Self-regulation by groups in “lean thinking” versus the modern socio-technical approach: similarities and differences

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# Introduction

The purpose of this paper is to explore the meaning of the concept of “self-regulation” in a public sector context.

A first perspective on self-regulation is provided by the “modern socio-technical approach” (MST) as described in Kuipers, van Amelsvoort, Kramer (2012)[[1]](#footnote-1). This approach originates as of the 1950’s with the studies conducted at the British Durham coal mines by the Tavistock Institute of Human Relations and developed from an approach with a focus on designing tasks at team level to an integral organizational management approach (Kuipers et al, 2012, p 30-34).

A second perspective is that of the “Vanguard” approach as described in Coret, Felser, Schreel, Grünwald (2014)[[2]](#footnote-2). This traces back its lineage to E.W. Deming, one of the most notable figures of modern quality management next to Juran and Crosby[[3]](#footnote-3) (Demeulemeester and Callewier, 1997) and co-originator of the Toyota Production System (TPS), which was developed by Ohno from 1945 to 1965 (Coret et al, 2014, p. 205-211). It is from TPS that the “Lean”[[4]](#footnote-4) movement later arose.

While comparisons between MST and Lean have been made for the private sector and manufacturing[[5]](#footnote-5), this has not yet happened specifically for the public sector, which is dominated by service provision rather than production.

While there are many variations of “lean”, all claiming links to Deming and Toyota, the specific and explicit focus of the Vanguard approach on services as well as the public sector[[6]](#footnote-6) makes it a relevant focal point for this paper. The link between total quality management (TQM) and ”self-managed” groups has also been discussed in the context of “transforming’ the public sector by Nutt and Backoff (1993) who put forward that “sweeping change calls for a transformation… The transformed organisation develops more flexibility and adaptability …increases its repertoire of responses,....” [[7]](#footnote-7) They also situate TQM in relation to the concepts of strategic leadership and strategic management. To these authors, strategic management focuses on strategy as a process and on idea development within this process. Strategic leadership in turn focuses on principles for leaders “guiding, with a motive or purpose, to make something go” (p. 324) and hence rather on idea implementation (engaging people in pursuing a shared vision, dealing with ownership via building relations as action is taken to realise the strategy). TQM within this setting embodies a focus on broadly empowering public sector personnel in creating a more flexible and adaptable organisation.

The paper aims to show the substantial overlaps between the MST and Vanguard in increasing the regulating capacity of teams in an organization, both in terms of rationale, the underlying theories and practical approach. However, it will also explore the (subtle) differences between the two approaches with the intent to reveal insights that can help practitioners increase their chances of success in attempting to build local regulative capacity.

Kuipers et al (2012, p. 498-501) discuss the concept of “lean”. However, lean “thinking” and lean “production” are distinguished from each other. While “Lean thinking corresponds with our (MST) design approach in process thinking”, lean production, as it is stated exists at Toyota, is stated to be a continuation of Taylorism. Lean production has several key components: 1) organizing production teams around a process segment 2) continuously improving Standard Operating Procedures ( SOPs) which are visualized on the spot so workers can see immediately how the work should be done 3) Just-in-time via Kanban (automatic signaling to previous process steps that new components should be supplied) to keep stocks low 4) Optimise utilization of equipment by reduction of time change settings so a large variety of products can be made on the same machine 5) total quality control via statistical process charts to ensure disturbance early in the chain does not travel further 6) regulating is done by a co-working foreman (hancho) who ensures that SOPs are respected, ideas for improvement of SOPs are generated and who takes all decisions. The hancho also performs worker appraisals which are very important for promotion. This is stated to create a system with little capacity to regulate at the level of the worker (only 2 hours of ideas allowed per month), coupled with a lot of pressure (work rhythm dictated by assembly line, having to work on very different kinds of machines). Lean thinking on the other hand revolves around a way of thinking characterized by:

* Specifying added value (activities that do not add value are labelled as “waste”);
* Integrating the entire flow of value (starting with suppliers);
* Creating flow (no disruption or waiting);
* Pull from the customer (real customer needs);
* Striving for perfection (via continuous elimination of waste and radical process improvement).

Lean thinking is criticized as not offering much guidance relating to how to design the division of labour in the organization[[8]](#footnote-8). The criticism is a reiteration of Van Amelsvoort (2006, p. 1-5[[9]](#footnote-9)), who stated that there is not much apart from naming popular concepts such as“…1) flat hierarchy 2) small teams with decentralized responsibility and hence little staff and overhead 3) partnership with suppliers 4) optimalisation of the process chain…” In addition he states that “a distinction can be made between lean teams and socio-technical teams. The differences lie mainly in the field of regulating capacity. For lean teams regulating capacity is positioned mainly with the direct manager, while this is much more part of the team and its individual members in socio-technical teams”.

It will be clear from the description in annex 1, that Vanguard is closely associated to lean thinking (rather than lean production). Also, it will become clear that much more is offered in terms of how to structure the organization than is assumed by MST.

Interestingly, authors associated with Vanguard have also commented similarly on MST (Coret et al, 2014, p. 47-8): “the ‘modern sociotechnical approach’ is the only management theory that deviates substantially from the conventional perspective. … When the concepts of the sociotechnical approach are introduced in traditional hierarchical organisations, its effects are limited by the primal principles of Taylor. When one or more self-managing teams function within a traditionally structured organization, this is at best cosmetic. The thinking in the organisations remains unchanged”.

Coret et al (2014) names Buurtzorg as one of the few examples in the Netherlands of a socio-technical organization that is fundamentally organized according to sociotechnical principles. However, this organization is stated to have been built from scratch, without having had to convert an existing organization. Buurtzorg is indeed also mentioned as an example in Kuipers et al (2012, p. 549).

These statements indicate that there is indeed substantial overlap as well as misunderstanding. The presumed differences point to a need to deepen the understanding of both approaches, as in both cases, the respective authors may disagree with what is put forward. Hence, the two approaches need to be compared at an appropriate level of detail in terms of the basic diagnosis of the organizational issue, the theories they draw on and the practical principles they use . This is provided in annex 1.

Reference will also be made to Christis (2011) to detect to what extent his comparison between Lean in general and MST still applies when the specific version of Lean is the Vanguard approach as described by Coret et al (2014) and the version of MST is the one by Kuipers et al (2012). It may be of interest to note that both publications have come from the Dutch speaking world.

Of course, a limitation of the paper is that it refers to only two sources of information regarding these two approaches, which does not do justice to the vast literature that exists on both of them. Yet, to (Dutch speaking) practitioners, that have limited time and hence are prone to restrict themselves to a limited amount of (Dutch language area) sources, adding to the insights presented by such sources is of immediate value.

# Diagnosis of the existing organizational paradigm

Table 1 in annex 1 provides a detailed comparison of Vanguard and MST. Its main aspects are elaborated below.

1. Existing situation and key problem

There is broad agreement between the two approaches regarding the rationale for change: the shortcomings of bureaucratic organization:

* the issues arise from functional division of labour and the restriction of local autonomy to regulate one’s work;
* bureaucracies are closed systems that tend to ignore the challenges posed by the environment as being the reason for internal problems;
* solutions to issues tend to be partial and to a large extent focus on people as being the problem.

The emphasis in MST is more on maximum division of labour as the root cause of the shortcomings. Vanguard adds some extra elements which reflect its public service focus: the internal focus of the organization is reinforced by the importance of the political level, which is effectively positioned as the top level of the bureaucracy. In addition, the tendency to embed public services in a “market” logic of competition is criticized. Given the definition of the problem ( bureaucracy), introducing competitive elements (quasi-markets based on indicator league tables, financial incentives tied to performance indicators, …) cannot be seen as the real solution for costly and poor quality public services. If the bureaucratic way of organising remains (as is usually the case as this is part of the hierarchical form of governance that dominates the public sector), then competitive pressure cannot be expected to deliver any benefits. If an organization is transformed into a flexible one, then competition is not required. This does not mean that the fact that the private sector is embracing the flexible organization at a faster rate than the public sector is not due to competitive pressure.

1. Competing organizational alternatives and main required focus

MST offers a broader perspective on organizational alternatives: next to the flexible organization, which coincides with what Vanguard refers to as the systems thinking organization, there are network organisations and pioneer regimes. However, the main focus of MST is on flexible organisations. The fact that Vanguard does not refer to an organizational form as its alternative but to a way of thinking already shows that it will take a different practical approach to transformation.

MST of course takes as its primary focus to change the structure of the organization (division of labour both in the primary process as well as in regulating). Vanguard agrees this is very important but sees it as a means to affect managerial thinking.

Christis (2011) states that Lean has discovered by ‘trial and error’ what MST has derived from its system theoretical foundations. Both approaches simplify the production structure in order to decentralize the regulating structure (p. 97).

However, the section below will show that the Vanguard approach (sharing common ancestry with Lean) shares many of MST’s theoretical building blocks. Moreover, there are more theoretical fields apart from systems thinking that are underpinning both Vanguard and MST. In fact, the core of Deming’s original theoretical thinking is reflected in the sub-divisions of table 2 in annex 1 (his four building blocks were: 1) appreciation of a system 2) theory of variation 3) theory of knowledge 4) psychology). One could say therefore that Vanguard, based on Deming’s thinking has always had a solid theoretical foundation. The main similarities and differences with MST are listed below. The latter are more a matter of different emphasis than of fundamental disagreement.

# Theoretical foundations

A detailed comparison of the theoretical foundations of Vanguard and MST can be found in annex 1, table 2. Its main elements are synthesized below.

1. Systems theory:

Before discussing elements of system theory, it is useful to provide a synthesis of the nature of this theory as done by Kuipers et al (2012, p. 521-4): “The core of the theory of how to create a structure consists of a handful of tautologies…” and “…not universal empirical laws but by definition logical points of departure.” as well as “The ‘laws’ as used by the socio-technical approach as a theory concerning the creation of structures are not empirically validated ‘laws of behavior’ but analytically supported guidelines…“.

Indeed, as is set out in annex 1 and below, logical statements such as:

* Organizing a heterogeneous order flow into several more homogeneous ones simplifies the input for each flow;
* Reduction of division of labour leads per definition to an exponential decrease of the number of potential interfaces between work stations;
* Linking organizational units (tasks, teams, larger units) to a complete production process creates opportunities for more engagement with those processes
* …

1. Emphasis on demand

While both approaches start from an open systems perspective, Vanguard gives much more emphasis to customer demands as the “external function” demand as well as to “what matters to the customer” as the source to translate those external demands into “internal function” demands. The diversity put forward by MST in terms of both internal and external demand is not ignored (e.g. societal costs, employee morale, production cost,…) but is assumed to derive from customer demand (if this is taken care of, the other demands are assumed to be met). This does not mean other demands are not considered important. Take for example the external demand to respect environmental regulation. Obviously, this cannot be ignored. Indeed, environmental outcomes can be measured (e.g. water wastage) and processes can be modified to respect the demands in this area. However, these other external demands are not ,why the service/product exists.

This focus will have substantial practical consequences as will be elaborated below.

1. Organisations are social networks consisting of interlinked activities/events (enacted by people that operate at the nodes of the network) that aim to add value

Both MST and Vanguard define organisations as transformation processes (of input into output) aimed at creating added value.

Vanguard however puts more emphasis on suppliers and customers as being at the –blurred- edge of the organization. The emphasis on customers allows Vanguard to be more precise in terms of what it means by “adding value” (left undefined by MST). For Vanguard, this refers to doing exactly (no more, no less) what is needed to meet “genuine” customer demand, which is referred to as “value demand”. This allows Vanguard to differentiate value demand from ”failure demand” (demand due to having failed to address value demand), a concept that is not explicitly used in MST.

Christis (2011, p. 104) likewise puts forward that systems theory sees the primary process as consisting of a network of mutual dependencies with individual work stations as nodes.

1. Requisite variety

Both sources explicitly refer to Ashby’ law of requisite variety. MST translates this law into the idea that the capacity to regulate (observe, judge, decide what to do) must meet the requirements to regulate, as otherwise disturbances (variation that deviates from the expected –which happens continuously) of the system, lead to a disruption of the “quasi-stationary equilibrium” of the system.

The capacity to regulate (deal with disturbance) may limit the theoretical capacity of a network node to process a certain quantity of work as well as deal with it in terms of quality by its routine and improvisational repertoire. If it cannot deal with the disturbance, it will tend to “export” it to other nodes. In other words, if something unexpected happens to which I have no given response (routine repertoire) and that I cannot create a response for (non-routine), either because I lack the processing capacity or because I lack the regulatory capacity to use the (theoretical) processing capacity, then the disturbance will turn into a real problem (exported elsewhere).

Vanguard helpfully extends on this idea by clarifying its implications for a service versus a production environment, from the perspective of customer demand: in production, the producer limits a substantial amount of the variety of customer demand towards the production process (e.g. by offering only a predefined range of cars). Of course, customers may not be satisfied with the product (hence complain, return it or not buy it at all which are all unfavourable outcomes). But the production line is (temporarily) shielded from this (until the product range to be absorbed by the line is modified). However in services, variation is introduced in direct interaction (sometimes even co-production) with the customer. As people vary greatly in their needs, this means that the variety in customer demand that confronts frontline service providers is much larger than for production workers. Vanguard states that the absorption capacity of service provides must therefore be relatively higher. Translated into the language used by MST, this means the processing capacity in terms of repertoire (responses that are possible) at the nodes confronted with this demand must be relatively broader as must be the capacity to regulate locally (decide what response is appropriate). Vanguard does not elaborate so clearly what these elements of “absorption” capacity are, compared with MST.

Also for Christis (2011, p. 104) in a network, disturbances can occur. These are either absorbed or, if there is not enough capacity to regulate, transferred to the rest of the network. The likelihood of disturbance is determined by the complexity of the productions structure while the capacity to absorb it is determined by the amount of decentralisation of the regulating structure.

To conclude, Vanguard is more explicit about what the theory means in a service environment, while MST is clearer about the concepts; especially the distinction between processing and regulating capacity.

1. Theory of knowledge

Both approaches recognize the difference between single loop and double loop learning. Systems that are predictable (there is variation but it is known hence predicted) and unambiguous (everything is clear in terms of observation, judging and acting) require only single loop learning, which means getting better acquainted with what is known (allowing us to act on deviations quicker and more appropriately). Double loop learning is acknowledged as a necessity for systems characterized by ambiguity and dynamic. This means that there is variation that is not predicted. Hence one needs to doubt the existing routines and experiment (deviate from those routines) to generate new, more appropriate responses (that can become routines over time).

However, the problem noted by both approaches is that existing routines are based on assumptions (created by drawing conclusions from repeated events) that act as a filter on what we can observe. In bureaucracies, where people are grouped on the basis of similarity (in terms of function and hierarchical level), mutual reinforcement of existing assumptions is even more likely. Hence these organisations are not very well positioned to engage in double loop learning.

The key problem however for any organization remains: how do we know when it is time to engage in double loop learning? In other words, how do we know if unknown variation rather than the predictable kind is affecting us, if we are wearing eye-glasses that frame everything in terms of known and predicted variation?

While MST points to “doubting” as a key mechanism to engage in double loop learning, this does not say much about how we can know when we should doubt and how we should go about this. Vanguard is more explicit: direct observation of the work and its outcomes from the point of view of the customer helps us to see what we would otherwise miss. The point of view of the client is then also synthesized in one purpose, hence resetting the normative framework in a fundamental way.

While they are not mentioned by Vanguard, theories concerning social learning such as Scharmer’s (2009) “theory U”[[10]](#footnote-10), support the notion that for people to be able to truly shift their assumptions, they must first be empathic with other perspectives. Essentially this means looking at reality while standing in other people’s shoes. This can in turn be linked to theories concerning identity construction (Ryan and Deci, 2011[[11]](#footnote-11)).

Also Christis (2011, p. 108-9) affirmed that for MST regulation means resolving problems. Learning is becoming better at resolving these problems. If we get better at it within given norms, this is single loop or operational learning. If we get better at it by changing norms themselves, it is “double loop “ learning. For MST the learning organization is therefore an issue of structure. Smart solutions become routines, hence we do not have to reinvent the hot water and we save on time and attention. Those routines are the result of a collective search and learning process. Members of the organization then find these routines as a given in the organization. They are formal and hence distinguished from informal ones that relate to what deviates from what is formal or what is left open by the formal ones. But these routines can also be dangerous if we stop to investigate them critically.

1. Motivation theory

Both Vanguard and MST clearly voice their skepticism towards using extrinsic motivation (based on punishment, reward, pride, promises). Intrinsic motivation (based on cooperation towards a common goals, interesting/challenging work and autonomy) is seen as central. They also assume that a fair reward is given for the work but that this is not tied to performance as most people are intent on doing a good job, given the opportunity. When intrinsic motivation exists, introducing extrinsic motivation will displace the intrinsic kind.

Both also confirm the negative psychological consequences of feeling responsible while, due to low autonomy, being powerless to act (e.g. focusing only on extrinsic motivators such as money, gaming the system as well as doing only exactly what is asked, creating destructive competition and pursuing only personal interest).

The value of employee satisfaction surveys (incl. their presumed link to motivation) is strongly questioned in both approaches, even though MST places the origin of such surveys with motivation theories such as those formulated by Herzberg (motivation/hygiene theory) and McGregor (Theory X/Y) which are seen as supporting Vanguard’s approach. Indeed, MSTs rejection of these two theories is rather surprising as they focus on elaborating the difference between intrinsic versus extrinsic motivation.

MST refers to a larger variety of motivation theories than Vanguard, most notably Karasek’s job-demand model which states that when there is imbalance between the challenge of a job and the capacity to meet this challenge, stress and possible burn-out can be the result. Another notable difference is goal setting theory which is put forward as emphasizing challenging goals and feed-back. Also, Vroom’s expectancy theory as well as social reference theory and equity theory are mentioned, but the way these are supporting MST is not very clear.

Goal setting theory and self-determination theory (the latter being a more sophisticated theory about intrinsic versus extrinsic motivation than the ones mentioned by Kuipers et al, 2012 and Coret et al, 2014) as well as their relationship are reviewed in detail in Wauters (2013)[[12]](#footnote-12).

1. Conclusion

While we have demonstrated that there are many overlaps in theoretical foundations with some notable differences, particularly as regards what adding value means as well as how routines can be doubted via empathic direct observations as proposed by Vanguard.

The next section will show that there are more substantial differences when translating these theories into practical principles.

# Practical principles in transforming organisations

A detailed comparison of Vanguard and MST can be found in annex 1, table 3. Its main elements are discussed below.

1. Role of strategy

While in MST the role of strategy is rather traditional, defining a new mission, vision, values, strategy, goals, via a series of conferences involving senior management and key players in the organization, this is kept much simpler in Vanguard which only aims to ensure a deep sense of purpose towards the customer. This may be a wise choice. Extended discussions about strategy may reinforce the existing bureaucratic regime. While SWOTs may have, as put forward in Kuipers et al (2012, p. 484), an effect of discharging tensions, they also have a tendency to getting bogged down in organizational politics and short term operational issues which then necessitate the CEO to make the hard decisions, further reinforcing the hierarchical nature of the bureaucratic organisation.

Such processes are seen by Vanguard as too top down and far removed from the actual work. To reorganize the existing business, management and employees should rather go together into the concrete work to find the purpose of it. This may also account for the criticism by Coret et al (2014) earlier that MST has limited application for existing (bureaucratized) organisations.

However, this does mean it is always easy to define clients and purpose. In fact, Coret et al (2014) mentions this as one of the challenging aspects (p. 105-11). For example, when asking police chiefs who is the client and what is the purpose, the answers can be divergent? Is it the victim, the suspect, the community? As to purpose, is it “safety”, catching criminals, listening and giving advice, improving the quality of life? For a municipal tax office is the client the municipal council, the inhabitants and entrepreneurs that live there,…? As to its purpose, is it claiming taxes? Of collecting taxes? The key to understanding who are really supposed to be clients and what the purpose is, is to approach the organization from the outside, by stepping into the shoes of people that make contact and figuring out what their questions are. The initial purpose then usually shifts to a more informed one. After the analysis phase, a municipal taxation service defined its purpose as generating funds for the local community. Taxation is a mean for that, not a goal in itself. This does have implications for defining the primary process: it will only be complete when there is a payment.

On the other hand, Vanguard has a “strategic blind spot”. Developments on the horizon that are not yet affecting the organization but that may become relevant, will not be easily picked up. Vanguard does state that managers need to stay abreast of external developments but this is rather underdeveloped overall. Also, starting with the purpose of a service does not entail a discussion about whether such a purpose has to be pursued at all (possibility of an exit strategy). However, from a public service point of view, this is a question that is usually not very relevant. It belongs to the area of political decision-making not to serve a particular public or issue anymore.

In both cases, what was put forward above (strategy in MST or deep purpose in Vanguard) is the starting point for defining what the primary process. For example, if a municipal taxation service defines its purpose as generating funds for the local community, taxation is a mean for that, not a goal in itself. This does however have implications for defining the primary process: it will only be complete when there is a payment (money must come in) (Coret et al, 2014, p. 136-7). Defining this primary process happens in the analysis phase which we discuss below, after the scope of the organization that is to be redesigned is clarified.

1. Analysis phase
2. Scoping

MST requires to define the scope of the organization at macro level. This is stated to be an arbitrary choice (it is just a starting point), but a too narrow a scope may lead to not being able to redesign the organization in an effective way. Hence, the scope is expected to be redefined if needed. Next, the traditional strategy process as discussed above is followed, leading to a definition of what the order process is (primary process).

Vanguard first seeks to “scope” the boundaries of the existing organization by finding out where all the places are where customers make contact with it (contact points). This entails that the analysis team can define who the customers are. Linked to this, a discussion concerning the purpose can be held (iteratively). When the organization is large, with many contact points, then the Vanguard approach applied to the entire organization all at once would take too long. Vanguard[[13]](#footnote-13) then usually recommends to focus on contacts that exist in units that are characterised by relatively favourable conditions to start the work of analysis (e.g. willingness to engage in the process, high volume of contacts, easy access to information and most importantly, linked in the most straightforward way to the purpose, hence this excludes staff units). If the overall existing organisation was put together in a rather haphazard way (as for example large ministries sometimes are) then it may well be that several purposes will be uncovered that then can be either placed under a “meta-purpose” or that can be linked to each other in terms of a process flow (one, up-stream, purpose is then serving another, downstream one). Top management can start by looking at the existing structure but should always discover real, customer based purposes from within the actual work, at some point. Hence, this goes beyond the typical strategy process which can take place in conferences.

Hence, like with MST, there is no “right” scope. However, Vanguard is more pragmatic in defining the scope than is MST by starting its study of demand via customer contacts with existing organizational units that have favourable conditions.

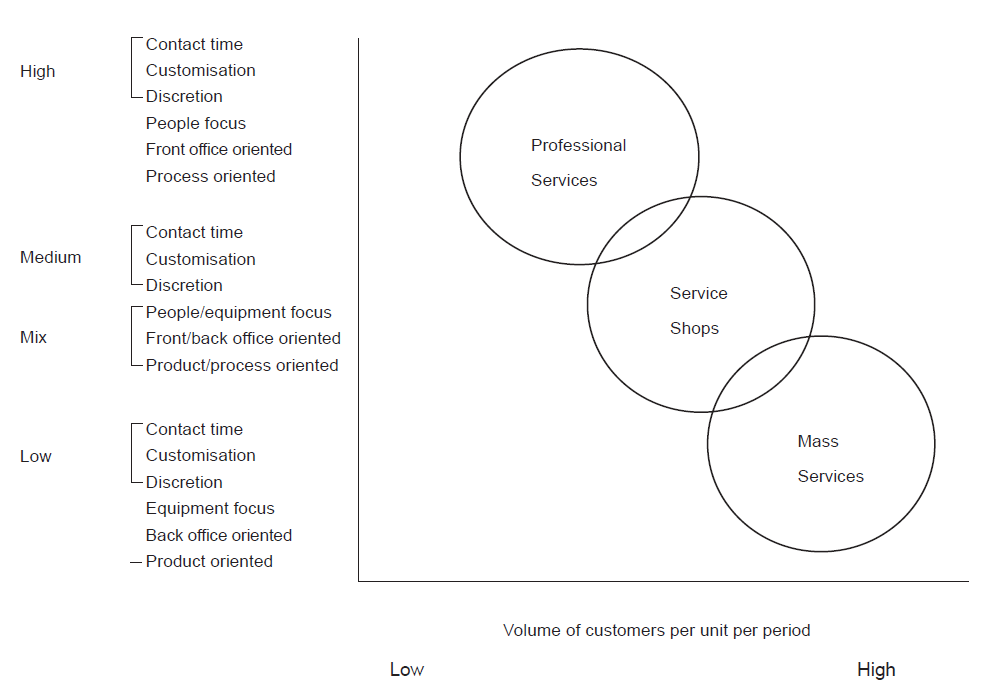
1. Studying nature, variation, predictability and size of the order flows

Both MST and Vanguard study the flow of orders. MST is more clear that the **nature of an order** needs to be defined. Kuipers et al (2014) helpfully point out that this can be a flow of “products” (with the client as a “buyer”) or a flow of “customers” (with the client both object of the flow and buyer). MST refers to orders as “demand”, which is more apt to a service environment.

In Coret et al (2014) the categorisation of types of orders is more implicit. It relates to asking how many demands relate to the same case. If many do, then this is an indication that the case itself should be seen as the order. However, Vanguard[[14]](#footnote-14) has been reported to make a distinction between transactional services (split into demand-response and break-fix sub-types, where the former entails a simple categorization of demand leading to an automatic response and the latter requires expertise to define what is broken and what is the appropriate response) and case or project based services. The latter are focused on a client relation over an extended time period. These distinctions are important as e.g. in education, if the service is seen as transactional, the unit of analysis would be any individual transaction between the service and the customer at a specific time. Each individual course delivered by a lecturer is then such a transaction and can be assessed as having met the students’ needs. But if it is case based, the whole relation over time needs to be taken as unit of analysis: the entire academic career is the object of study, NOT the many “transactions” that occur within it. In both MST and Vanguard, the mission / purpose of the organization will strongly influence how it defines the nature of the order.

This distinction also corresponds to what exploratory, data driven research by R. Silvestro (1999) [[15]](#footnote-15) concerning services has revealed. In the figure below, demand-response services correspond with mass services, break-fix with service shops and case-based services with professional services. The figure also show that volumes tend to differ between these types of order.

Figure 1: service typology



One it is clear what the nature of the unit of analysis is -the order/demand-, then both Vanguard and MST proceed to an **analysis of variation, predictability and volume.**

Vanguard makes clear that this has to be done by looking at all demands coming into an organization via all of its contact points. These demands should be categorized inductively by themes. Then, how much of the demand these themes account for should be quantified as well as their predictability (regularity over time) and volume (absolute). During this analysis, a key distinction is made between value demand (normal given the purpose) and failure demand (due to not having responded appropriately to value demand). In addition, what matters to the customer is researched by in depth analysis of the demand and this is then used to determine how well the organization has been responding to this demand. Typically, a statistical process chart (see annex 2) is used to plot how long it took for which transactions to satisfy the customer from their perspective. For case based work, which does not revolve around transactions, the question is how long it took for customers to reach a particular meaningful stage of their overall journey. This analysis then provides a starting point to determine what hidden variation in the demand is driving these differences in outcome. Sometimes, these differences are straightforward e.g. age differences. Sometimes, they are not so straightforward and consists of combinations of elements that can only be detected by really studying demand in its complexity (who is coming in contact, from which context , why, …).

This important element merits elaboration on the basis of an example[[16]](#footnote-16). In the UK, in a stroke care ward, outcomes in terms of recovery from a stroke varied widely. The main variation of demand that accounted for the biggest share of this was fragility of the person before the stroke. Once this was discovered, a very different process could be set up for patients with different degrees types of fragility. This could only be ascertained by looking at variety in terms of the patients and then seeing how these were responding differently to the standard treatment. Hence, this approach does not only concern finding a sorting criteria, but also a deep understanding of why organizing such a flow makes sense in terms of outcomes for the customer.

MST takes a different approach. It does not distinguish explicity between value and failure demand as Vanguard does. Unlike Vanguard, it also does not put forward a specific method for determining variation of the order flow/demand nor does it make a link with variation in outcomes. It does set quantitative norms for a variety of function demands (derived from strategy) but does not do anything with them in the analysis stage. It is also not clear on what basis the norms are set. Lacking a method, MST only lists typical variation characteristics relating to clients (e.g. their location) or to the production process (e.g. different required combinations of tasks). These can become the basis of grouping later on (see below).

The latter is also a difference with Vanguard which focuses on client-side variation when looking for reasons in variation of outcomes from the customer perspective. This means there is an assumption that the way of working by the service is relatively standard. If it would not be, the statistical process chart would show a chaotic process. In fact, it is assumed that because the way of working is standard, it is not capable of producing outcomes within a more narrow band of upper and lower control limits with more favorable averages, unless the standard way is actually changed. That is why hunches regarding what variation in demand on the client side could be, need to be confirmed by looking at what happens to them in the standard primary process. Any internal variation that would deviate substantially from the standard way of working would show up in the statistical process chart as a data point outside the upper or lower control limits and would need to be investigated specifically to determine if this deviation is indeed due to a deviation of normal work or whether it is due to an important variation in demand.

MST, in contrast to Vanguard, does provide a typology of variation relating to the order process, distinguishing between turbulent (almost unique demand every time requiring unique responses), heterogeneous (what people want is varied but how it is responded to in terms of input is fixed, but not in terms of sequencing and combining these inputs), semi-homogeneous (some variation in orders but all follow the same process) and homogenous (no variation in orders nor in process) flows. Its practical use is mainly that turbulent order processes point towards the need to constitute project groups in a flexible way. The project teams however still have a “home base” which is based on parallellising according to types of projects. As people tend to work on similar kinds of projects over and over again, often with each other, they get rapidly attuned to each other and the assignment. For all other types (ranging from heterogeneous to homogeneous), the normal way of parallellising applies.

To conclude, Vanguard focuses on client side variation in value demand that can be linked to outcomes, whereas MST focuses on generic market oriented criteria that allow to separate flows to operate as autonomously as possible.

1. Studying complexity of the execution

Both MST and Vanguard proceed to map the activities undertaken to deal with orders/demand. Both do this critically: steps that do not add value are identified. These are labeled as “waste” by Vanguard.

One key difference exists: Vanguard also maps what actions are taken in response to value demand and what to failure demand. This is very relevant as otherwise, the organization may end up being designed properly to do the wrong things.

1. Criteria for grouping activities

MST offers a handful of generic grouping criteria to create parallel streams of work. These are labelled as market oriented and consist of:

* similarity of product/service;
* similarity of users incl. geographical;
* similarity of suppliers.

It distinguishes these criteria from “similarity of activity” which is the bureaucratic principle for dividing labour (putting similar tasks together). The optimal market based criterion for MST is that which ensures that there is the least amount of interaction required between the envisaged parallel flows (by definition this will never be based on similarity of activity).

Vanguard does not mention a typology of grouping criteria. This derives from its bottom up way of working where hidden, non-obvious variation on the client side is to be detected. It is the demand variation that affects the outcomes the most that needs to be taken as a foundation for separating flows. Hence, there is an implicit choice for grouping on the basis of similarity of users and NOT on suppliers or on products/services.

The wisdom of this in a services context is perhaps recognized to some degree by MST which puts forward that at meso-level in production, similarity of products (due to production technical aspects) is usually a good starting point, while in services, a location (hence user) based grouping tends to be more useful as in services clients and product tend to converge. Indeed, this is exactly what Vanguard put forward in its theoretical foundation: “variation is introduced in direct interaction (sometimes even co-production) with the customer”.

While Vanguard bases its grouping directly on guaranteeing better outcomes for diverse clients in a bottom up way, MST basis it grouping decision on relative independence in a top down way, with the assumption that this will always deliver better outcomes due to a better flow. This assumption may be correct relative to a bureaucratic starting point, but it may not hold when comparing to other market oriented ways of organizing flows.

Also Christis (2011, p. 100-101) points out that both for Lean and MST, a shift is required from a functional organizational structure (grouping by similarity of activities) to a market oriented one. Such a market oriented structure, creating flows of similar orders, is both in MST as well as Lean facilitating the “flow” of these orders. In Lean these flows are referred to as value streams. As orders are clients with wishes, there are three ways to group them: a) grouping by product similarity –for different clients- b) by customer similarity –for different demands by clients- or c) by project –for clients with unique demands. This corresponds to what we have elaborated above, with the small omission that Kuipers et al (2012) also view organizing by suppliers as market oriented.

Christis (2011) states that in Lean, similar products are grouped together so that the flow of the order throughout the production process can be maintained (p. 98). This is to be contrasted with Vanguard which, due to its service focus, tends to organize order flows by user characteristics.

As noted by Christis (2011, p. 103-4) both Lean and MST first determine the flows (macro), then segments/cells (meso units or “task teams”) and finally determine who will do what within teams. Both put forward direct benefits from reduced coordination costs and increased flexibility, next to motivational advantages (due to job enlargement). Because team members they have now a view of the entire process, it is also useful to integrate preparatory and supporting activities. As we will see below, this indeed applies also to Vanguard.

1. Designing phase
   1. Primary process
      1. Parallel flows and segmentation of these flows

Following from the previous section, the first step in the design process for MST is to be explicit about what criteria to use when creating parallel macro-level units until they are no larger than 200 persons. This is essentially a top down process, informed in part by strategy (e.g. what kind of customers do we want to focus on). These macro-units then need to be split up to arrive at meso-units (task teams) of about 10 persons. As parallel streams have the advantage of minimal need to coordinate wth each other (independence), the macro units are ideally split up into smaller units by such further parallelization (e.g. several stroke treatment teams existing alongside each other, each staffed by +/- 10 persons). However, sometimes parallel streams also have to divided into pieces which is referred to as segmenting (e.g. intensive care versus recovery). This is done when the process is too long or service is too complex (requiring so many different kinds of expertise, the unit would become too large).

Vanguard on the other hand directly starts to design the ideal flow for the existing groupings of customer demand it identified in the analysis phase, based on detailed understanding of customer contacts in the chosen unit at a certain level. Hence, it takes the customers there as a given (no questioning whether the organization wants to serve them, as discussed in the part on strategy). As it scoped the organization, it had decided to start the work at a level and in a unit that made pragmatic sense e.g. a stroke ward in a hospital, which, as with MST, can turn out to be too broad or narrow a starting point. In other words, perhaps the stroke ward as part of the “wards” department is not the right place to start. Perhaps starting with all wards at the same time would have been better but then it could be questioned if it would not be better to move up to the whole hospital. As stated, this can only be a pragmatic decision. However, as the ideal flow is created to integrate variation of fragility to enable better recovery, this may end up challenging the existing macro and meso (task team) structure very much.

Vanguard employs the following design principles to create the ideal flow:

* Put expertise at the front office;
* Deal with high frequency predictable value demand as much as possible in one go (for which they have been trained), without transfers. Pull in expertise if needed for low frequency demand. If transfers cannot be avoided, ensure they are “clean” and “seamless” (no delays, double work, repair, checks);
* Design out waste.

In other words, just as with MST, segmentation should be avoided as much as possible, all the more, according to MST, if the process is unpredictable, where experts need to attune their contributions to each other or to changing external demands. This situation applies, according to Vanguard, commonly to services. If a transfer needs to happen, then “clean” and “seamless” are the best way to ensure what MST would refers to as a low need for inter-local coordination by ensuring a simple relation. Helpfully, MST also recommends that segments should form a recognisable contribution to a final product/service as this matters for its regulating capacity.

If frontline experts encounter a demand they cannot deal with themselves (as it is low frequency and hence chances are they have not been able to develop expertise), then the first principle to apply is to pull in expertise (with a broader repertoire). This is not the same as transferring to another segment as the work remains with the frontline expert. For MST, this corresponds to segmenting support tasks due to scarce, specialist capacity. MST also puts forward that regulating this capacity may remain with the task team. Overall, MST favours to keep all preparatory and support work inside the task teams, similar to Vanguard. In a service context, this may be more feasible than in production.

Vanguard also has as a design principle to design out wasteful activity (that does not contribute to the purpose). In MST this refers to the requirement to design the flow without any reference to the existing structures and to only do value added work. Vanguard only puts more emphasis on this.

The fact that Vanguard, contrary to MST, does not discuss macro-meso-micro levels nor optimal sizes of groupings at these levels but focuses entirely on flow, is however also a shortcoming, given the theoretical necessity in terms of facilitating internal communication. However, this is easily remedied e.g. if a stroke ward is too large, two identical ones can be created that operate in parallel.

Both Vanguard and MST take volume and regularity of flows on board as a practical issue. One can organize a “fragile stroke” next to a “non-fragile” stroke ward if the volume and regularity of such cases allows it. Otherwise, these two order flows will remain together in the stroke ward and the people in it will need to be able to deal with both.

According to Christis (2011) in Lean attention needs to go to shortening times to change settings on production equipment and preventing quality issues or down-time. In Vanguard, this corresponds to the design principle of putting expertise at the front office, able to deal with all high frequency demand in one go. Christis (2011) also puts forward that MST is more differentiated about types of design situations and kinds of segments than Lean (p. 101). This has been demonstrated above to be accurate also for Vanguard which has as a principle to avoid “transfers” i.e. segmenting, as much as possible. However, this also makes sense in a service environment.

Christis (2011, p. 105) notes that both MST and Lean put various specialists together around similar types of order. Because of this grouping, they can easily coordinate much themselves. Hence, this facilitates decentralization of regulation as well as a reduction of lateral coordination (as the grouping is already based on the order flow). Indeed, this is embodied in Vanguard by the principle of frontline expertise being able to deal with all high frequency demand. However, as noted earlier, Vanguard does not have guidance as to how large task teams should be which MST sets at minimally 6 to maximum 20 persons. This is according to Christis (2011) the opposite of a functional bureaucracy. Here, the scope for coordination problems is high as all orders are dealt with by different groupings (the functional departments). In addition, these problems have a natural tendency to rise to higher level units in the organization where the different functions meet. However, at this level decision-making is far removed from the problem. In addition, orders have been made invisible in a functional structure. Special efforts need to be made to install ‘liaison devices’ to make them visible again (e.g. via a case manager that can cut across functions).

Furthermore, both in Lean and MST, Christis (2011, p. 103) states that despecialisation is key. This concerns putting preparatory and support activities back into the flow. Of course, activity based specialization is then replaced by a new kind of specialization, now based on types of orders. Indeed, this is also true for Vanguard.

Finally, for Christis (2011,p. 102) MST is considered to add something that Lean lacks: a distinction between operational, structural and strategic levels of preparation and support. Operational preparatory and support activities should be situated within segments, structural ones at the meso- level of flows (parallel streams) and strategic ones across all flows at macro level. In this way, all or nothing discussions concerning (de)centralization are avoided. Indeed, it can be argued that Vanguard also makes no explicit statements about this. However, neither have Kuipers et al (2012) addressed this in a clear way.

* + 1. Organising the work within teams

MST has much more elaborate principles on how to divide work within a team than does Vanguard. Nothing put forward by MST is in principle in contradiction to Vanguard. Hence MST has much to offer to Vanguard in this area.

* 1. Designing how to regulate the primary process

Once the primary process has been designed and staffed, Vanguard puts the emphasis on installing feed-back loops that allow the teams to learn and improve continuously relating to their purpose based on relevant information. This information needs to be integrated in feedback loops as close to the work as possible (preferably real time, without need to wait for managers to have a meeting). In addition, when a team cannot handle a problem on its own, this has to be recognized as an issue and escalated upwards to a level that can deal with it. For each issue, a check-plan-do process should be followed (at the given level where it presents itself).

Once again, this broadly corresponds to MST, which has however developed slightly more detailed concepts. Like Vanguard, MST also requires to integrate regulation fully with execution. However, MST explicitly distinguishes:

* three levels of regulation: operational (resolving immediate problems), tactical (changing the way problems are dealt with by changing the primary process), strategic (changing what is to be considered as problems to resolve);
* five steps in the regulation cycle (observe, judge on norms, select, act, norm);
* advice on how to allocate regulation tasks between team members;
* all of the above in relation to a diversity of interrelated aspects that must be integrated.

Vanguard on the other hand:

* does not elaborate so much on the nature of “issues” as does MST. These could for Vanguard in principle be operational, tactical or strategic, depending on their nature and could be dealt with at meso (task team)or macro level. Vanguard does point out that leaders need to be able to switch between operational, tactical and strategic levels and that they need to stay abreast of developments that are heading towards the organization so it can prepare itself in a timely way (via a check-plan-do process). Hence Vanguard and MST are once again in agreement but the lower degree of emphasis by Vanguard on strategy as a response to external development is probably due to its origin as a continuous improvement approach. While tactical issues –requiring structural responses- are bound to arise from the micro-level, generating a search to improve the existing business process, external developments that may as of yet be on the horizon are not so likely to be picked up at the micro-level and recognized as issues simply because the issue does not yet “hit” the organization. Hence the need for (new) global strategies to be created mainly at the macro level, coupled with innovation at the meso-level as a means to translate these strategies as a tactical change into something operational in due time. When Vanguard puts forward that this is also to be done on the basis of check-plan-do then this is not incorrect as this is a generic description of experimentation. However, the actual practices used to innovate may have to differ from the ones used to improve existing operations;
* defines the regulation cycle as “check-plan-do” which roughly corresponds to observe/judge (check), select/act (plan) and norm (do);
* does not elaborate on who can take on what kind of regulation inside the team. Implicitly, much of the regulating will be done by a manager;
* focuses on customer purpose and hence avoids having to integrate a diversity of interrelated aspects. As stated in the discussion on theory, the assumption is that this focus also will bring positive results regarding other aspects. E.g. if the process is designed to achieve the purpose without waste, then it will also be cost-efficient, also due to a lack of failure demand triggering work that should never have been generated in the first place.

In conclusion, MST has a significant contribution to make to Vanguard: greater attention to how to conduct strategic innovation processes. In addition, the role of the manager in regulating can probably shift towards team members when following MST’s insights.

Christis (2011, p. 106-7) claims that Lean, in contrast to MST, does not have specific guidance concerning how to structure regulation. Key in MST is the separation of operational regulation (selecting operations within a given structure) and learning from structural (selecting a structure within a given transformation) and strategic (selecting transformations i.e. system environmental relations). MST aims to put the entire regulatory cycle (observing, judging, acting) at operational level. This is then the foundation for participation at the structural and strategic level. As local units are fully responsible for integral (on all aspects) operational regulation of their processes, they can learn how to do this and get better at it (engaging in both routine and non-routine regulation). It is of course still possible issues arise that cannot be dealt with at this level. These are then input for the dialogue at the structural level. Here, regulation is also on all aspects and the regulating cycle is complete (observing, judging, acting). When structural solutions cannot be found, this points to the necessity of adjusting strategic goals and frameworks. At this level, experimentation can also be allowed where teams can deviate, not just because circumstances deviate, but merely because they want to try something new. Both a the structural level as at the strategic the search for solutions is decentralized, but the coordination and judging of results is centralized, pooling knowledge at system level. The creation of the structural level in between the local and global one is crucial to enable this experimentalism. In contrast, in command and control organisations, the higher levels determine the goals and frameworks for the lower level (micro-management) who need to be upwardly accountable.

The above criticism by Christis (2011) towards Lean applies also to Vanguard in so far as Vanguard does not explicitly distinguish a strategic level from a structural one and does not have principles in how to divide regulating work inside teams.

Christis (2011, p. 98, 108-10) also notes that both for Lean and MST, when an organizational structure is redesigned according to order flows, learning stops to be functional (about activities) and becomes order related. In this first instance, this is operational learning (single loop). MST recognizes the importance of organizational routines to save time and attention by reducing complexity (confronting us with simplified decision-making situations). Routines in combination with an order oriented structure have many advantages, illustrated by a case of a migraine clinic (Porter, 2008[[17]](#footnote-17)). Patients in such a clinic no longer get lost in a functional jungle of specialisms. Rather, they are treated by a team that has all required specialisms in it, oriented towards the specific illness. As they get many migraine patients (rather than a few on and off), they learn much more about this. In the first instance, this is operational learning and when this becomes routine, capacity is freed to also tackle more structural issues. Flow allows to improve processes (reduce changing times, improve quality and maintenance, attune product design and production more) with involvement of workers. The latter corresponds to what Mintzberg (1983)[[18]](#footnote-18) states about control processes where functional organisations are concerned with the “how” or activity and market oriented ones with the “what” or outputs. As the clinic continues, they also get better data that they can use to integrate research on better treatments in the clinic. Results get better and hence reputation improves which means more patients come with even more experience and research as a consequence. At some point sub-specialisms relating to migraine arise, which further improves results etc...

Indeed, this is what Vanguard’s issue management and MST’s regulating levels are all about. As soon as a problem is not a matter of operational learning anymore (deal with the problem within the process), it is escalated as an issue necessitating structural action (change the process, which can entail research). For MST, this relates to structural regulation. In addition, it can be the issue is strategic.

Christis (2011, p. 111-112) however puts forward that Lean answers two questions that MST does not. The first is: how can one prevent that organizational routines freeze and become a hindrance rather than a help? The answer is that those who are to use the routines should develop them as well as critically assess them. Every time when a disturbance happens, this is an opportunity to question the routines. This is possible thanks to the flow based organization that reveals disturbances much faster (these are not absorbed by stocks) and creates a sense of urgency to deal with them by having the team that runs the process conduct a root cause analysis (5 why’s). In this context, Lean helpfully distinguishes between standard work and work standards. Standard work is developed by teams who execute it in a flow based organisation. They are provisional, representing the best way know until that moment. If a problem occurs, the standard way of working is seen as a contributor to this problem and hence in need of revision to prevent the problem from re-occurring. Work standards, on the other hand, are set by staff groups in bureaucracies. They are put forward as (semi) permanent best practice, in line with F. Taylor’s idea that there is one best way to do things.

Indeed, these characteristic from Lean are also present in Vanguard which explicitly refers to benchmarking and best practice as the road to mediocrity. There is no substitute for doing one’s own thinking. It is the role of management to make sure the relevant people go through check-plan-do whenever an issue arises. In addition, managers do not manage incidents but rather try to determine the root cause why workers did not address these themselves. They ask “why” five times.

The second question Lean answers according to Christis (2011) is: what level of detail should routines have? This depends on the nature of the primary process. In production, standardization of components, making them easy to assemble, enabled mass production (where before this was a craft). However, when providing services to persons (e.g. financial services) or when attempting to change those persons (e.g. education, care) then it is not possible to literally make these persons the same. Hence, we resort to categorizing them, based on characteristics they share. But of course, their differences do not disappear. Because of this, the nature of routines and the way they are developed needs to be different. Christis (2011) however does not elaborate further on this.

As already stated, Vanguard takes as a starting point that that the variety in customer demand that confronts frontline service providers is much larger than for production workers. Hence, the absorption capacity of service provides must therefore be relatively higher. This means the level of detail of routines should be rather low.

Christis (2011, p. 108-9) also makes some further distinctions that we have not found so clearly elaborated in Kuipers et al (2012), nor in Coret et al (2014). “Structural” double learning concerns the internal organizational structure while “strategic” double loop learning concerns the external organizational structure (the relations with the external environment e.g. offering a new value proposition to clients, working with partners in the chain, …).

* 1. Designing systems incl. relating to performance measurement

Vanguard’s advice relating to systems design is rather limited. No specific advice is given on production (protocols, work instructions and procedures that rule human activity as well as technical means that take over some of the human activity) or preparatory systems (planning, logistics, work preparation, purchasing,…), most likely because these are much less relevant in service environments. Some advice relates to support systems in terms of personnel: learning is seen as having to happen mainly on the job. Expertise to pull in when faced with a low frequency demand should be available as and when needed. No specific guidance is given concerning recruitment and selection. However as we will see below, what NOT to do in terms of appraisal and rewards does receive attention.

Most of the advice of Vanguard then naturally relates to management and ICT systems with the emphasis on real time performance measurement and the use that can be made of it for learning in the aforementioned feed-back cycles. Learning measures relate to statistical process charts of variation in terms of time it takes to achieve purpose from the customer perspective as well as to substantive elements of that purpose. Only when customer interactions fall outside statistical control boundaries are these investigated in detail to understand if they are “accidents” or if there is a new kind of demand variation that should trigger a structural response. Value versus failure demand over time as well as how much of the work is dealt with without transfer and done right first time and the nature of the most frequent failure demands are also deemed of interest. Finally, the reasons for absence of workers are also of interest. Capacity measures (jobs/person, time/job, cost per job, …) are however not deemed of interest to learn from as they are derived from quality (the greater the quality, the lower the failure demand and less cost). However, managers do need to ensure that enough capacity is in place to meet projected demand. If this is not the case (e.g. due to wrong estimation of demand), capacity to deal with work will be exceeded and this may affect outcomes. However, there is nothing a team can learn in terms of how to work better from such measures.

There is no advice from Vanguard related to employee appraisal or rewards linked to this. This is understandable given the assumption that people should not be managed individually. Feed-back cycles and learning on the job are sufficient to ensure ever improving performance.

In the area of system design, MST as described by Kuipers et al (2012) does not elaborate much either beyond a number of general principles the most important of which is “minimal critical specification”. This means systems should be supportive without impeding the regulating capacity of people. The example of a roundabout (there are rules but decisions are made mainly by judging) versus traffic lights (these fully steer behavior) is given. Next to this, systems should be specific and adapted to the needs of the tasks teams (hence they can differ among them). In terms of information and planning systems, the principles of a dialogue both horizontally (inter-local) as well as vertically (operational, tactical, strategic) is given as well as the need for real time information that can be different for different teams and levels of the organisation. In terms of personnel systems, guidance is given on differentiation fixed rewards and on career paths and training, in line with the recommendations concerning how to divide executing work as well as regulating tasks within the meso-level task teams. Finally, engagement of those who will use the systems in designing them is crucial. Overall these recommendations are in line with what Vanguard would deem useful.

However, when it comes to performance measurement and its use, MST put forwards some recommendations that differ markedly from Vanguard’s. While there is agreement with Vanguard that measures are to be used locally (not for top down control) and be at hand readily to enable task teams to evaluate how they are doing, they seem to revert to traditional target setting on a variety of aspects of performance as a way to be enable “judgment” in the regulating cycle. Targets are vehemently opposed by Vanguard, regardless whether they are accepted via a participatory process. This opposition from Vanguard derives from its origins in continuous improvement where what matters is not to achieve a specific level of some variable of interest, but to learn how to do better. Setting thresholds ignores the fact that there is always going to be variation. Hence, statistical process charts where one can analysis not only if average values are improving but also if upper and lower control limits are moving closer to each, provide better “norms” than setting absolute values. MST can benefit greatly from these methods.

Finally, MST is in agreement with Vanguard regarding the dangers of linking rewards and results both at individual or group level. It is however more sophisticated in its advice how to vary fixed compensation levels within teams. It is able to do this due to the fact that had also more elaborate advice regarding the division of labour regarding the work as well as regulating tasks inside the teams. Vanguard can make use of these insights.

To conclude, in the area of the use of performance measures, Vanguard has a more sophisticated approach than MST. The latter relies on rather traditional notions of target setting, while Vanguard manages to focus on measures with have a higher potential for learning.

Regarding systems, Christis (2011) makes the statement that in Lean, flow is a pre-condition for replacing complex planning systems such as ERP by simple pull systems (Kanban) and simple accounting (Lean accounting or Value stream accounting) (p.98). This is indeed also the case in Vanguard which is entirely demand driven with all activity intent on realising the clients purpose.

1. The change process and the role of management

Both Vanguard and MST take a similar position towards designing the new organisation: this needs to be done in the first instance with the head in the cloud / for being perfect. Adapting it to reality comes afterwards. Also, involving a broad range of workers in analysis and design is a common element as is the need for a strong management that makes clear the process is not optional, although there is scope to work with volunteers first.

However, while MST opts for a rather traditional model of conferences to engage people in coming up with a design on paper, which then is “rolled-out” across the organisation, Vanguard chooses to allow everyone to go through their own check-plan-do process which it refers to as “rolling-in”. This allows everyone to undergo a much stronger normative re-education experience than is possible in the way MST proposes. With Vanguard, all teams get to design their ideal primary process based on an analysis which contains a strong emphatic element (looking at the organization from the customers’ point of view) which is missing in MST.

A conference approach where experts teach participants socio-technical principles to design a better organization on paper and then discuss it, is close to an empirical-rational strategy. Vanguard , in contrast to MST, resolutely privileges the normative re-education strategy. The perfect process is tried in practice by a team (that contains all the expertise the organization has in-house, incl. in terms of management ) and in this way reveals the real constraints that have to be resolved. These can never be fully anticipated nor understood in a theoretical exercise. When a workable, “near perfect” process has stabilized, the time has come to “roll-in” other teams. In this way, the Vanguard approach connects much better with Vroom’s expectancy motivation theory that MST refers to in its theoretical foundations. In this theory, key elements of motivation are the value I attach to a task and my judgment of how likely it is I will be successful. Of this latter component, self-efficacy (do I think I can do it successfully) is an important part. Vanguard makes the task of engaging in the Vanguard process highly important by having management make it clear that everyone will have to go through it. In addition, management leads by example and participates fully in the “vanguard” team, alongside regular colleagues. This shows they are in fact serious. Also, the first teams are typically constituted by volunteers that are truly “the vanguard”. This focus on volunteers ensures the first teams are more likely already thinking the task is of value. Through the volunteer mechanism, self-efficacy is also taken into account: these people obviously believe they are up to the challenge or they would not volunteer. But what about the rest of the organization? By choosing for roll-ins, Vanguard dramatically increases average self-efficacy across the organization over time. It does this by focusing attention to the Vanguard process, not to the actual outcome of this process (which usually results in a radically different way of serving customers that those who would not have lived through such a process would never consider feasible). As it does this sequentially with (initially volunteer) teams that contain all relevant skills and expertise, the example is continuously set to the next group that everyone can indeed do this process. This is probably also why Vanguard does not allow communication about the actual changes the various teams that are rolling in are making, only about the process they are following. Of course, the first team that goes through check-plan-do has the hardest job. All others teams can go faster as they can benefit from the experience of the earlier ones while they are in the process. Also this promised support affects the perception of probability of success.

In addition, social reference theory would predict that the very strong focus on purpose in the Vanguard approach is strong enough to deviate attention away from extrinsic motivators like money, status, etc. In MST no such clear focus exists. In addition, the usually strong focus of MST on self-regulation also at the micro-level, may create a situation where self-regulation itself becomes the key criterion to judge each other. However, it then loses its functionality.

Concluding, Vanguard and MST differ substantially in their approach to make change a reality. MST relies on traditional conference processes and roll-out while Vanguard uses a process of rolling-in the entire organization, little by little.

1. Conclusion

In terms of practical approach the following conclusions can be drawn.

MST and Vanguard overlap considerably, in terms of how to design an optimal flow /primary process, given a service delivery environment. The difference lies more in how to decide practically how many and what kinds of parallel flows there should be:

* Like with MST, there is no “right” scope. However, Vanguard is more pragmatic in defining the scope than is MST by starting its study of demand in existing organizational units that have favourable conditions (e.g. willingness to engage in the process, high volume of work, easy access to information and most importantly, linked in the most straightforward way to the purpose, hence this excludes staff units);
* Vanguard focuses on client side variation in value demand that can be linked to outcomes, whereas MST focuses on generic market oriented criteria that allow to separate flows to operate as autonomously as possible.
* Vanguard only maps the response to value demand and not to failure demand.
* MST has much more elaborate principles on how to divide work within a team than does Vanguard.

In terms of regulation, MST has a significant contribution to make to Vanguard: greater attention to how to conduct strategic innovation processes. In addition, the role of the manager in regulating can probably shift towards team members when following MST’s insights.

In the area of the use of performance measures, Vanguard has a more sophisticated approach than MST. The latter relies on rather traditional notions of target setting, while Vanguard manages to focus on measures which have a higher potential for learning.

Finally, Vanguard and MST differ substantially in their approach to make change a reality. MST relies on traditional conference processes and roll-out while Vanguard uses a process of rolling-in the entire organization, little by little.

# Overall conclusions

Overall, it is clear that MST and Vanguard differ little in terms of diagnosis of existing organizational problems as well as the theoretical foundations they rely on to construct their practical approaches.

However, there are some notable differences in the practical approaches.

As noted by Christis (2011, p. 99-100), MST is mainly an organisational design theory, developed on the basis of systemic theory. It is based on several levers that can be manipulated (following Mintzberg ):

* Production structure: a) degree of function (de)concentration b) specialization and division of execution;
* Regulating structure: a) levels (operational, tactical, strategic) b) process (local, inter-local and global) c) aspects (both aspect-based and integral regulation) d) functions (observe,select, judge, act).

Vanguard has succeeded to develop a stronger integration of systems theory and hence, organizational design, with theories concerning knowledge and motivation and hence change management. However, it still can learn from MST in various areas notably in terms of how to organise the mciro-level and how to conduct strategic innovation .

As both Vanguard and MST share the same foundations, there is no reason why they should engage in rivalry. On the contrary, both can reinforce each other especially in a services, and specifically public sector context, which is the focus of Vanguard.

ANNEX 1: comparison of MST and Vanguard

Table 1: diagnosis of existing organisational paradigm

|  |  |  |
| --- | --- | --- |
|  | MST | Vanguard |
| 1. Existing problematic organizational situation | Bureaucracy as defined by Taylor (1911) and Weber (1947) [[19]](#footnote-19) (p. 66) and described extensively from p. 202-60. | Command and control systems, linked to Smith (2009)[[20]](#footnote-20), Taylor, Weber and Sloan (1990)[[21]](#footnote-21) which are described at length on p.15 -76. |
| 2. Type of system | Closed system (p. 35) | Id. |
| 3. Key problem | **Structural complexity: division of labour** (narrow tasks due to separation of 1) types of activity (functional) 2) preparation, -execution and support versus regulative activities 3) types of regulation e.g. observing, judging, deciding, acting, norming 4) aspects that are being regulated (e.g. cost versus quality) 5) Strategic, tactical, operational regulation 6) regulation by activity. All this division means that (by definition) there is a **low capacity to regulate one’s own work**. At the same time the need to coordinate with others increases exponentially (as there are many more interfaces). Hence, the probability of errors due to this interaction also increases. But the narrow tasks mean that those who execute them do not have the overview and time to coordinate themselves. Hence, bureaucracies try to fix this problem with rules, prescriptions and procedures (p. 40). | The issues are discussed on p. 15-42.  The cost of public services is rising. Failures are forming a pattern. |
| Because it acts as **a closed system**, challenges posed by environmental pressures are typically reacted on by more rules, … (p.67) | Frequent restructuring of units accountable for “results” is oriented internally towards redrafting organigrammes and accompanied with a focus on numbers, activities and hours, **without reference to the external environment** (p. 50). Public sector is dominated by politics which creates an internal focus, directed at justification towards the **political level** (p. 62). |
| **Solutions** offered by traditional management studied **are always partial**. When **workers** transfer problems to others (because they do not have enough overview nor capacity) rules are created to limit this or workers are sent to training courses how to be customer oriented. Or managers attempt to motivate them. When problems with delays and reliability arise, project management techniques (focus on, more detail and stricter planning, combined with asking for more discipline in doing what is agreed), are used.  But **if the problems are 80% structural, then only 20% of the issues is addressed** with great effort. Hence, one should always attempt to understand the real causes of problems by studying the entire process and existing complexity in organising it.  (p.285-6). | The **focus is on “human error”** with the following usual solutions (p. 15-42):  a) replace the guilty (creating a culture of fear, without actually resolving the real problem or learning more about its causes), incl. rotating top management (which is an institutionalization of guilt thinking as the new manager –who does not need to know about content- always needs to get good results in short time spans and hence must fix problems left by a predecessor )(p. 75) b) sharpen rules, procedures and reporting c) intensify control, supervision and inspection d) work on the culture e) increase scale with shared services, call centre, mergers f) automate tasks and digitize services with ICT g) standardize services as products h) increase **division of labour**, making a specialist for every part of an issue, **disconnected from needs and demands of citizens** (then to be tackled by one stop service shops where behind the one door people are referred on anyway) i) optimize processes and install project management (Prince 2, ITIL; BISL, Theory of Constraints, TQM, Lean see p. 75) **leading to local improvements but deterioration in other parts** j) outsource.  Many of these efforts aim to **restrict professional autonomy.**  In addition, the focus on creating “choice” (markets) for citizens public in services (e.g. choosing hospitals based on averages on performance measures) is seen as unproductive: these averages concern natural variations (today’s better scoring hospital may score less tomorrow) that cannot serve as a guide (p.19).  The steering on costs is problematic and leads to more costs (p. 51). |
| 4. Competing organizational solutions | Flexible organization, Network organization, Pioneer regime.  However, the focus is on the flexible organization where the environment is predictable enough to have a fixed basic structure at macro/ meso (tasks) level. (p. 49) | Systems thinking |
| 5. Main required focus | **Change the structure** of the organization: the actual **division of labour of both executing as well as regulating activities** and roles across workplaces, people, teams and larger units. (p. 41) | **Affect managerial “thinking”** (p.71-76 and p. 67) in order to **get rid of:**  1) **separating thinking and doing via “management factories”** (p.52-55): as managers are too distant from the work, they create layers of coordinators and controllers which require lots of reporting and registration, with the help of specific staff departments e.g; HR, planning legal, finance,… and they implement change via projects. As upward reporting is filtered by these layers, only “good” news tends to reach the top.  2) **increasing specialization** (dividing work one person could do) with endless referrals and errors in transfers as a consequence (p. 68 and 71)  3) **managing incidents** (p.56): these are tackled by doing more of the same (more division of labour, standardising, targets, …) which affects employee morale as well as performance and costs. |
| While systems (formalized procedures of any kind), competences, culture and leadership also need to be acted on, this can only bear fruit when structural conditions have been taken care of (p.48). Once a structure has been established, this greatly determines what the organisation as a social system can achieve in terms of performance, the use of talents and possibilities of people and behavioural risks such as demotivation and work stress (p. 68)[[22]](#footnote-22). | 4) managing by numbers (p. 56-62): all specifications (e.g. targets, service levels) lead to a dual conclusion: one meets the specification or one does not. However, these specifications are always arbitrary. The real question is: what is an organization capable of, given how it is organized?  5) managing of people (p.62-65) with performance reviews and appraisals. This demoralizes people if they have little influence over the system and conditions within which they work.  6) managing by control/inspection (p. 65- 67): this derives from a lack of understanding of the previous points. As each inspection reveals problems, leading to new rules, which are to be inspected again and lead to exposing more problems of compliance…one starts to think that ever more inspection is crucial. But the real question is why no one deals with issues unless inspection puts them on the agenda.  7) managing costs (p. 69-70) where the real issue should not be if an activity could be done cheaper but if we are doing the right things in the first place:   * a typical example are call centres’ “cheap” unskilled frontline staff who work with scripts and who have targets to deal with calls within a short time. If the script does not fit the question they need to “sort” the question and refer it to more expensive “back-office” experts. Usually this is not direct: they need to put the demand into a queue. When it takes too long for the client to get an answer, they call again, increasing the volume of work (and the cost) of the call centre. Also, the lack of expertise at the front leads to frequent sorting errors. * also ICT is seen as a way to cut costs by getting rid of people. ICT is also seen as a good way to have control via standardization and workflow systems with authorisations control. (p. 74) |

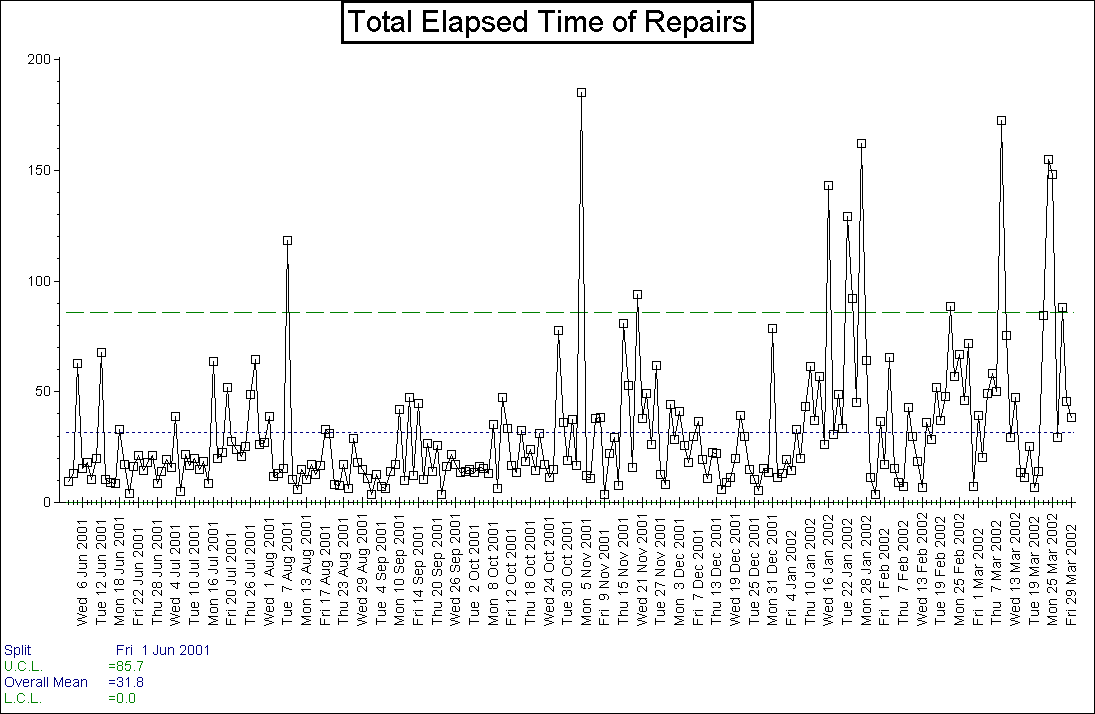
Table 2: theoretical foundations

|  |  |  |
| --- | --- | --- |
|  | MST | Vanguard |
| 1. Systems theory (appreciation of a system and theory of variation) | Open systems paradigm: environment puts forward many unpredictable events, dangers and demands (p. 35). Demands coming from outside are referred to as “**external function demands”** (p. 74). These demands are generated by a range of stakeholders such as clients, unions, suppliers, sector federations,…. (p 74-5). | To Ohno (2013)[[23]](#footnote-23) (p. 211) pull (the **customer** is the start of the process) and demand (what does the customer care about) are central. |
| The nature of **external demand is varied**. This variation needs to be translated into **“internal function demands”** relating to quality of organization (market demand incl. cost, quality, timing, speed, environment, flexibility in terms of choices offered and tailoring, innovation capacity), quality of labour (engagement of workers), quality of work relations (trust among internal / external stakeholders) (p.38-9 and p. 74). | There is a lot of speculation concerning what **matters to customers** (eg customers want to do everything online). Hence organizations hire research agencies ask standard questions to confirm their assumptions, while the answers can be gained from the daily contact frontline workers have with customers. It almost always relates to time (speed), timeliness (when it suits) and quality (right the first time). (p. 122).  To Deming (1982)[[24]](#footnote-24), sub-optimalisation has many kinds of costs: production costs (e.g. due to poor quality, large stocks) but also human (e.g. morale, turnover) and societal costs (p.209). |
| Organisations transform input into output and hence create **added value**. There is desired output as well as unforeseen and undesired output. **Processes** within the transformation process are characterised by **dependencies** between and within them (p. 74-5). | Deming visualised the organization as a system of **interlinked processes**. On the system boundaries are suppliers and consumers. His focus was on the flow of work through the system (pulled by the customer), rather than on functional activities (p. 208).  Suppliers are an integral part of the flow. (p.88)  Ohno also focused on flow where every “line” produces only exactly that what is asked for by the next line and ultimately the customer (p. 212).  The type of demand has to be separated into **value and failure demand**. The latter creates activity in the organization due to having addressed value demand improperly or not at all. Failure demand on average is put forwards as taking up more than 50% of the total demand. This represents the largest economic leverage, as it can free up capacity immediately (p. 82) |
| Nature of the organization: social network with nodes at the level of workplaces or higher level units. **People that operate at those nodes have technical means** at their disposal. It is however not possible to separate the social characteristics from the technical ones at those nodes. Hence the work of engineers and sociologists/ psychologists cannot be separated (p. 42). Rather than refer to this as “sub-systems” it is better to see them as “aspects”. The technical aspect refers to all techniques and procedures relating to task execution, communication, decision-making, supervision,… while the social aspect refers to social norms, values, assumptions, preferences… (p. 71) | Meadows[[25]](#footnote-25) stated that organizations are networks of relations (p. 179) which have become rigid. Loosening up and creating new relations takes time.  Instead of a system that brings physical parts together to make the product ordered by the customer, a service organisations should be seen as a system that **brings together the required expertise** to answer the demand of a customer (p.79) |
| However, it is key to understand that the **building blocks** of this social network are not people but **activities and events**. **People only enact** these with the help of tools at their disposal. Hence, organizing relates to understanding the predictability and variance of patterns of activity (p. 67-68).  When activity is predictable (stable) then processes can be anonymously regulated by using detailed procedures, norms, planning etc. (“mechanical” if…then routines). However, if there is change and unpredictability then “organic” interaction is needed where actors engage in reciprocal relations until they achieve the desired process. Usually, processes are characterized by a combination of elements e.g. in a restaurant the dishes are fixed but it is uncertain how much will be ordered when (p. 80). This is the meaning of **Ashby’s law of requisite variety**: the capacity to regulate must meet requirements to regulate (p. 40-1). | **Ashby’s law of requisite variety** (p. 223) states that a system must be able to match the variety it is confronted with, with the variety it possesses. The larger the variety of actions a control system has, the more variety of disturbances it can absorb. Also Stafford Beer (1979)[[26]](#footnote-26) puts forward that variety absorbs variety.  Within a **production** environment,this can mean that **variety is reduced by standardization,** but in a **service environment, variety is a characteristic of user demand** (p. 224). As humans vary greatly in their needs, there tends to be a **much greater variety in services** –especially when these are **co-created** e.g. as in psycho-therapy- than the variety in a production environment. (p. 58).  In production, the producer determines to a large extent the variation in the product (eg different kinds of car models) but in services the customer determines variation in direct interaction with the service provider and sometimes even in co-production (p. 79).  Ohno organized the production line at Toyota in such a way that all models (variation) could be maximally produced on the same line. This means: a continuous workflow with complex tasks requiring a highly capable workforce (p.78-9) (rather than a complex organization of simple tasks with unskilled labour as the done by traditional assembly lines where each line produces only one type of car and is not flexible).  As variation in a service environment cannot be reduced with “products”, it must be absorbed (p. 80 and 224) |
| Maintaining a “quasi-stationary equilibrium” refers to the continuous improvisation required in response to the equally continuous **disturbance**, consisting of **variation that** **deviates from what is expected** (e.g. error, delay, misunderstanding,…), in the process. The capacity to maintain such an equilibrium depends on the probability of disturbance as well as the capacity of the interaction network to deal with them.  **Disturbance** will **lead to a disruption of the equilibrium when the processing capacity** of the network is **exceeded** either in terms of **quantity** (more work than anticipated) or in terms of **repertoire** (the known responses –routines- as well as the improvisational capacity to generate new, non-routine actions).  (p. 81-3 and 84) | To really know what the **capacity to perform of an organization is, what happens to all types of demand should be studied** in detail. As managers find this too complicated they go for general indicators (p. 58-9).  Variety in services which influences customer outcomes derives from 1) the complexity of demand 2) the mood of the client 3) availability of information 4) experience of the service provider and many other personal and external factors. Crucially, it is not possible to predict exactly who will appear today and with what demand. (p. 58). |
| There is then a tendency to **export** such disturbances to other (equally powerless) nodes, hence creating a large probability of disturbance at network level. At the same time, the multiplication of interfaces increases the likelihood of **conflicting interactions** (“interferences” where what one interaction partner wants cannot be reconciled with what another one requests) which is also a disturbance (p. 81 and 83 and 98-99). | According to Deming, variation in a process is a source of problems that **translates exponentially** through a system (p. 208). |
| To deal with disturbance, enough **regulating capacity** (to observe, judge and decide what to do) at a node (workplace, group) is also required.  This can be internal: dealing autonomously with the variability of the environment at a given node (which relates to “how” to do things within the domain of one’s tasks e.g. how to address a demand). This can be external: resolve issues with other nodes (hence outside one’s own domain of tasks e.g. get some help if the quantity of work is too much –so this relates to “what to do”).  In other words, the “theoretical” processing capacity can be limited by the actual regulatory capacity (e.g. when a person could handle a disturbance –it is within his/her repertoire- but does not have the authority to do so).  (p.99) |  |
| Bureaucracies (rigid networks) that attempt to resolve the huge need for coordination between nodes in the network (due to maximal division of labour which also means operators do not have a view of the whole) by “if…then” routines cannot easily handle disturbance. (p.81 and 83) | To Ohno, both workers and managers need to have knowledge of the entire process in order to be able to intervene. (p. 212). |
| In case of many rules (routines) being hit by disturbances, the most used “solutions”, if **regulating capacity is limited**, are: building in buffers (e.g. of time or clients and, in production, stocks) and creating an **informal organization** (circumventing . the rules). Another typical response is creating even more rules, procedures, more detailed plans and controls (also to “control” the informal organization), which are maintained by large staff departments. All of this is costly. (p. 100). | **Process and quality manuals**, work instructions, etc. tend to **gather dust** until inspectors arrive. Workflow **systems** often **make it impossible for workers to use their own professional judgment and expertise** (p.85). |
| 2. Theory of knowledge | Regulating consists of cycles of 1) observing 2) judging (relative to –context dependent- norms relating to a variety of interrelated aspects that must be integrated –weighed- to come to an overall judgment) 3) selecting action (automatically if routine or on the basis of creativity, expertise and experience if non-routine) 4) execution 5) (re)setting norms.  If only steps 1-4 exist this is referred to as single loop learning. If also norms are (re)set, then this is double loop learning (p. 85-88). | Deming, borrowing from Shewart, proposes the scientific method of “hypothesis-experiment-evaluation” of Plan-Do-Check. A fourth step is added: Act (upon the evaluation). (p. 206).  Argyris and Schön (1974, 1978))[[27]](#footnote-27) first distinguished single from double loop learning. Single loop concerns observing a deviation from expectations and learning what action is then most appropriate to correct this. However, there is no attempt to figure out what is the root cause of the deviation. Double loop learning examines the assumptions and causes (p. 215).  Meadows put forward that there are three ways to affect a system (p. 77):  -change its elements: this has little effect (eg change players in a soccer team)  -change its relations: this has a substantial effect (eg change the rules of soccer)  -change its purpose: this has the biggest effect (eg change the purpose of soccer). |
| When the primary process is predictable and there is unambiguity (everything is clear in terms of observations, judgment, selecting and acting), the regulating cycle can be specified in detailed routines (p.86-87).  A predictable process does not mean there is no variation. It just means this **variation is predicted** hence change is “stationary”: **all situations that can occur are “known” both internally** (all possible responses given existing people and resources) **and externally** (input-output combinations given existing relations with other nodes in the network). **Single loop learning consists of becoming familiar with all that is known** (p.104-5)  Regulating (after Karl Weick, 1979[[28]](#footnote-28)) then consists of many rules and few regulating cycles. Execution and regulation can then also be separated as can the steps in the regulating cycle as well as the aspects of judging. All of the **rules are fixed** in the memory of the members of the organization as well as in **procedure manuals**. This creates a closed system replacing reality. As long as reality does not deviate from this “memory” there is no problem. (p.86-87). | Deming, following Shewart’s lead, emphasized that if the variation of any variable of interest relating to a given process **remains within certain statistical boundaries** (upper and lower control limit -see annex 2), then this process is under control (stable). All variation within these limits is understood to **derive from the way the process is organized**. More narrow boundaries mean the process is more stable and outcomes of the process become more predictable (p.205-6).  This also means that setting targets (specification of a value) is useless as the result of a stable process will predictably vary. If the process is unpredictable (chaotic), then it first needs to be brought under control (p.57) |
| However, as soon as there is **dynamic and ambiguity** it is necessary to have few rules and many cycles and the “memory” cannot be trusted. In fact, it is required to act as an open system and **engage in double loop learning**. (p.87-88). Change is then “non-stationary” which means unknown situations occur either internally (new I-O combinations e.g. due to new technology, knowledge) or externally (e.g. new partners arrive or old ones have new demands). Nodes then need to be able to **deviate from existing routines and doubt them** in order not to close themselves off from the new, possible relevant developments. The space for that is referred to as **non-routine regulating capacity.** This can also be explained as capacity to improvise which is accessible in the regulation process.  In terms of the regulatory cycle, a fifth steps added: norming. In single loop learning, this is the framework for the four other steps. But in double loop learning, the norms themselves are reframed.  (p. 104-5). | Only **values outside the boundaries** are special enough to be investigated (p. 206). |
| The key problem of double loop learning is then one of adaptation: how can an organization recognize changes it should react to by changing itself (its norms), if it **only sees what it is already “organized” to see**? Indeed, to enable meaningful observation in the first place, principles and values that allow us to recognize elements in the environment as relevant need to pre-exist. But these also restrict us. The answer is purported to lie again with Karl Weick who stated that the **organization needs to act (experiment) and doubt** (the existing routines). (p. 65, 67 and p.87). | Ohno had as a principle that new managers were not trained, did not get projects to do, received no tools nor any explanation. They were just told to **discover the system on their own by directly observing it.** The design principle they should follow is that in the work, **only that should be done which is needed to meet the customer’s demand.** (p. 212). |
| 3. Motivational theory | Sprenger (1996)[[29]](#footnote-29) states that to motivate is always to demotivate. He refers to four strategies of **extrinsic motivation :**  -forcing: assumes possibility for **punishment,** cutting off escape routes, measuring performance exactly. However, people will not do anything more than the bare minimum required by such systems.  -tempting: **rewards and promotions**. Problem is this is unsustainable (ever greater stimuli required e.g. bonuses in banks) and those who do not win are demotivated. Again assumes perfect measurement.  -seducing: uses **pride** (about the organization and the leader). But it works only as long as there is success (breeding cynicism if attempted when things go badly). Also, there is a risk of dependency on the leader. It can also lead to a fan culture (not seeing the problems, not accepting deviance). Professional pride does not have to be “stimulated” when people can see their contribution in a good service.  -vision: this tries to appeal to people not via the present (as with pride) but the future. However, if **promises** are not realised, this can demotivate. Again dependency on the leader can occur. In this case, the leader may also restrict the horizon.  (p. 126-129) | Getting workers to follow the leader used to happen by f**orcing** but today it is more prone to **psychological tricks** (p. 64)  Alfie Kohn (1993) [[30]](#footnote-30) (p.220-2) puts forward **rewards** lead to devaluing a task and impede learning. Just as with **punishment,** the model is one of **manipulation of behavior via extrinsic motivation**. For Kohn, all forms of performance incentives should be abolished, while ensuring the **money does not become a demotivator (must be fair**). Judgment of performance should not be done via an annual ritual but continuously and without link to reward. |
| Sprenger’s alternative concept of **motivated responsibility** requires: 1) making one’s own choices (rather than being forced by other or circumstances, which is a breeding ground for moaning, becoming cynical, pushing aside responsibility) 2) own volition (rather than being forced, incited or tempted) 3) being able to co-shape visions into common ones. This does not mean leaders cannot have visions of their own but rather that they are but one element within the interaction with others (p.95-97)[[31]](#footnote-31). | For Kohn, Learning can best happen in context and via **intrinsic motivation.** This requires that conditions for intrinsic motivation must be ensured**: cooperation** (being part of a community that works towards a **common goal**), **interesting work and autonomy** (p. 220-2). |
| If one feels **responsible but cannot act**, then frustration and stress arise. Typically, few possibilities exist to get more power to act. If people at the same time cannot see the point of their activity (contribution to the whole), due to narrow task divisions, then they either leaving or adapting to the situation by disengaging (being cynical, estranged). If they stay, they may then focus solely **on extrinsic factors such as pay, promotion** etc. At the extreme, the organization becomes a means to only strive after personal interests (p. 101-2).  In line with this, the starting point for MST is that work and how it is organized can mobilise certain motivations and develop these as well as block other motivations. MST seeks to engage people on the basis of their **“intrinsic” motivation** by minimal division of labour and **maximal regulation capacity**. Intrinsic means they are motivated by the **challenge embedded** in the task itself, **given a fair reward**. When this is the case, then using extrinsic motivation will suppress the intrinsic kind. (p. 116 and 126).¨ | While most people have varied reasons to work, most of them, once they arrive at work, are more keen on doing a good job than messing up. (p. 64). Managers mainly see people that show the wrong behavior which convinces them these people are **not to be trusted**. Hence they attempt to **manage this behavior** (p. 62). This is done via inspection and performance reviews/appraisal.  Performance reviews and appraisal however are only are useful if they focus on removing barriers that inhibit someone to do a good job. However, as managers do not know enough about the daily work, this is very difficult. At the same time, **workers do not have much influence**. If people have little influence, then the attention they get tells them it is more important to justify what they do and to meet performance targets than to provide good service. To avoid attention, they will also “game the system”. (p.62)  Inspection in service organization is mostly done by managers. Inspection and rules, incl. standardization of work, always go together. Without clear rules, it is not possible to inspect unambiguously. Hence the rules tend to multiply and become ever more detailed. They also become embedded in ICT (p. 66-7)  Trying to manage people’s behaviour creates a **culture of fear**, hidden agendas and survival strategies. As failures are not easily discussed, learning cannot happen. Managing by inspection also reinforces a culture of fear, this time to deviate from standards. The control culture **motivates to do only what is specified**, even if this is not in the interest of the customer. This is then viewed as a problem with culture that has to be addressed by even more attention to managing people e.g. by sending them to trainings (on working together, taking initiative, feeling responsible). While often these can have a short term invigorating effect, most people revert back to the old ways in the unchanged system (p. 62-65, p. 67, p. 74). |
| Social reference theory: People also develop themselves and their self-image in interaction with others (as demonstrated by brain research summarized by Slob[[32]](#footnote-32)). If the environment is not rich enough, our development stagnates as measured by shape of the brain. Hence, not our innate “drives” determine what we do, but the **criteria derived from norms that are accepted in the social network**. People compare themselves to others on those criteria of relevance in the network with the aim to look good. Several tactics exist for the latter: a) change behavior by exerting oneself b) change whom you compare with c) change relative weighting of what you compare on d) make excuses (p.122-4).  **If what matters most is something like money, status etc. then this can create a kind of “arms race”** oriented towards these kinds of criteria. (p. 130) | **Targets tend to become de facto purposes**. People will do whatever is required to meet them, even if this does not meet the real needs of customers e.g. they will go for easy (measured) tasks first, even if these are less relevant to the customers. This effect is strengthened if rewards are linked to achieving targets. Such (incentivised) targets do not tell people what they can do to improve, they are not inviting to learn. They do **incite competition between colleagues and units** to meet their own narrow targets (relating to the same customer), which often leads to transferring problems / customers to each other rather than working for the overall good (p.60- 61). A lot of work then consists in communication between units to get missing information or to determine who made a mistake. (p. 85) |
| According to social reference theory, fundamental change in terms of challenging norms can still happen as there are always behaviours and opinions in the network that derive from deviating norms. Sometimes these develop into dominance. Hence, **tolerance for deviance is a key requirement** for the survival of a network in a dynamic context (p. 125). |  |
| Social reference theory is to be contrasted with approaches that seek to create a fit between what people desire (which is assumed to be fixed) and the organization, usually reflected in their “satisfaction” (p. 110). The existence of individual differences in predisposition to suppress and develop certain motivations in interaction with the environment is not denied. E.g. some people engage quicker than others. But it is put forward that it is the **organization of the work that determines to what extent this pre-disposition is mobilized** (p. 116-7). | Herzberg, Mausner, Bloch Snyderman (1959)[[33]](#footnote-33) formulated the two factor theory or motivation-hygiene theory. **Hygiene factors are extrinsic. When absent they demotivate**. **Motivation factors are intrinsic: when present they motivate**. The former are e.g. supervision, control, labour conditions, salary, relations with colleagues and supervisors, status, job security… and the latter are accomplishing something, recognition, the work itself, responsibility, growth and promotion. These intrinsic factors are also what McGregor (1960)[[34]](#footnote-34) took as the foundation for **theory Y, a set of assumptions held by managers regarding human nature and what motivates people. Theory X is more in line with the extrinsic motivators.** (p. 218-9) |
| In addition, **satisfaction is criticised as a useful measure** as levels tend to converge at 70-80% and there is only a weak connection to sickness, stress and staff turnover. The explanation lies in adaptive preference: immediately after a change that is perceived negative or positive, this can be reflected in satisfaction, but after a while, people adjust. They learn to be “satisfied with what they have”. Also, a satisfied worker does not mean a motivated one: as far as the person has “accepted” the situation it can even refer to disengagement. Dissatisfaction can on the other hand provide a drive to act. Hence, the aim to satisfy people’s needs is not a useful one: to keep people motivated, one should then make sure the (diverse) needs are never really fulfilled and it would be very difficult anyway to determine centrally[[35]](#footnote-35) for each individual exactly what they need. More fruitful is to give people the space in the organisation to discover their talents themselves and to find ways to develop these (p. 118-122). | **Annual satisfaction surveys tend to show the same results over and over again**. People are relatively satisfied with their job and functioning, they have a relatively good contact with their direct supervisor but they feel that management does not have the capacity to take the right decisions nor do they think management communicates well. Also they feel they are not heard by management. Hence efforts are made towards communication, management skills and empowerment but nothing really changes on the satisfaction scores (p. 74) |
| Karasek (1979) [[36]](#footnote-36) pointed out with his “job-demand” model that “challenges” (e.g. disturbances) are not a problem for people. In fact, **people tend to seek out challenges.** However, the **problem starts if there is too little capacity to deal with these** challenges. Then stress (burn-out risk) results. However, low challenges combined with low capacity to regulate do not create stress but boring work (bore-out). If high capacity to regulate exists with a low challenge, then this is referred to as “meaningless “ work. Hence, only the combination of challenging work with regulative capacity leads to learning opportunities and hence fulfillment. (p. 106) |  |
| Cognitive evaluation theory (e.g. De Charms, 1968)[[37]](#footnote-37): extrinsic triggers make people feel a loss of control and hence demotivation. Focus on the work itself shifts to the money. Using money to reward performance can be seen as sign of distrust. (p. 130) |  |
| Equity theory (e;g. Adams, 1965)[[38]](#footnote-38): people attempt to resolve perceived inequity. If they think others unfairly earn more than they do they will attempt to resolve this. (p. 131) |  |
| Goal setting theory (Pritchard, 1990)[[39]](#footnote-39): specific challenging goals are motivating, given good quality feed-back. This does not mean setting targets in a top down fashion is a good idea as these tend to be too hard or too easy and deviate attention and concentration from the work itself (paralysing). Hence linking them to financial incentives is not recommended. (p. 134-5) |  |
| Expectancy theory (Vroom, 1964)[[40]](#footnote-40): this concerns the quantity of motivation . This is determined by strength of the expectation that an action will achieve an outcome as well as the attractiveness of this outcome. (p. 132-3) |  |
| 4. Sociological structuration theory | Relation between “structure” and “agency” (Giddens, 1984[[41]](#footnote-41)): structure (division of labour) and systems (hardware versus software resp. machines, physical lay-out versus procedures, protocols, instructions, specifications, …) determine choices we can make in terms of behavior as well as our mental attitudes but we can also make choices that determine these systems and structures (p. 71-2) |  |

Table 3: practical principles in transforming organisations

|  |  |  |
| --- | --- | --- |
|  | MST | Vanguard |
| 1) Role of strategy | Key role for strategic positioning of organization in its environment which determines demands towards execution of processes which itself determines how much regulating capacity is needed at the operational level (p. 34-6).  Hence self-managed teams are not an obvious outcome of the process (p. 34-5).  Strategy is put forward as best **starting from a vision and (new) mission** to ensure that people do not reason on the basis of the existing situation which would lead to incremental rather than fundamental improvement (p. 484).  The mission, goals and strategy of the organization have to be translated into a **primary process** in order to enable the design of an appropriate structure (p. 69).  This primary process (of execution) consists of **preparatory** (e.g. buying inputs, setting up,… ), **service delivery and supportive** (e.g. maintenance of skills, financial management,…) activities. | Starts with “Check”: process of analysis that has to be **jointly conducted by management and employees** by going **into the work** (p. 98).  “Strategy” is mostly limited to ensuring a **deep sense of purpose towards customer** (p. 108-  Clients generally just want their demand to be addressed properly the first time and swiftly. (p. 82)  11).  Next to this, managers do need to **stay abreast of developments that are heading towards the organization**, what is happening elsewhere, what political policy-making will mean. They need to discuss this with the rest of the organization to ensure it can prepare itself in a timely fashion by applying check-plan-do on these new developments. (p. 181) |
| 2) Analysis | Steps (p.283) in the analysis phase are:  **1) Define the scope of the organization** (**incl. what the primary process is**).  There are three levels of organisation:  -Micro: groupings of tasks at a workplace level and the interfaces between such workplaces  -Meso: grouping of workplaces within a task team and the interfaces between such teams  -Macro: grouping within larger units and the interfaces between such units (p. 41)  This distinction is relatively arbitrary: in large organisations there will be more than three levels (everything above meso is then macro). Hence it is important to make clear when starting a design process what levels are distinguished (p. 75). After the analysis phase, the design phase will start from macro to micro first (p. 78).  There is a **tendency** to make the **scope too narrow**. This has to be discovered during the process. Boundaries may have to be redrawn (more narrow or broader) several times. E.g. if we focus on the faculty of military sciences then the education process is primary. If we focus on the military as a whole, this faculty is a supporting process. Hence it is recommend to first get a broad orientation concerning the structural issues to address. (p. 287).  2) Determine the **mission** (what it wants to be, founded on the reason why it exists and the values that are associated with that) and **the vision** (elaborates the mission into the future in terms of how stakeholders will see it, amidst what trends in terms of technology, competition, clients and labour), **goals and strategy as well as the primary process:** mission is translated into goals (concrete and feasible, shaped by internal ambition and external need) and these into a strategy (how to achieve these goals, incl. in terms of guiding principles/philosophy; overall concept, key elements, framework and criteria within which organisational design can happen, strived after values and norms, rules of the game for the change process). There needs to be **clarity and agreement about the direction** of the organisation. An approach used frequently are “(future) search conferences” that also create commitment. (p. 288-90): | “Check” starts where the **customer** starts: where the **contacts** with the organization occur (rather than looking at traffic lights for objectives and costs). Look **from their perspective** into the organization to see **how the work flows**. (p. 80-1)  Questions are:  1) Who is **the customer**? This does not mean there can be only one customer. It is also possible that the primary process consists of balancing the needs of various customers (e.g. neighbours versus someone who wants to re-build a house). Sometimes the “customer” is not a voluntary one e.g. prisoners. In fact, it is to be expected there are several (types of) customer and they all have different needs and expectations. The key question is: for whom do we exist? The answer cannot be: politicians top managers, inspectors, governing bodies … just because information, reports etc. are defined as “products”. The **only way to find out for whom we exist, is to go into the work**. (p. 105-8)  2) What is **the purpose** of the work? There can be different purposes for different **customers**. This is not a lofty mission statement. (p. 108-111)  3) Where does demand hit the organization (contact points)? This is a good question for transactional services where the customers come with a demand. But in some cases, the work does not start with a customer asking something (e.g. police does not always get a call). Then the revised question is: what makes the work start? (p. 111-4). |
|  | 3) Determine **specifications** for the targeted primary (production/service) process (incl. preparatory and supportive processes) **by studying** it. It is needed to focus on the process as such, irrespective of the existing structure, division of labour and procedures (p.291).  Questions are: to what extent do the activities in the order flow repeat? **What variations** of products and services are **“ordered”** from activity cycle to activity cycle (depending on variation in the external environment)? What are **demands / norms** that are to be met when processing orders? (p. 68-9).  The following aspects are therefore studied:  a) Study of the order flow . This is key for later parallelizing of flows at macro-level (separating them in more homogenous flows) (p.291-4):  *First* ***what is an order*** *needs to be defined* e.g. in a university is this a course that is ordered or a student? This matters as the flow of the primary process respectively becomes a flow of courses (where a client has the overview and “shops” for courses and is capable of integrating these) or a flow of people (where a person will be delivered to society). This definition is strongly influenced by the mission of an organization (which does not mean that they are equal, as it is possible to determine after the fact that a certain definition may generate less favourable results, see p. 289).  Especially in services, people can be both clients and objects of the process. This is particularly the case for complex services where contributions from various disciplines need to be integrated and also tailored to suit the needs of clients. The client is in this case an indivisible unit.  *Second, what is the* ***variety, volume and predictability of the order flow?***  **Variety** can concern client aspects (importance of clients, professional or private persons, location, etc.) as well as production aspects (differences in duration, size, combinations of tasks, …).  -turbulent: very large, unpredictable variation of orders where (specialist) people and resources need to work creatively in very different combinations on unique services or products every time (e.g. for treatment of complex illness, when innovating new products, creating a movie, completely individual learning paths of students…);  -heterogeneous: the order repertoire is still very varied and unpredictable (small series, single pieces), but the input repertoire is fixed (what specialist people resources to execute what tasks). What needs to vary for the orders is the sequences and combinations of the fixed repertoire of tasks (e.g. building custom made villas, students that can still have many different choices to determine their common degree);  -semi-homogenous: orders are treated in batches where within a batch, they are homogenous while between them they have differences. But they all broadly follow the same process anyway (tasks) (e.g. series cars).  -homogenous: only one kind of order, produced in the same way every time (e.g. routine administrative processes, standard semi-finished products…).  Semi and fully homogenous flows can be continuous (they are fully automated).  [*In the design phase,* *parallellising consists of grouping orders into “families” that can be processed as a relatively regular flow (of tasks and their sequences). This grouping happens on the basis of the (client/production) aspects of variation as mentioned above (p.317). Parallellising needs to be done in order to ensure that 1) between the flows that are organized in the various groups require little interaction between those groups ( not complex) and that 2) there is less diversity in input into each group.]*  In addition, **volume and stability of volume of demand should be studied.**  *[This matters for the flows that are grouped later in the design phase terms of being practically viable (justifying the amount of people and means to be put in place). (p.317)*  *Hence variety (for potential concerning input simplification and complexity reduction by homogenisation via parallelisation), predictability and size of the order flow (both for viability as a grouping) are key. A large road side restaurant can separate coffee drinkers, simple meal takers and elaborate diners because there is enough scale and stability for all these order variations (p. 319)]* | 4) What is the **type and frequency of demand?**  Study the existing (or past) work in detail: categorise it and count how much it occurs in % Is demand concentrated (some categories account for the most%) or very fragmented (many small %). Is it value (linked to purpose) or failure (due to improper or no earlier reponse) demand?  How many demands relate to the **same case** over a given time period? How **predictable** is demand (eg few times a year, or regularly)? (p. 114-20)  **5) What matters to the customer**? This relates to “how” the purpose is addressed. This can be found out from the daily contacts with customers. Almost always it concerns speed, timeliness and quality (right the first time). (p. 120-123)  **6) How well are we performing? (p. 123-27)** This can be done on the basis of in depth analysis of (past or present) case histories (customer journeys) for services that consist of longer engagements (relations) to looking at simple one –off transactions.  **Variation** is charted with Statistical Process Charts (either relating to single transactions or to meaningful phases in a longer journey) (p. 60, p. 148-9). |
| b) complexity of the execution (p.295-6):  A **detailed process mapping of activities** (preparation, execution, support), their sequence, their interconnection, the time they require, … needs to be done.  Next, this should be **reviewed critically**. Where activities are conducted that do not add value, these should be eliminated. Also activities that should be automated should be identified as well as those that could be outsourced.  This leaves a view of those activities that should be conducted by people, using selected technical means.  An analysis of the **nature and strength of the interconnections between activities** should be mapped on the various order streams to see how much parallel flows would still interact (e.g. diagnosis for the order flow related to curing sick children may have nothing in common to the diagnosis of people with issues of their skeleton).  In addition, **indivisible capacity** needs to be identified (e.g. only one tester or one machine to test with that is used by all flows). This is done irrespective of existing structure and procedures.  *[This is key for later segmentation of relatively homogenous flows at macro-level into task units at meso-level in case that one unit cannot deal with all of the tasks as this would be too complex or too large scale. It also helps determine how to allocate tasks at micro-level between people within a meso-level unit.]* | 7) How does the **value demand flow** through the organization, from first contact to finalizing from the point of view of the customer? Failure demand is not followed. Once the whole flow is mapped, all activities are analysed from the point of view of the customer. What is **valuable is called value work. Everything else is waste**. Value + waste = total capacity. Hence reducing waste will free up capacity to do more value work (p. 128-133) . This existing flow is best visualized in a systems picture (p. 136). |
| c) Function demands (p. 296-7).(flexibility, innovation, control, quality of labour and labour relations, put forward voluntarily from inside to strategically position the organization, or required from outside) to fulfill when processing orders.  These demands should be quantified (e.g. reduce absenteeism to 4%).  *This matters for later determination of where to put what regulatory capacity. As function demands in many different areas of functioning become sharper, the regulatory capacity will have to be closer to the execution. This then presumes that organisations have been parallellised and segmented in such a way that teams reflect complete processes that they can more easily regulate themselves* | 8) **What do managers spend their time on**? (p. 132-3). Check also what is being measured and what decisions are being taken on the basis of this. Check how much measurement is related to capacity (amount of work x time needed to do the work) and how much is telling them how good a job is being done for the customer. (p. 123-7) |
| 3) Criteria for grouping activities | Activities can be grouped at macro-level (p. 77) into:  **-similarity of product/service**  **-similarity of users (incl. by geography)**  **-similarity of suppliers** (p. 320)  Bureaucracies tend to groups based on similarity of activity (functional grouping).  In practice there is a relation between these ways of grouping. E.g. to group a road side restaurant into coffee-drinkers, simple meal takers and elaborate diners (similarity of user) means the three streams are also totally different in terms of service (similarity of product/service). (p. 320).  The following combinations are then possible in flexible organisations:  -product/market (where these coincide)  -(families) of products/services  -client groups / market segments  -regions  -suppliers  -identical units (with identical order mixes)  (p. 321)  **In production a** **grouping** based on similarity of **products** (due to production technical aspects) may be a good first attempt. However**, in services with a locational aspect, a regional grouping** is a good option as there, client and product tend to converge. (p. 320) | Division of labour is recognized as necessary. Not everyone can do everything and decide about everything. But the logic needs to be different than in bureaucracies (p.81)  **Not all value demands need to travel the same way through the organization** **and dealt with in the same way.** This allows to help customers more quickly and reduces stocks, which reduces costs. What is value work for some demand could be waste for another. (p.146-7) |
| 4) Sequence of activities when redesigning organisations | A key distinction is made between the execution of tasks and regulating these.  **1) First, it is** **needed to design the service/production as a process** (p. 297-300):  This is done from the macro to the meso (task team) and the micro level (p.78, p. 283).  The starting point is that the capacity of this process to vary needs to be in line with the requirement to do so. It is the division of labour that determines this: too rigid an organization will not be effective, too loose will not be efficient (Ashby’s law). In practice, most organization are too rigid.  **a) AT MACRO LEVEL, relatively autonomous units of less than 200 person need to be created by parallellising the order flow** (see above). With more than 200 person, communication and internal relations require too much energy to ensure that everyone is sufficiently informed.  This means the macro-level can contain quite a few levels, where each level could use a different sorting criterion (e.g. first regional, then according to clients).  **b) AT MESO LEVEL**, we need to s**plit up macro units into “task” units of maximally 20 persons and minimally 6 (ideally 8-12,** p. 356).  b.I. Ideally, this is done **by further parallelizing.**  **In services**, often, this takes the shape of **sectoral** groups (operating on a recognizable geographical area) because the work is **location specific** and local **expertise** is needed. However, it can also be because the work is in its **execution indivisible** (e.g. local public transport where an exploitation team is responsible for a fixed trajectory) (p. 330-1).  Also, this can take the shape of **product groups** (e.g. in a large university, various teams of lecturers could be offering the same overall degree to student groups, next to each other; in production, multifunctional teams could be making similar types of tools). **Within products groups**, there are some variations. E.g. a product group can take the shape of a **“mini-line”** where, rather than have 100 people next to each other on a traditional assembly line, executing very narrow tasks at high cycle times, now there are only 10 people who execute a range of tasks with cycle times that are 10 times longer (if such mini-lines are not product specific, they are referred to as “**capacity groups”**). (p. 329-330)  b. II. Splitting up can also be done by **segmenting** (p.326- 327).  If only parallellising is not sufficient (when the product/service is product-technically speaking too complex –requiring too many types of very different expertise- and time consuming e.g. building an entire ship), then a unit must be segmented. This has to be into **internally cohesive clusters of activities** (e.g. according to a meaningful **phase** in the university degree).  In addition, there should be a **simple relation between the segments** (little interface requirements and little scope for problems at interfaces). Also ,the task domain of a segment must be **visible** and measurable. It must form a **recognizable contribution** to a final product. *This matters greatly for assigning regulatory capacity later on.* (p. 326)  Also the degree of unpredictability of the order process needs to be taken into account. The **more unpredictable** the process (either production technical where various specialists need to attune their efforts to each other intensively, or, in terms of having to attune products/services regularly to changing external demands), the more reason **NOT to segment** but keep the process whole inside a unit  Types of segment dependencies are then:  -Segments can be only dependent on each others output: they work in parallel until they bring together their parts into the whole. They are referred to as **“module” groups** or, when the order stream is very varied, “task groups for parts” (for flexibly combining smaller parts into a bigger, relatively varied range of products).  -Segments can depend also on each other’s input (the output of one is the input of the other). Then we talk about **“phase” groups**, where every group produces a finished “phase” of a product, which serves as input for the next group’s phase. There are also **phase groups over time**: these are teams that take over each other’s work in shifts (a “time phase”). (p. 331-3)  b.III Parallellising and segmenting **turbulent o**rder streams:  The approach described above can however not be done in a straightforward way for turbulent streams where rather a choice has to be made for a **project based structure** where groups are temporary formed on the basis of projects (e.g. as in consultancy companies). However, the people that will work in groups still have various “home” units from which they are picked. These home units are not functional (based on specific expertise) but oriented towards types of projects. The “order” flow is the flow of projects. Because people are together in the home structure and work on similar projects over and over again, they can form project groups relatively fast. Segmentation then concerns how to divide up large projects into meaningful components that are as independent of each other as possible but also have simple interfaces (p. 341-2 and p. 343).  b. IV Segmenting preparation and support: ideally, everything that is needed to fulfill (a meaningful part of) the order is contained within the meso-units.(p.328)  However, one needs to consider whether to place preparatory and supporting tasks inside the segments or to group these centrally at meso or macro level.  Key questions are: are the preparatory and supportive tasks associated with **scarce, specialist capacity, necessitating separation**? At meso level, in addition, much **more inter-local coordination** is required. Such capacities can be placed **separately in a ‘staff’ segment** (p.328-9).  This is to be contrasted with bureaucracies that tend to create functional groupings (activity-similarity) and separate preparatory, execution and supporting processes, and then also divide this into aspects (e.g. purchasing, planning,…) to be put in functional staff department. When moving to a flexible regime, the following actions should therefore be taken: (p. 393-395)  -move these tasks maximally to the teams;  -if the tasks are too specialized, specific, time consuming, move the actual staff to the teams if there are enough of them;  -move tasks to the team maximally and keep a (much smaller) range of specialists in a staff unit to support the teams;  -integrate the staff unit with management at that level into a mixed unit. This can be composed of the macro-unit managers, the segment (team) managers, a HR advisor, a planner, a quality specialist, a maintenance expert, a purchaser, …  **c) AT MICRO LEVEL:** the micro-level concerns which tasks will be picked up by which people (e.g. what subjects lecturers teach, who mentors which students, as well as who does which preparatory and supportive tasks) . Here, there is **no striving for parallellisation** (creating independent tasks for each person), **but rather mutual connectedness**. This is possible as the small size (hence the upper limit of 20 persons) of the teams facilitates internal coordination. (p.356)  Larger teams tend to fall apart into informal “cliques”. Less than 4 persons is very unstable (1 absent person is 33% capacity loss) (p. 356).  In bureaucracies, within the micro units usually only executive tasks remain and these are then divided into as small sub-tasks as possible (p. 352). Hence, the task for each person is simple but the organization complex.  In a flexible organisation, the **organization is simple but tasks at team level are complex**. Teams are able to take up more regulating capacity than individuals, which is a requirement for worker engagement. Within a team, a flexible division of labour can exist (not everyone needs to be doing everything). Hence the principle of minimal division of labour does not apply anymore inside a team. This allows to benefit from team member’s individual strengths as well as compensate weaknesses. For tasks that do not require much expertise, ability to execute a broad range of tasks per person can be strived for, which represents growth potential for workers (career path) as well as increased flexibility and less vulnerability (can take over) for the organization along with less transfers and a better view of the whole process. Finally, groups support social and emotional motives (p. 354 and 356).  Specialisation (for complex group level tasks, individual identity) and redundance (for flexibility, self-regulation and group identity) need to be balanced. The **more the group level task is complex, the more the balance should be in favour of specialization rather than redundance** (e.g. all workers have common, much requested basic competences, but next to that also specific expertise) (p.357).  **Differences in status and power** ( due to ambition, capacity, flexibility) should **not be seen as problematic**. What counts is that everyone must be allowed to grow and have mobility according to this (p. 358). Also, the foundation of the differences must be real in terms of what someone has to offer the group (p. 368).  There are four steps at micro-level (p. 359-61):  -determine how to distribute **executing tasks**: ensure tasks at individual level are meaningful while also create mutual dependence (hence also intense interfaces);  -determine how to distribute **supportive and preparing tasks**. This can be spread across all members of the team. Especially when the execution is by nature rather individual (eg driving a bus) the cooperation in these other tasks can create mutual dependence;  -determine how to distribute **tactical entrepreneurship** (improving existing processes);  -determine how to distribute **strategic entrepreneurship** (renewing products/processes).  The following needs to be taken into account (p. 362-3):  -if **variety and size of the order stream** is still relatively **large**, then these orders can orders can be allocated as such to **individual team members** (e.g. a fixed set of patients in care) which allows to build knowledge and be responsive but makes the group vulnerable (this can be solved by assigning shadows and by rotating)  -as activity **clusters** are more complex (with **high variety of tasks**) then a **mixed team of specialists** is more likely  -as the **required expertise** and experience increases, **then levels** related to individuals within a team become more likely (student, fellow, master)  -as flexibility is more required (with an often varying mix of products), there is greater **need for being multi-functional**  7 models can be derived from this (p. 363-7):  **-star model:** everyone executes the same, indivisible task but also is taking charge of domains of responsibility (in terms of preparing and support). Depending on their interest they can alternate and hence get a fuller picture of the entire team business;  **-flower petal:** all team members have at least one common task (the flower core) and next to that a range of specialities (the petals) in which they are complementing each other (and which they also can grow into, to create redundancy);  **-collegial**: for complex group tasks this is a team of specialists (very high grade) with a very limited capacity to take on the other specialities (where each has function to supervise and coach on the job). Coordinating function towards the outside can rotate. Mutuality is achieved by having to contribute jointly and hence intensive adjustment to each other;  **-guild:** master coaches the other other members (fellow, student) and takes on many of the regulating tasks. Mutuality derives from This model applies to many professional occupations (consultants, researchers,…) and crafts. Mutuality derives from the understanding that all members of the team need each other. Trust is key: the master entrust work to the fellow/students and in return there must be trust that they openly discuss with him what they are doing do they can learn from him. The fellow/student get room to experiment and must trust that the master can support them and teach them something;  **-growth**: one can qualify for every partial task until one becomes an all-round worker. This is in principle possible but not mandatory. However, workers have to execute all tasks they have qualified for and not restrict themselves to what they find most interesting;  **-overlap:** on each work place, not all but at least several team members can do the work;  **-equality:** even though the product is divisible into relatively simple tasks, everyone makes the total product anyway. | 1) **Expertise is required at the front office** to understand the **customer demand** in terms of **type** and frequency. Type of demand is separated into value and failure demand (p. 83).  2) The **value demand is dealt with a much as possible immediately and in one go, without transfers**. Failure demand needs to prevented by redesigning the organization to prevent it by getting the value demand right the first time (p. 83). Frontline workers should be able to deal with all high frequency value demand. For low frequency value demand, they should be able to pull in (not transfer to) expertise (p. 88-89). If transfers are really needed, they should be ‘clean’ and “seamless” (no delays, no double work, no repairing work, no checks = “flow”) (p. 144).  3) As much **wasteful activity** as possible should be **designed out** (p. 135).  This is contrasted with bureaucracies where a low cost front office only sorts requests (irrespective whether it is value or failure demand), puts it on a pile or in a queue to be treated by experts in the back-office (in batches), ruled by targets/service levels (usually norms relating to how quickly they must be processed). The last step is inspection for failure to comply with norms. (p.84-5) |
| **2) Next, one should inverse the sequence to design from the micro, to the meso to the macro level how** **to regulate the work.** (p. 37-8, p. 283).  Regulating activities consist of three levels: **operational (daily work), tactical (e.g. improving existing operations), strategic (e.g. expanding operations)** (p. 78)  In a bureaucracy, maximal divisions are made between execution and regulating, between parts of the process, aspects of this (e.g. cost, speed,…), steps in regulating (e.g. observing versus judging) and levels (operational, tactical, strategic).  However, as in flexible organisations, the work requires much and frequent consideration on the spot concerning many different and sharper function demands in different areas, there is more need to have **regulation integrated with execution** (p. 372) as there may be  -higher frequency of regulation need;  -alertness: shorter time to react;  -higher risk of severe consequences;  -more uniqueness of expertise regarding the object of regulation;  -higher geographical distance to the object of regulation  The questions are:  **a) AT MICRO LEVEL**: what needs to be regulated inside the team, by the team members?  In principle **all operational regulation** needs to occur at micro-level. However, when there are **input/output dependencies, these have to be regulated at the level where they occur**. (p. 374)  Also, tactical and strategic regulation will exist at micro-level. But it will have to be determined to what degree (usually in terms of time horizon and scale e.g. short versus long term planning and sizes of budgets ) this is shared with the meso and macro level. (p. 375).  Inside the team certain regulating tasks can be allocated to one person (coordinator e.g. non-rotating in the guild model or rotating in the growth model). This is crucial for tasks where all relevant info enters at one point. Or one can spread it across individuals (e.g. star model). Also there needs to be attention to external requirements e.g. do outsiders expect a single point of contact (p. 375-6).  **b) AT THE MESO LEVEL** (p. 379-80): what needs to be regulated by team leaders and what inter-local coordination is needed between teams/meso-units?  This is done by a **meso level staff team and management** (sometimes integrated).  It deals **mainly with tactical** regulation, providing specialist support regarding operational problems and bringing practical insights for product/process **innovation**, ensuring innovations get embedded, as well as **inter-local coordination** between task teams.  It is important to ensure that **for inter-local coordination no one size fits all mechanisms** are put in place. Coordination should only happen where it has added value: concerning what they have in common and where they have a dependency. Where this does not exist and one size fits all mechanisms are attempted, this will only create tension and limit development of those units. The greater the dependency, the greater the necessity for inter-local coordination between teams (e.g. planning orders for module groups needs to be done at meso-level).  If some preparatory and supporting activities are situated in this staff unit, this does not mean that they are also regulating these. That can remain with the teams whom they serve (e.g. teams know what they need in terms of purchasing and the staff unit only helps them get it more cheaply, e.g. by bundling such orders with those of other teams) (p. 380).  In addition we find the **translation of the global strategy and support for strategic regulation.**  **c) AT MACRO LEVEL (p.381)**: what needs to be taken up at the level of the organization as whole and what inter-local coordination is needed between  macro-units?  **Strategic regulating** is usually situated in large part at macro level.  *[If the macro-units are fully responsible, there is no role for regulating at the* ***highest central level****. Its role is then much more to provide support for strategic regulation and guarding the image of the whole organization, similar values etc. It can also support the regulation of the internal labour market, stimulate innovative capacity in general, etc.]*    At the macro level, enough attention needs to go to **integration the strategic level of regulation with the tactical and operational. This has to take the shape of a dialogue with enough overlap between all levels.** On the one hand, the developments in the operational process need to feed all other levels. On the other, the tactical and operational levels need to be aware of the macro-developments that can influence strategy.  This is the reason why **micro/meso/macro do not fully coincide with operational/tactical/strategic regulation. The latter are present (to different degrees of intensity) at all levels**. This leads to different kinds of arrangement (p. 390-1):  -autonomous relations with daily coordination of operational, tactical and strategic levels  -periodic coupling of strategic importance as for example by a Future Search conference where there are representatives working together from all levels across the organisation;  -power sessions: dialogue sessions where team member and management / staff question each other relative to results and improvement initiatives;  -top-down (bureaucratic) based on fixed procedures. | 3) Put in place feed-back loops (p. 147-151) following the principle purpose-method-measure (where method stands for way of working).  Feed-back loops need to exist to use the information delivered by the measures (p.161-2). This develops the expertise of the organization. Internal audits conducted by those who understand what “perfect” looks like (where they can do interviews and report back to the team) can be very useful.  Visualising measures in real time and ensuring their visibility (e.g. via charts on the walls) can be very powerful. They speed up feed-back as no one needs to wait for managers to deliver this. (p. 180)  When **obstacles** are encountered, they need to be **framed as “issues” and resolved structurally** (p. 152-158): these can concern structure, IT, policy, expertise of employees,… In many cases, **issues arise from existing “rules”**. However, these should never be taken for granted. In many cases the issue is with the interpretation of the rule. Make sure to **challenge and investigate**. Be prepared that responses to creative proposals how to deal with an issue will at first tend to be: “that is not possible/allowed. Continue to probe deeper. At some point, the workers will start to take over this behavior. When ICT is blocking the work, often it is needed to work around it for a time, as it cannot be changed at short notice.  If issues cannot be dealt with at the level where they occur, they must be **escalated to a level than can deal with them**. Issues must be tracked and be on the agenda until resolved.  Hence, managers need to be able to **move swiftly between operational, tactical and strategic levels** (p. 182).  4) For supporting services (finance, legal, HR, facilities,…) similar feed-back processes are put in place (with internal customers but focused on the same overall purpose) (p. 161-165)  5) Next, suppliers and (chain) partners are addressed (p.166-169). Seeing how much performance has improved helps them get interested in collaboration . |
|  | **3) Finally, one should design the (technical) systems.** Systems are **collections of standardized and formalized procedures that fix preparatory, execution, supporting and regulation activities into routines.** In this way, they regulate human activity but they can also take it over (e.g. automated assembly). They can be fixed via hard, technical means or via soft, behavioural procedures. They have added value as they can ensure one does not reinvent the hot water, can facilitate coordination, safeguard the common interest (p. 401).  One should start with a) productions systems (protocols, work instructions and procedures that rule human activity as well as technical means that take over some of the human activity), then b) preparatory systems (planning, logistics, work preparation, purchasing,…), next c) support systems relating to personnel (incl. recruitment/selection, training, appraisal, rewards), quality, maintenance, finance and finally d) management systems for regulating (e.g. procedures to revise strategy, decision-making procedures, management info systems,…) e) ICT systems (for registration, processing and transferring info). (p. 284 and 308-309 and p. 402).  In a bureaucracy, such systems are formed on the basis of maximal specification in (mechanical/ automated) rules. Hence, even if the structure of the organization is redesigned, leaving systems based on maximal specification in place will end up severely limiting the space that was created.  There are 9 principles to follow for designing systems (p. 403-413 and p. 425), 5 of which are discussed here and 4 under “measures”:  a) Support the logic of the organizational structure: teams must possess their own technical means. For example, in the physical lay-out of the organization, the scope of the task groups should be visible, supporting the autonomy and identity of the group.  b) Technical means should be adapted to the specific demands by the units and teams (in terms of required flexibility and volume)  **c) Minimal critical specification.** Systems should be supportive of behaviour rather than directive. They should not impede the local capacity to regulate.  Regrettably, much “knowledge” concerning systems is based on bureaucracy. Examples are: quality management systems based on detailed prescribing of processes (ISO); planning systems that attempt to determine what will happen in detail beforehand (ERP); ICT that attempts to register and control behavior in real time. This restricts flexibility, capacity to judge as well as resourcefulness which are crucial for dynamic conditions.  Systems in flexible organizations are better compared to roundabouts than to traffic lights. With traffic lights, independent of the traffic (busy or not), the behaviour of drivers is steered. With a roundabout, drivers need to make judgments themselves and decide, given the circumstances. Still, there are some rules that govern roundabouts.  d) Information and planning systems support flexible regulation  In bureaucracies, these systems serve central decision-makers. As there are only a few of these, they need to be shielded from information overload. Hence information systems are based on preprogrammed procedures that select and standardize info. But this gives a distorted image of the organization.  As in flexible organisations many more people regulate at all levels of an organization, the information systems will need to **deliver different information to all these levels.** Also, planning systems must be supportive rather than directive: allow to take decisions at the micro-level based on own judgment, within and consistent with a bigger picture. Hence, this must be based on **dialogue, both inter-local (horizontal) as well as across levels of regulation (vertical: operational; tactical, strategic).** This enables actual experiences (capacity problems, local disturbance, good fortune,…) to be processed in new plans and to translate these in local measures. Hence, central planning systems based on static information must be replaced by systems based on real time information.  e) **Engagement** in the design of systems. The people who are going to us the systems should be involved in designing them. | When expertise needs to be pulled in, it should be available when needed, not when it suits an expert or when there is a training available. Pulling expertise is learning on the job (p. 197) |
| 5. Nature and use of measurement | The following 4 principles are connected to how to design systems (see above) (p. 413-424):  The first three relate to the regulating cycle (observing, judging, selecting, acting, norming)  f) The local level needs to have **relevant information at hand when an issue presents itself**.  g) **Measures and norms** must be relevant to the local level (linked to the task domain, covering all relevant result areas / aspects incl. quality of labour) and it must be clear what has **priority** (relative weights) so people can make **overall judgments**.  h) Enable to **evaluate one’s own results and regulate** on the basis of accepted norms: Norms (regarding input/output) have to be made observable and measurable. They need to be known and accepted by all. These influence the behavior of workers without needing a detail specification of what they should do. They **use it for themselves. Only global reports are sent upwards.** Self-management is by definition oriented towards results. The teams therefore must have control over a complete work process and possess the full regulation cycle concerning this process at team level.  A performance management system named PROMES is endorsed. It is based on a participatory process: a first step consists of defining general responsibility domains that can be influenced locally. After authorisation by the involved workers, proposals for measuring these domains are made. After that, norms are set and the relative weight of each domain is determined (p. 425).  Also, activity based costing is discussed. It is seen as a costly, complex bureaucratic system based on a detailed registration of all transactions in a production process (e.g. from ERP systems). However, the aim should be to have systems that are simple and enable managing and improving at the local level. “Lean accounting “ is put forward as a better way, with simple but effective methods (e.g. visual control of stocks and throughput times). The idea is to focus on reasons of lack of control on the spot and to improve e.g. based on simple statistics. It is also stated that MST based organisations are better suited to lean accounting than “lean production” as the latter gives less regulatory capacity to the teams (p. 417)  i) **Personnel systems aim at stimulating and improving results oriented cooperation and personal growth.** All those involved in collaboration at team level should have a role in appraisal. Reward systems can support this. Personnel systems should stimulate personal growth, needed for broad flexibility, self-management and collaboration. There needs to **be attention to career paths for all workers, not just a select few destined to become key persons**. Training and reward systems should adapt to this. Selection and recruitment of new staff needs to focus on social skills and ability to learn rather than technical ones.  The internal team structure determines the possibilities for career paths and for rewarding e.g.:  -growth model: allows rewards based on the A-B-C principle (A= only one executing task, usually by newcomers, B= multiple tasks, C= potential for coordinator)  -rewards based on cumulation of partial skills  -flower petal model: reward based on on the one hand basic competence, one the other specialist level of knowledge;  -guild model: reward based on skill and experience  -equality model: no differentiation of rewards.  **Directly linking reward and result at individual level is cautioned against**. It may lead to **decreasing motivation and many negative side-effects**. As performance is mainly team related, **a team reward** is more suitable. Yet once again caution is warranted: this can easily lead to **destructive rivalry between teams.** In any case, teams are not easily compared (e.g. in one place success may be easier to obtain than elsewhere). Also the temptation can arise to suppress norms. Just having the right kind of feedback is enough to motivate. Incentives add little but can have many negative consequences. | Measures focus on variation in real time delays between receiving customer demand and fulfilling it from THEIR point of view. Hence **performance as seen and experienced by users is central (p.**.86)  This can be done quantitatively via statistical process charts looking at the evolution of (variation ) in time it takes to achieve purpose from start to end (or in meaningful phases). SPC’s have the benefit that they do not only look back but also predict what an organisation is capable of if nothing is changed in the system (p. 181).  **When processes perform as expected** towards the purpose **(within normal variation as defined by upper and lower control limits of a SPC)** **no specific inquiry** is needed. However, when there are structural trends or values outboundaries, this requires +po^^investigation. (p. 86-7)  It can also be more qualitatively done (e.g. making an assessment of substance via a measure of effectiveness). This should still be tracked over time and hence should be “coded” (get some score e.g. on a scale of 1-10). (p. 149)  Also, variation in terms of how much demand could be **properly handled at the first point of contact** is important as well as **whether corrections** have to be done (which is waste) and why. Also, the ratio of **value to failure demand** is interesting. The most frequent failure demands should be investigated to find out why it still exists. Capacity measures, e.g. how much activity (case load), costs and average times per job, exist but are not used for steering people. They are seen as conditions that govern their work. They are, on the other hand, also derived from the quality of the service. The greater the quality, the less failure demand, less activity to address it and hence lower costs (p. 83 and 86).  **Nothing can be learned by frontline workers about how good a job they are doing from capacity measures** e.g. case workers obviously know their case loads (p. 125).  **Absence levels** can give a useful indication concerning the quality of the work. However, most organisations use this to “manage” absences, rather than investigate causes. (p. 127) |
| 6. Nature of the change process | At least **one person with authority in a central position must be fully committed**. This person requires sufficient wisdom, personal authority and courage to start a long term process. This person must be able to deal with **the paradoxes** of transformation listed below (p. 478). | Management needs to **make clear the new approach is NOT optional**. (p. 178).  The foundation of change as put forward by check-plan-do is **“normative learning” by managers and workers alike.** Rational argumentation will not convince anyone as much of it will be perceived as **counterintuitive** (e.g. that by managing costs, they will go up) (p. 175, 177 and 178). |
| 1) Redesigning may lead to theoretical solutions that are not (yet) practically feasible (eg because of the investments required or because management is not yet ready for it. Still, it is needed to be radical at this stage when looking at the structural obstacles (political, economic, technical, social) in the organization. Otherwise all the limitations will already be embedded in the design, with as a consequence that they end up not solving the obstacles in the organization. (p. 42-3, p. 284, p. 479). **Head in the clouds**, feet on the ground. The expectation should be that **many iterations** are required (p. 310).  2) Let the **workers design the organization themselves via a series of “work conferences”, ensuring participation of a broad variation of representatives from all parts of the organization** to enable commitment as well as local knowledge. The role of the expert is to provide knowledge on design principles and to allow participants to practice with these. (p.43, p. 479-81 and 491). A typical process of conferences consists of a first, more strategic, one, usually with key figures from the organization, focusing on the new vision, mission and values as well as principles for a new way of working (e.g. with focus on teams), worked out before by senior management. During the next conference, the scope is broadened to all employees to ensure buy-in. The next conference then focuses on team leaders and a change road map that allows for different speeds of development of all teams. A next conference broadens the scope again to include all employees, this time focusing on team development, based on a route book that contains a variety of assignments a team can pick up to stimulate their development. A next event is not organized by top management anymore but by employees themselves, showing a shift in who is carrying the change (p. 484-8).  3) **Create space for participation and dissenting but be clear about what is fixed** in strategy and organizational design. When starting the process, that there will be a transformation process cannot be questioned anymore and neither can the overall strategy. A balance must be maintained between top down direction and bottom-up engagement and mobilization of local knowledge (p. 481-2).  4) **Focus on those people that want to participate**. There is usually space enough to leave the large group of doubters alone. There are usually enough volunteers to get started and outspoken opponents are hard to convince but usually few. Opponents that actively resist and that try to get doubters to follow have more chance of success if the leadership is itself doubting, hence the importance of the third principle. (p. 482)  5) **Ensure that there will be a place for everyone in the organization.** Long term insecurity about what exactly that place will be is also counterproductive (p. 483).  6) Keep a **balance between soft and hard aspects**. Only chasing after short term profit will result on the longer term in weakening the organization. Yet, only attention for soft aspects may lead to ignoring hard demands coming from outside (p. 482). | 1) During “plan” a team designs the process **to be perfect**, based on “check” (see above).  2) Then the **team experiments** with it. In that way, they can discover what conditions are needed to work like that. This is **NOT done in brown paper sessions but with real clients and real work.** (p. 98)  The team needs to **consist of all expertise that is required** to deal with demand from start to finish **as well as their management**. (p. 135)  When **obstacles** are encountered, as stated above, they need to be **framed as “issues” and resolved structurally** (p. 152-158).  3**) Ensure the right roles and expertise are in place** (p. 158-161). In many cases, the necessary broad expertise already exists in the organization or can be acquired quickly. It just needs to be placed where it is needed (frontline for high frequency variations in value demand, pull-in expertise for low frequency).  4) Use the **feed-back loops during regular (eg weekly) team meetings to learn how to work even better**. (p. 161-2) |
| A combination of change strategies is needed (p. 489-495):  1) Combining **strategies aimed at the individual, the group as well as the organization**: individual strategies (originating with Lewin[[42]](#footnote-42) and his T-groups / sensitivity training) assumes that as organisations are composed of individuals, changing these also changes the organization (by giving indivduals new insight, opinions and even personality characteristics, they will have a different motivational pattern and will change their role while also convincing colleagues to change). However, while this generates powerful experiences on site, when they return, most behavioural effects disappear. However, especially for key figures, whose attitude may block the development of the organization, this may still be very much needed. However, as group norms determine behavior to a large extent, a new wave of approaches (team building, survey-feedback, process consultation) attempted to influence teams to stimulate them to take more initiative, participate, increase insight in group functioning, reduce fear and insecurity, while providing some challenge. This proved to be effective as long as the issue that requires some change remains isolated to the group. If the changes in group norms do not fit with the overall organizational climate, the group will revert to its old behavior. A next logical step was to influence the entire climate and dominant management style (e.g. managerial grid by Blake and Mouton, 1964[[43]](#footnote-43)).  2) **Combining rational, normative and forcing strategies** (as described by Chin, Benne, Bennis, 1966[[44]](#footnote-44)). The empirical-rational strategy assumes that people are rational beings that, when presented with objective data or scientific insights, will see that change is in their own interest. However, this works only for (technical) solutions that fit within the existing norms and that do not affect the interests of certain stakeholders. Nevertheless, it is still important that the foundations and pro’s/con’s of MST are understood (e.g. via training for middle and senior management). But it is not sufficient. The normative –re-education strategy assumes that behavior is determined by attitudes, values and norms and that this happens by stimulating initiative, participation, mobilizing local knowledge, self-analysis and design. In combination with the rational strategy, a directive element is introduced (favouring the rational elements in the direction of initiatives). Finally, there is the power/forcing strategy. This can sometimes be used to force a break-through but if relations haven become strained, it is more likely that it will create a counter-movement. It can only be used by a management that has enough credibility and trust. These strategies have become further elaborated by De Caluwé and Vermaak, 2006[[45]](#footnote-45). | Do: rather than rolling out what was designed in the plan phase by the “vanguard”, this step consists of **rolling in everyone else (p.98)**. This means that all workers get to experience their own check-plan process and then “do” it. This is crucial for making the organization as a learning organization.  Once several teams have rolled in, feed-back loops to **learn between them** should be installed (p. 161)  As quality improves, workers tend to get positive about change. Still, workers will react differently to the changes. Some will be pleased, some unsure, some are not comfortable having much more responsibility (p.165)  **Communication** about what is going on outside the teams that are rolling in, is **limited to the approach**. Concrete changes that are being made by the rolled in teams are not talked about. These cannot be understood anyway by teams that have not gone through the process and will only create tension. People may get curious but it is better to tell them they will get their chance to have their own process. (p. 170) |
| 7. Role of managers | Leadership **at the micro-level** become of a different nature: **more supportive rather than steering**. This also includes supporting groups to **make improvements and to innovate.** For this, leaders need to:  -build the right organisational culture, exercising transformational leadership;  -provide information systems that deliver relevant tactical and strategic info to the teams;  -teach the group innovation generating techniques;  -give the group insights in to group dynamics that can affect decision-making negatively and how to deal with this;  -give space to fail and learn from mistakes (experimentation)  **Leadership is in essence a team function which is not necessarily linked to a single position**. Different **members can take a leading** role on different things. But this should **not grow into a bureaucratic position taking up one person’s full time** (p. 376-378).  At the same time it is easy for leaders in teams to inadvertently demotivate others, due to micro-management tendencies, lack of credibility (do not walk the talk), distrust regarding the capacities of others. This is why **coaches are installed** **that can coach (several) teams**. These coaches a) challenge but never take over b) make agreements in open dialogue (never top-down edicts) c) create conditions where the team cannot do so itself d) guard that enough regulatory capacity exists for the team (p. 378-9).  **Where a team needs the support of a higher level, this should be seen as a supplier-client relation where management supplies value to the teams** (p. 393). | Operational managers need to do two things (p. 71-72):  -make sure that there are enough people and resources to do the work (**capacity planning**). This requires asking how much work comes in? how many people do I have? how much time does the work take?  -however, they should NOT use this information to judge people. They should not even talk about this with their staff (just make sure it is dealt with) but rather **focus on the quality of the work and how to remove obstacles (issues) to improving this quality** (which lies outside the influence of the team itself), **using appropriate measures** (p. 71-72 and p. 88). Such issues/obstacles should be dealt with by going through check-plan-do every time.  The idea is not that all decisions have to be made jointly. The approach is not advocating self-steering teams but merely enabling teams to assess and improve their own performance. Leaders should lead and be ahead, noting new developments around the system and be ready to set next steps in a principled and consistent way. Workers are entitled to that (p. 201).  Managers **do not manage “incidents” or “bad behaviour”**. They rather try to **determine why workers are not addressing these themselves**. They ask as a matter of fact **5 times “why”**? (p. 176). This is key in avoiding a culture of fear where managers always loon for a person to blame. Team members will only dare to approach each other and discuss error if this is not threatening. Hence managers as well as colleagues must resist the temptation to intervene directly on an incident and rather ask: “what has caused someone to act like this? Why did it not work?“ Many managers also recognize their own mistakes but then proceed to justify why they were made. This is pointless and is better replaced by stating it as an opportunity to learn as a team (p.199- 200)  Managers need to start from the idea that workers want to do a good job (intrinsic motivation). Managers need to **ensure they are trained to deal with high frequency value demand.** They also need to ensure **access to support/expertise to go to for low frequency value demands they do not know (yet) how to handle**(p. 88-89) and continuously update this (p. 199).  Importantly, when the organization gets “recommendations” from outside on how to work (e.g. nationally developed guidelines, instruments, etc.), these are not just thrown into the organization by management. Rather, management will ask a team to study what the recommendation is aimed at inside the organization, determine if there is scope for improvement and, if yes, experiment and assess. Next, they prepare other teams to go through the same process, supported by their own manager (p. 169, p. 199). Key is to understand that **best practice and benchmarking are the road to mediocrity**. There is no substitute for doing one’s own thinking (p. 175). At the same time, they need to **shield the organization from fashions and the flavor of the month**. (p. 181)  To support their own learning, **managers need to meet regularly as well and discuss how they are doing.** They discuss how to deal with issues. They study if there are variations on these issues and how to address these variations. They discuss how they are applying the principles they agreed on (p. 165-6).  Top management is supporting them in doing this, **allowing managers to be vulnerable**. (p. 165-6) Top management (strategic level) is ensuring a **clear purpose and challenges whether measures and principles used at operational levels are still in line** with this purpose. (p. 175)  Top management needs to ensure that lower management, workers, important stakeholders get the **opportunity to have a normative experience** (p. 179).  Top management also needs to ensure there is enough **support from important external stakeholders** such as politicians, inspectors, suppliers, partners etc. They need to be aware that changes in a part of the larger system will affect this larger system (p. 177, 182). |

ANNEX 2: statistical process chart



As can be seen from the chart, the time to properly execute a repair diverges considerably on a case by case basis from the average of 31,8 days. This can be due to many factors (E.g. complexity of the repair, tenants not being present, materials that are not in stock, weather conditions, etc.). There times have an upper (85,7 days) and lower (0 days) control limit. There are a number of repairs that fall outside the upper control limit. These events necessitate investigation: are they random exceptions (e.g. an employee becoming sick on a crucial day) or is there a systematic cause behind them?

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2. Coret et al, 2014, Weten hoe het werkt – de Vanguard methode voor managers / Knowing how things work- the Vanguard method for managers. [↑](#footnote-ref-2)
3. Demeulemeester and Callewier ,1997, Integrale kwaliteitszorg, p. 122 [↑](#footnote-ref-3)
4. A term coined by Womack, Jones, Roos, 1991, The machine that changed the world. [↑](#footnote-ref-4)
5. See for example Christis, 2011, “De moderne socio-techniek als theoretische onderbouwing van Lean” in M&O, vol. 65, nr 2, maart/april. [↑](#footnote-ref-5)
6. As made clear by publications from J. Seddon, originator of the method, with titles such as “The Whitehall Effect: How Whitehall Became the Enemy of Great Public Services - and What We Can Do About it” (2014) as well as “Systems Thinking in the Public Sector: The Failure of the Reform Regime... and a Manifesto for a Better Way” (2008) [↑](#footnote-ref-6)
7. Nutt and Backoff, 1993, ”Transforming public organisations with strategic management and strategic leadership” in Journal of Management, vol. 19, nr 2, p. 304 [↑](#footnote-ref-7)
8. Kuipers et al, 2012 (p. 23) define “structure” as the actual distribution of both execution and regulative tasks and roles across workplace and people or smaller task groups or larger departments. [↑](#footnote-ref-8)
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13. Source: discussion with Jeremy Cox, Vanguard UK consultant [↑](#footnote-ref-13)
14. Source: discussion with Jeremy Cox, Vanguard UK consultant [↑](#footnote-ref-14)
15. Silvestro, 1999, International journal of operations and production management, vol 19, n 4, Positioning services along the volume-variety diagonal [↑](#footnote-ref-15)
16. See <https://www.vanguard-method.com/v1_lib.php?current=716> [↑](#footnote-ref-16)
17. Porter, 2008, Value based health care delivery. In Annals of surgery 248, 4, p. 503-510 [↑](#footnote-ref-17)
18. Mintzberg, 1983, Structure in fives [↑](#footnote-ref-18)
19. Weber, 1947, The theory of social and economic organization / Taylor, 1911, The principles of scientific management [↑](#footnote-ref-19)
20. Smith, 2009, The wealth of Nations [↑](#footnote-ref-20)
21. Sloan, 1990, My years with general motors [↑](#footnote-ref-21)
22. This focus on structure distinguishes the approach from the “organisational development” movement in the US which developed in parallel but focused initially more on persons and their development, to realize at a later stage that individual opinions and behavior are strongly related to the space provided in an organizational design.(p. 63) [↑](#footnote-ref-22)
23. Ohon, 2013, Taiichi Ohnos workplace management [↑](#footnote-ref-23)
24. Deming, 1982, Out of the crisis [↑](#footnote-ref-24)
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26. Stafford Beer, 1979, The heart of entreprise [↑](#footnote-ref-26)
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28. Weick, 1979, The social psychology of organising [↑](#footnote-ref-28)
29. Sprenger, 1999, De motivatie mythe [↑](#footnote-ref-29)
30. Kohn, 1993, Punished by rewards [↑](#footnote-ref-30)
31. The example of the Finnish education system is provided (p. 96-7 and 107-10) as a place where these conditions are being met. For a detailed report on Finnish education by the OECD: OECD, 2010, Strong Performers and Successful Reformers in Education: Lessons from PISA for the United States, chapter 5. [↑](#footnote-ref-31)
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35. This is linked to the trend to install “personal development processes” where organisations attempt to determine centrally what is the level of growth of every individual and how the workplace can be adapted to this. [↑](#footnote-ref-35)
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43. Blake and Mouton, 1964, The managerial grid [↑](#footnote-ref-43)
44. Chin, Benne, Bennis, 1966, The planning of change [↑](#footnote-ref-44)
45. De Caluwé and Vermaak, 2006; Leren veranderen [↑](#footnote-ref-45)