has become practically impossible to disassociate BVA from procurement in practice.
2. In absence of a generic approach, the application of IMT/KSM principles to other fields become singular exercises with little to no distinguishable parallels. In other fields in which BVA is applied, notably risk management and project management, the terminology used is still from procurement (e.g. referring to "vendors"), embedding them within this field (Kashiwagi, 2016; Rivera, 2016).
3. The aim as defined by its owner (the "non-expert"), is used to identify the expert-in-achieving-the-aim, and the aim is what the identified expert will set out to achieve. This

makes the aim, arguably, the single most important element determining ultimate success in the eyes of the non-expert. From this follows that it is pivotal that the aim is unambiguous, understood the same by expert and non-expert alike, and that the "initial conditions" affecting the achieving of the aim are identified. Within BVA's current written documentation, however, the definition of the owner's aim is not prominently identified as a crucial step. It is stated that the owner is to identify what they "think" they are looking for (p.5-3 and 5-5, Kashiwagi, 2016), and when, in chapter 12, the "requirement statement" is introduced, it provides only a descriptive explanation (p.12-5, Kashiwagi, 2016).

4. Risk is minimized if: the initial conditions are known, the aim is unambiguous, the expert-in-achieving-the-aim is identified, and the conditions are in place to maximally utilize the expert's expertise in achieving the aim. In BVA there is no role defined with the overarching responsibility of ensuring all of these conditions are fulfilled. Within the Best Value Approach, a "logical, visionary project manager" (p.1-5 and 12-3, Kashiwagi, 2016) would fit this role, but no responsibilities for such a role have hitherto been defined.

Constructing Decision Free Solutions

From the analysis follows that in order to utilize expertise all types of decision making have to be avoided. For this reason, and in recognition of the fact that humans are demonstrably bad at decision making because of behavioral biases (Kahneman, 2011), the approach has been called "Decision Free Solutions".

Decision Free Solutions (DFS) is based on IMT/KSM and congruous with BVA. As DFS addresses the observations as described in the previous sections, and as it approach is systematic, DFS is still more rigorous in avoiding decision making than BVA.

Experts avoid decision making, for themselves and for non-experts. By avoiding all types of decision making the risk that the aim will not be achieved is minimized. DFS, like BVA, can thus be regarded to be a risk *minimization* method.

DFS, as it is described below, is a generic, systemic approach to avoid all types of decision making. The approach identifies four steps (DICE: Definition, Identification, Clarification, Execution), the need for the consistent application of five principles (TONNNO: Transparency, Objectivity, No details, No requirements, No relationship), and the role of a "Decision Free Leader" who is to ensure that decision making is avoided during all steps and at all times.

DICE: the Four Steps of DFS

Decision Free Solutions identifies four steps: Definition, Identification, Clarification and Execution.

The logic of DFS is that if there is "something" the "non-expert" needs to have accomplished, the "expert in something" will do so with minimal risk. As the expert will achieve "something"

(and not “something else”), it shall be ensured that “something” is clear and understood the same by all stakeholders (Definition). For the non-expert to be able to identify the “expert in something”, the expert has to demonstrate his expertise in a way that is totally transparent and easy to understand by the non-expert (Identification). Once the non-expert has identified the expert, the expert will make a “plan-from-beginning-to-end” and explain to the non-expert how “something” will be achieved (Clarification). Finally, in executing the plan, the expert keeps the non-expert up to speed with respect to any changes to the plan-from-beginning-to-end, and whether or how this affects accomplishing “something” (Execution).

The four steps are briefly described below.

Definition

The definition step is the step which defines the aim. This is the single most important step: the expert will be identified based on the aim, and the aim is what the identified expert will achieve. The following observations can be made in regards to defining the aim:

- DFS is labelled a “systemic” approach as it follows the same four steps (DICE) in every application. Furthermore, it stresses the importance of defining the aim within the “system” in which the aim is to be achieved. The “initial conditions” shall be as clearly “mapped” as possible, as to allow the expert to make the better plan to achieve the aim. Depending on the field of application this may include access to technologies, services and finance, existing policies, the legal and political situation and the environment, dynamics of the market, available expertise within the organization, how the aim relates to the system’s vision, mission and or strategy, its dependency on the availability of key-personnel or current priorities, and etc.
- In defining the aim, the non-expert may already inquire with prospective-experts (e.g. in a market consultation). Observing the characteristics of these prospective-experts during the inquiry process will yield valuable information towards positively identifying a prospective-expert as an expert. Whether and to what extent an expert is also an expert-in-achieving-the-aim is assessed in the Identification step.
- The aim may be accompanied by functional requirements reflecting the available expertise of the non-expert (part of the “system”), but is to avoid the inclusion of requirements or details which merely restrict the use of the expert’s expertise.
- For an expert to be able to substantiate his expertise in achieving the aim, the aim shall be unambiguous (transparent and objectifiable (measurable)) and understood in the same way by both expert and non-expert.
- The aim is always “owned” by the non-expert. Experts may provide insight on defining the aim, but the non-expert remains responsible for the final definition.
- When the aim contains several elements to be achieved, the non-expert is to prioritize these elements, as the expert is to demonstrate his expertise in relation to the most important elements of the aim.
- The aim is not to be confused with deliverables, as these are to be defined by the expert (in the Clarification step).

Identification

In the Identification step, the non-expert is to identify the expert who is best able to achieve the aim. The expert is to demonstrate the availability and relevance of his expertise in making substantiated claims in support of achieving the aim. The substantiations shall be easy to understand by the non-expert to avoid the non-expert from having to think. The expert does so through the use of "dominant information" (e.g. metrics).

The expert can demonstrate his expertise by listing relevant performances, identifying risks and risk mitigation measures, and identifying opportunities pertaining to the aim.

It is emphasized that in this step the expert is identified, and not how (the method by which) the aim is to be achieved.

Clarification

In the Clarification step the identified expert will explain how (with which tools, scope, activities, performances etc.) he will achieve the aim. The expert will define concrete goals or targets, and make it transparent to the non-expert how these will result in achieving the aim. Typically, the expert makes a milestone plan, a plan from-beginning-to-end, and a risk management plan detailing the risks in achieving the aim, and how these risks will be mitigated. Only when it is absolutely clear to the non-expert how the expert will achieve the aim will the expert be allowed to execute the plan.

Execution

In the Execution step the expert executes the plan. To avoid decision making by the non-expert (e.g. in the form of MDC), the expert keeps the non-expert informed on the status of plan-execution by periodically reporting on any deviations to the plan and or risk mitigation plan which might affect the achieving of the aim. When there are no deviations to any of the plans, then this is reported also. The frequency of reporting (and the information provided when reporting on deviations) shall be such that decision making is avoided.

TONNNO: the five principles of DFS

Decision Free Solutions is an approach to minimize risk by avoiding all types of decision making in achieving an aim. Decisions are made by non-experts. To avoid decision making thus:

1. An expert must be identified who is able to achieve the aim.
2. The identified expert must avoid decision making by the non-expert.

Five principles are proposed which are to be observed at all times in order to avoid decision making. These principles, within DFS collectively labelled as TONNNO, are:

- Transparency
- Objectivity

- No details
- No requirements
- No relationship

Ad i: Identification of the expert

One important principle in maximizing the likelihood that an expert will be identified, is by not excluding potential experts by pre-selection based on some form of relationships. For example: project team members selected based on availability within the organization, physicians always referring patients to the nearby hospital, vendors selected based on existing purchasing history. In all these instances choices are made based on an existing relationship and not substantiated to contribute to achieving the aim (principle: no relationship).

As experts are to be identified in relation to the aim, the aim shall not exclude experts by containing decisions made by the non-expert. Aims shall not include requirements or details which restrict the use of the expert's expertise. When the non-expert includes requirements and details the expert best suited to achieve the ultimate aim may not be identified (principles: no requirements, no details).
As the aim is used to identify the expert the aim shall be unambiguous. The aim is to be transparent, and it shall be possible to determine when the aim has been achieved (principles: transparency, objectivity).

Ad ii: Avoiding decision-making by the non-expert

All manifestations of decision making by the non-expert need to be avoided: decision making, MDC, and thinking.

The expert may avoid decision making by the non-expert by inquiring after substantiations that the choice the non-expert is suggesting contributes to achieving the aim (principle: transparency).

Frequently MDC is, in part, a result of a lack of transparency by the expert. The expert is to first try to avoid the non-expert from using MDC. When it does occur, it can come in the form of decisions by the non-expert (telling the expert what to do), or in the form of insisting on the expert to abide by policies or protocols. The expert is to make transparent when, and to what extent, imposed requirements restrict the utilization of the expert's expertise (principles: transparency, no requirements).

It is the expert's responsibility to prevent the non-expert from starting to think. When the expert uses details and or technical language instead of dominant information, or when it remains unclear whether an aim will be achieved, the non-expert will start to think (principles: transparency, objectivity, no details).

Unavoidable Decisions

A decision is a choice not substantiated to contribute to achieving the aim. Each decision thus entails a risk. When a decision cannot be avoided, the associated risk is to be mitigated. Identifying risks and providing mitigation measures are the responsibility of the expert. DFS, like BVA, can be considered to be a risk minimization method to which risk management is integral. Describing risks and how they will be managed is integral to making transparent how the aim will be achieved.

There can be many causes why decisions cannot be avoided. Decisions will be made when the aim is not clear, when no expert can be found or a specific expertise is not available, when not all relevant conditions are known and assumptions need to be made, when external developments have an impact on the process, when existing policies and protocols cannot be changed, and etc.

When it comes to risk management three types of risk can be identified: internal risk, external risk, and assumptions.

Internal risks are the risks the expert has when executing his expertise. These internal risks, within the control of the expert, do not concern the non-expert.

External risks are risks that lie outside of the control of the expert. The expert is best positioned to both identify, estimate the impact of, and mitigate these risks. Even though the expert is to actively mitigate these risks, he can never totally rule them out as they are outside of his control.

Assumptions are substantiated choices made by the expert in absence of conclusive information. Assumptions are made when the required expertise, or the required information to substantiate the choice, is not available (or simply does not exist, i.e. long term weather forecast). Each assumption made carries a risk.

In the Clarification step the identified expert does the following:

1. The expert identifies all assumptions made and identifies all the external risks in achieving the aim.
2. The expert determines the impact of the external risk occurring, or the assumption to be false, on achieving the aim.
3. The expert defines the corresponding mitigation measures.
4. The expert substantiates, wherever possible, the effectiveness of the mitigation measures.

In the Execution step the expert executes the mitigation measures and identifies any new external risks or assumptions to be made (each time stepping through the points 2 to 4 above).

Responsibilities of the Decision-Free Leader

The role of the Decision Free Leader (the DFL-role) is introduced to ensure that decision making is avoided in all the four steps of DICE. Risk is minimized if all the conditions are in place to

identify the expert who will achieve an unambiguous aim, and to ensure the expert can fully utilize his expertise. The perceived challenges are:

- The non-expert may not be aware of all of the conditions which may impact achieving the aim, while many of these initial conditions may not be directly accessible to the expert (which may result in failing to identify the right expert, or the expert not being able to take certain risks into account).
- The non-expert, the eventual non-expert's stakeholders, and the expert may not understand the aim in the same way, and this may go unnoticed until the expert has "achieved" the aim.
- The person(s) responsible for the identification of the expert may not be able to identify (and avoid) the various types of decision making.
- The identified expert may not succeed in preventing the non-expert from thinking in explaining the plan.
- The identified expert may not transparently communicate the status of the plan and or deviations to the plan during plan-execution.

The responsibilities of the DFL-role can be listed per DICE-step:

Definition

- Identify as many "initial conditions" as possible (especially those pertaining to the "system" to which the expert might not have access).
- Ensure the aim is unambiguous and understood the same by all involved.

Identification

- Ensure all types of decision making are avoided in identifying the expert to achieve the aim.

Clarification

- Ensure all types of decision making are avoided in the expert explaining the plan and how progress will be communicated.

Execution

- Ensure the expert frequently and periodically communicates the status of the plan, deviations to the plan, and how the deviations are going to be resolved.
- Ensure the non-expert does not make decisions.

Having defined the DFL-role it shall be clear that these responsibilities can be taken on by an existing role in a particular field, such as e.g. the role of project leader, or procurement officer. The pre-requisite is that they are they able to avoid all types of decision making. In practice, as is the case for the Best Value Approach, assistance of "Decision Free experts" may be essential.

The A+-certified Best Value experts will come closest to providing this expertise as they have been trained in applying IMT/KSM.

Decision Free Lean

To demonstrate that the approach of DFS is both generic and systemic it has been applied in a field other than procurement. Here DFS has been applied to the system's approach of "Lean" (Womack, 2003), resulting in the methodology of Decision Free Lean (DF Lean). This methodology has been applied (in part) in practice.

The application of DFS in the field of Lean is of interest because both DFS and Lean are systemic approaches, BVA and Lean are both sometimes presumed to be similar or complementary approaches (Fiksinski, 2014), and, as will be demonstrated, Lean has several weaknesses which the methodology of DF Lean addresses.

Analogies and Differences between Lean and DFS

Lean and DFS are both systemic approaches but they do not compete with each other as they each have their own conceptual focus: "maximizing value to the customer" and "avoiding decision making". There are, however, striking analogies to be made as both approaches hinge on the perception of available information and the success of each approach is defined by how well value, or aims, are defined and understood. Furthermore, a Lean expert and a DFS expert are cast from the same mold. In Table 1 Lean and DFS are compared on various aspects.

Table 1

Comparing Lean and DFS on various aspects

	Lean	**DFS**	**Comment**
Paradigm shift	Considers the entire system, involves everybody	Considers the entire system, involves everybody	IMT/KSM explicitly recognizes that not everybody is able to "grasp" the paradigm shift
Starting point	Value to the customer	Aims	Needs to be defined in a non-ambiguous way to result in the desired (best outcome)
Achieves	Removal of muda, muri, and mura while delivering value to the customer	Aims against minimal risk	Focus is on value/aims. When these are poorly understood / defined the outcome will be equally poor
Decision Making	Generally reduced (e.g. 5 Why's, Gemba, Six Sigma, etc.)	Avoided	DFS rigorously enforces the identification of the expert and provides the conditions for the expert to fully exploit his expertise
The expert	The Lean expert is not the one with the right answers but the one with the right questions	The DFL-role recognizes all forms of decision making and applies the TONNNO-principles at all times	From IMT/KSM follows that it takes the same skill of perceiving initial conditions to become a Lean or DFS expert

Weaknesses of Lean

There is a vast amount of literature describing Lean. Among these many sources, the weaknesses of Lean are often discussed, but the author has not found research that effectively mitigates these weaknesses. The most significant weaknesses can be described as the following:

- Lean takes into account the entire "system" on the premise that optimizing the individual parts does not (logically) lead to optimizing the whole. But in practice the "system" is defined in a somewhat narrow sense, and often fails to take the broader system's dynamics into account. A frequently recognized risk is that Lean is somewhat blind to innovation coming from outside of the system it considers, and thus the impact this may have on the processes it is targeting for optimization.
- While many Lean tools are data driven, and thus minimize decision making, Lean does not clearly identify that decision making is a source of risk. This includes any decisions made in the process from the definition of Value to defining concrete goals to be achieved.
- As implementing Lean will modify an existing process, Lean may encounter resistance from the people in this process when either the selection of their process, or the proposed changes to it, are not transparently substantiated. As long as some ambiguity remains as to how or why, resistance to Lean can be strong and also hamper implementation of proposed changes.
- Lean recognizes the critical importance of involving process-expertise in identifying and resolving the many different sources of "waste", but it does not provide any guidance how to select and positively identify the people who are the experts in doing so.

How DFS addresses Lean's weaknesses

DFS enhances Lean's performances by:

- Emphasizing the importance of obtaining a broader view of the (dynamics of the) "system" within which the processes live.
- Removing any ambiguity in the definition of "value" (Lean's equivalent of the aim).
- Avoiding decision making in the selection of the process(es) to be optimized.
- Ensuring the right experts are identified to work towards increasing value and identifying the waste to be removed.
- Avoiding decision making in determining the goals to be achieved.
- Having a transparent plan-from-beginning-to-end approved by the "owner" prior to start of implementation.
- Ensuring the experts can maximally utilize their expertise executing the plan.

The Ten Steps of DF Lean

Applying the approach of DFS to Lean results in the methodology of DF Lean. In DF Lean ten individual steps are identified, distributed over the four steps of DICE (see Table 2).

Table 2

The ten steps of DF Lean across the four steps of DICE

DICE	Step	Description
D	1	Define the System (the environment in which the processes live) and the overarching Value the organization unit (to which the process(es) belong) is to deliver
D	2	Determine the process(es) to be considered for optimization in relation to the element of the overarching Value targeted for optimization
I	3	Identify the process' experts in relation to optimizing the element of the overarching Value targeted for optimization, and include them in the project team
C	4	The project team defines the Value of the process(es) to be optimized
C	5	The project team maps the Value Stream and benchmarks it
C	6	The project team defines concrete goals to achieve the aim of optimizing the element of the overarching Value by improving the Value of the selected process(es)
C	7	The project teams make a detailed plan with milestones and a risk management plan, and makes it transparent to the project owner the aim will be achieved
E	8	Following approval by the project owner the project team executes the plan and reports any reports any deviations to the plan and or risk management plan
E	9	The project team continuously monitors the System to detect and identify any changes in Value
E	10	After implementing changes the project team measures the process(es)' performance and compares against benchmark to ensure the goals have been reached

DFS in practice: reducing lead time at a pathology department (DF Lean)

In this section, the project and the implementation and results of DF Lean's step 1 and 2 (Definition) is described.

Background

Trees with Character was contracted by the Netherlands Cancer Institute/AVL (Amsterdam, the Netherlands) to be the project leader of the "Lead time Pathology" project (one of several projects part of the hospital's "Healthcare Logistics Program"). The program requires the project owner to define project goals up front to assess whether the project is aligned with the program's ambition of improving several logistical aspects in healthcare.

The project owner of the "Lead time Pathology" project was the operational manager of the department of pathology. The pathology department itself consists out of various laboratories and a number of specialized pathologists to make a diagnosis (yes/no cancer, type of cancer) based on the analysis of a patient's tissue (histology) or cells (cytology). The "customers" are predominantly the hospital's medical specialists. An important element in the process is the dependence, in some cases, on receiving the patient's sample from the hospital that referred the patient to the Netherlands Cancer Institute/AVL - these type of investigations are called "revisions".

Defined project goals

The project owner stated what the current lead times were (no source provided), and defined the goals to be a lead time improvement of 20% for "regular" histology procedures and improvements of up to 50% in the lead time for revisions. It was assumed that any improvement

in the lead time, from requesting to making the diagnosis, will have a positive effect on i) how the quality of the department is perceived by the medical specialists, and ii) patient treatment outcome.

Situation as found in the department

The department had no definition of the services it was providing or supposed to provide (no "value" defined). The department has registered time-stamps of all process steps from receiving the sample to filing the pathologists report in a database since 2007. This database was not used to assess performances. In introducing the project to the people working in the labs they were skeptical about yet another "Lean" effort. The pathologists saw the project as a threat, feeling already pressured by their workload not no seeing room for improvement over and beyond perhaps 5%.

Explaining the DF Lean approach

As there was no substantiation provided for the project goals, and as it was unclear whether achieving these goals would in fact increase the "value" the department provided to the medical specialists in the hospital, the project's goals had to be redefined from scratch. In this process, all decisions were going to be avoided in order to eliminate resistance from within the department. The Trees with Character's project leader would assume the responsibilities of the Decision Free Leader-role. The activities to be undertaken by Trees with Character were the following:

- Describe the environment and its dynamics surrounding the pathology department (the system).
- Define the overarching Value of the department (to be approved by the project owner and the head of the department) and do a survey among the medical specialists to determine their priorities.
- Analyze the development of the work load of the department from 2007-2015
- Identify the main process for further analysis.
- Use the database to determine existing lead times of all the involved sub-processes of the identified main process.

Describing the department's environment

The department's internal and external environment was analyzed and visualized (figure 1). To visualize the potential impact on the department a "Dynamic-Impact diagram" was developed (see figure 2). Several IT projects were identified which would affect some of the sub-processes in the department, excluding them a priori from optimization. Other factors, such as the "competitive edge" and technological developments were tagged for monitoring by the department.

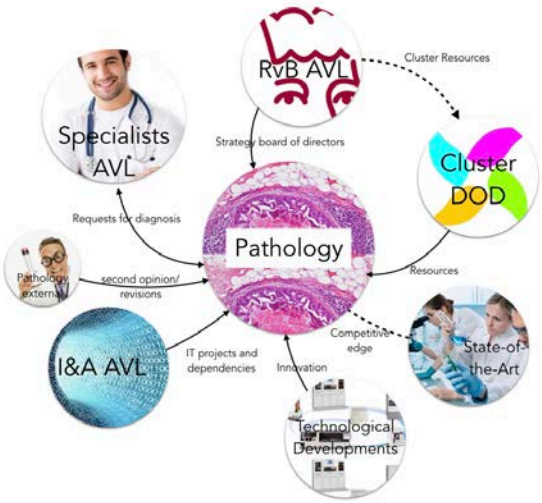

Figure 1: Graphical depiction of the various stakeholders and their relation to the department.

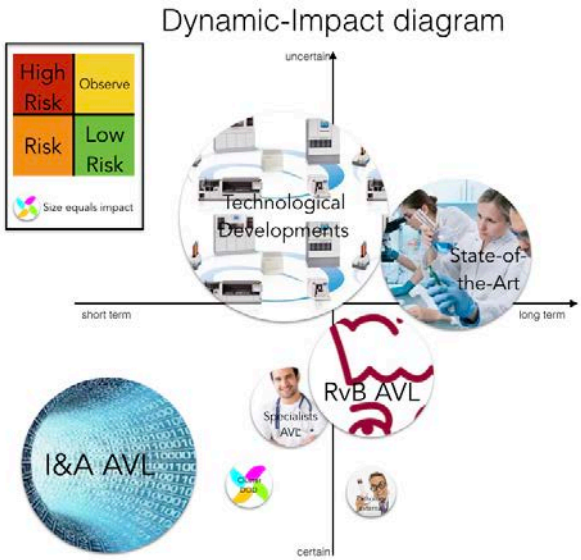

Figure 2: Dynamic-Impact diagram showing the relative risk of development to the department as a whole

Defining the Value and survey results

Trees with Character defined the value and after approval a survey was made. In total 53 medical specialists took the survey. The main results were the following:

- The expected and desired services to be provided by the pathology department depended strongly on the particular specialism (e.g. gynecology and thorax oncology departments have different needs).
- Respondents felt that it was somewhat more important to have a reliable schedule of a diagnosis report than to speed up the process overall (8.1 to 7.5).
- The specialists expressed a strong desire to be informed on developments within the pathology department (9,4).

- The reason for reducing lead times had a stronger link to improving patient experience (9, 1) than to improving patient outcome (5, 7).

Analysis of workload development and identification of main process

While the number of requests by specialists had remained largely the same from 2007 tot 2015, the actual number of samples to be made and analyzed had increased from 62,000 to 130,000 in this time frame. The number of medical trials associated with the requests had increased from 120 to 1,500. It was shown that the number of histology analyses was twice as large as the number of cytology analyses, and that the number of histology analyses grew by 7% annually, whereas the number of cytology analyses remained the same.

Identifying the process with largest lead times

The work load analysis suggested that the histology process was the top candidate to reduce lead times. The lead times of the involved sub-processes were statistically analyzed (including mean and lead time to process 80% of requests) and are shown in Figure 3. The largest lead times concerned i) the waiting time until a patient's sample arrived from another hospital (revision), and ii) the processes following the preparation of the samples in the laboratories (LT-H, G and I).

It was also established that the lead times as defined at the beginning of the project were not corroborated by the data. The first estimated lead time turned out to have been underestimated by a factor two, and the second lead time turned out to be so much shorter in practice that it outperformed the predefined goal.

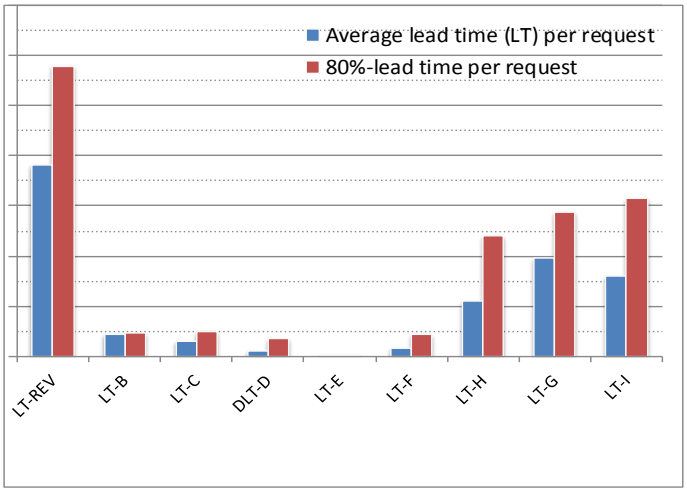

Figure 3: De-lead times for the various sub-processes of the histology analysis process. REV stands for revision, processes B till F take place in the lab, H, G and I involve pathologists.

Impact of DF Lean's Definition-Step on Resistance within the Department

Following the analysis of the environment, the definition of the Value and the response of the survey, and the analysis of workload and of the lead times of the various sub-processes, it was now clear which sub-processes to target in order to reduce lead times. It was also clear that,

depending on the department doing a request for a diagnosis, having an accurate prediction of when the diagnosis will be ready is more important than actually reducing the lead time itself.

In coming to these conclusions Trees with Character had taken great care to avoid any decision making, and the data presented left little to no room for interpretation. The impact of the data on the department was that resistance against the project disappeared.

Impact of Avoiding Decision Making on Risk of Project Failure

By avoiding decision making in identifying the process to be targeted for optimization the following was found:

- Between 2007 and 2015 the department's work load had increased a factor 2, considerably more than the increase in number of FTE's.
- The survey results showed that overall the hospital's medical specialists valued a *reliable estimate* of date of at least as much as receiving the diagnosis "as quickly as possible".
- The survey identified the departments for which shorter lead times were expected to result in better patient treatment.
- Improvement of the department's Value was likely to be achieved by a different *prioritization* of the work.

As a result of avoiding decision making the project goals as well as the method how to achieve it have been redefined. Avoiding decision making had also avoided project failure by identifying the original project goal would not increase value.

Conclusion

Decision Free Solutions, a generic, systemic approach to minimize risk by avoiding all types of decision making, is based on IMT/KSM. DFS is congruous with BVA, but not identical to it.

In this article it is proposed that BVA (and thus DFS) replaces not only the non-expert's decision making and MDC with the utilization of expertise, but also the non-expert's thinking. A further proposition is that "decision making", "MDC", and "thinking", are merely manifestations of decision making - where a "decision" is defined as "a choice not substantiated to contribute to achieving an aim - and that a distinction can be made between three types of decision making. These three types are "decisions" (unsubstantiated choices), "decision making from the past" and "a precursor to decision making".

DFS emphasizes the importance of the definition of the aim as the aim is what the non-experts uses to identify the expert (an expert is always an expert in relation to an aim), and it is what the expert will achieve for the non-expert.

DFS identifies four steps labelled DICE: Definition (of the aim), Identification (of the expert), Clarification (how the expert is to achieve the aim) and Execution (the expert achieving the aim).

Five principles have been derived which are to be observed during all steps to identify and avoid decision making. These principles are labelled TONNNO: Transparency, Objectivity, No details, No requirements, No relationships.

DFS identifies the role of the Decision Free Leader to avoid decision making in all of the steps of DICE.

In practice not all decisions can be avoided, but every decision increases the risk that the aim will not be achieved. By identifying decisions, the corresponding risks are identified and can be mitigated. DFS can be considered a risk minimization method to which risk management is integral. Risk is minimized by utilizing expertise. DFS makes expertise matter.

In support of DFS being a generic and systemic approach, the methodology has been applied in Lean, resulting in the methodology of DF Lean. Its application in practice (in part) has been described.

DFS has since been applied in "birthing", as well as in management, project management, and sales.

References

Fiksinksi, M. (2014), *Lean en Best Value hand in hand*, chapter 7 in (van de Rijt, 2014).

Kahneman, D. (2011), Thinking fast and slow, first published in the United States by *Farrar, Straus and Giroux*, 2011.

Kashiwagi, D. (2016). 2016 Best Value Approach. *Kashiwagi Solution Model (KSM)*, Mesa, Arizona.

Kashiwagi, D. (2016a). 2016 Information Measurement Theory with the "Kashiwagi Story". *Kashiwagi Solution Model (KSM)*, Mesa, Arizona.

Van de Rijt, J., Witteveen. (2014), Best Value Werkt – Ervaringen uit de praktijk, *Graphicom International*, Pijnacker, the Netherlands.

Rivera, A., Kashiwagi, J., Kashiwagi D. (2016), Improving the Management of Environmental Engineering Projects through the Best Value Project Management Model for a State Agency, *Journal for the Advancement of Performance Information & Value*, 8(1), 6-1 to 6-34.

Verweij, J., Kashiwagi, D. (2016). Introducing the Best Value Quality Checklist in Procurement, *Journal for the Advancement of Performance Information & Value*, 8(2), 20-41.

Verweij, J. (2016a). Introducing Decision Free Birthing - a method to empower the expectant mother in achieving her personal birthing aim, to be published, available in part at *treeswithcharacter.com* by 12/2016.

Womack, J., Jones, D., Lean Thinking, *Simon & Schuster UK Ltd*, 2003.

