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Master Thesis

Designing for Balance: Rethinking Coordination and Control in Organizational Design

A framework-synthesis of Mintzberg, Stanford, Galbraith and the IOD approaches

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ABSTRACT:

This thesis studies the conceptual differentiation of coordination and control within the organisational design field. The focus is on enhancing the Integral Design (IOD) framework by exploring the works of Mintzberg (1979, 2023), Stanford (2013, 2022), and Galbraith (1973, 1974, 2014). It is a literature-based framework-synthesis around the main books of each author. While coordination is broadly acknowledged as a response to division of labour and integration of effort, control understanding expands from traditional command-and-control to strategic adaptability, or decentralised decision-making. The study reveals overlapping and interconnected characteristics of coordination and control mechanisms, highlighting their practical inseparability. Additionally, the thesis proposes a theoretical refinement of IOD design rules by: (1) acknowledging the importance of lateral relations, including soft aspects in design, creating a pre-phase of redesign and being more contextually dependent.

1. INTRODUCTION:

Design choices have become a central interest of management scholars since the last century (Joseph & Sengul, 2025). Thompson (1967) and Mintzberg (1979) saw structural design as a tool for integrating efforts in organisations (Joseph & Sengul, 2025). Others, like Edwards (1974), frame structure as a subtle means of executing control. More recent theories (e.g. Stanford, 2013; 2022) view it as a means for managing internal and external uncertainties. All these perspectives assume that structure is not neutral – it actively shapes both coordination and control and is at the root of many of the questions raised about organisations (Mintzberg, 1979). Joseph and Sengul (2025) argue that coordination and control are, in fact, one of four approaches to organisational design studies. Control focuses on delegating decision-making, cost mitigation and direction-setting. (Joseph & Sengul, 2025). Coordination explores interdependencies and integration of efforts within an organisation (Joseph & Sengul, 2025). Currently, design choices are especially challenging in dynamic, complex and networked environments (Salman, as cited in Stanford, 2022). Malone and Crowston (1994) and Okhuysen and Bechky (2009) stress the growing importance of coordination, while Galbraith (1973; 1974) reveals the limits of traditional hierarchy and the need for new interaction mechanisms. Stanford (2022) notes that "*we are indeed the somewhere between traditional, hierarchical command and control organisation and organisational forms that we have not yet seen come into the mainstream"* (p. xxii). Thus, stressing the possibility of new structural solutions for coordination and control.

It is the Modern Dutch Sociotechnical Approach or Integral Organisational Design (De Sitter, 1994; Kuipers et al., 2020), from now on: IOD, which directly distinguishes both coordination and control requirements. Therefore, it enables precise structuring of tasks and allocation of regulatory and operational responsibility. Also, it explicitly separates regulation and operational structures, thus creating a more coherent theoretical perspective on coordination and control, e.g. by creating design parameters specifically connected to coordination or control. The theory argues that work distribution may lead to structural complexity by causing significant numbers of interdependencies, which require coordination of the actions (de Sitter et al., 1997). Above a certain level, it can lead to so many relationship alignments between the units and levels that the processes within the organisation itself become uncontrollable (Kuipers et al., 2020). According to De Sitter et al. (1997), organisations should design structure as simply as possible while creating complex (individual) jobs. Additionally, organisations should have capabilities to regulate strategically, structurally and operationally to deal with occurring disturbances.

Although the IOD distinguishes between coordination and control, in the organisational design field, these concepts are usually treated as synonymous or complementary terms. Litterer (1965, as cited in Mintzberg, 1979) claims that "*recent developments in the area of control, or cybernetics, have shown [control and coordination] to be the same in principle*" (p. 233). Also, many studies mention coordination and control mechanisms as joint systems (e.g. Whitley, 1999; Salbu, 1997; Brenner & Ambos, 2013), separately (Brandts & Cooper, 2006; Eisenhardt, 1985; Berntzen et al., 2021; Van de Ven et al., 1976; Malone & Crowston, 1994; Okhuysen & Bechky, 2009) or "*the same mechanisms are employed for both control and coordination purposes, often without a clear conceptual distinction*" (Zeng et al., 2023, p. 1605). Therefore, the organisational design field lacks theoretical coherence around the coordination and control. The IOD is more precise, yet not as known in mainstream literature, compared to Mintzberg or Galbraith. Also, De Sitter's theory focuses on coordination within the unit, without full acknowledgement of the coordination requirements between units. Moreover, the IOD omits the coordination needs which arise from control requirements on different macro-, meso-, and micro-levels. The design principles are rather generic structural solutions (De Sitter et al., 1997), which leave a gap for the systematic coherence of the IOD theory. Galbraith (2014) claims that it should not be enough to do what comes naturally in organisation design. Thus, the theoretical relevance of this paper aims to expand the understanding of coordination and control mechanisms. The objective is to contribute to the more comprehensive and unified wisdom of organisational design, which is still lacking, according to Joseph and Sengul (2025).

Grounding this research in the IOD also allows for consolidation and better codification of the theory itself by extending the coordination and control understanding by the perspectives of Mintzberg (1979, 2023), Stanford (2013, 2022) and Galbraith (1973, 1974, 2014).

This thesis also contributes practically. Clear design principles with included coordination and control perspective could be smoothly adapted by practitioners when designing effective structures. In particular, firms applying the IOD principles experience troubles with full implementation due to the challenges in establishing fully autonomous units (Molleman & Broekhuis, 2001). Also, proper structures support the execution of strategy (Galbraith, 2014) and overall business performance (Gittell, 2000). Shillady, as cited in Stanford (2022), states that *no other discipline has such power to help people and their leaders confront new realities and create enterprises fit for a turbulent world*" (p. xvii). Thus, this thesis enhances practical tools for organisation design, allowing for more effective and efficient structuring in a dynamic and interconnected environment.

Accordingly, this thesis is going to examine how various organisational design approaches conceptualise coordination and control requirements. Additionally, it will compare and connect structural solutions for coordination and control from organisational design theories with the IOD theory. Thus, this paper has two objectives. Firstly, it aims at conceptual clarity and a comprehensive understanding of coordination and control as distinguished mechanisms. Secondly, it aims at theoretical development and enlargement of the IOD approach by enhancing it with design theories of Mintzberg (1979, 2023), Galbraith (1973, 1974, 2014) and Stanford (2013, 2022). Hence, the research questions for this thesis are:

1. How do various organisational design approaches conceptualise coordination and control requirements?
    1.1. To what extent are coordination and control treated as distinct or overlapping concepts in existing research?
2. How can insights from various organisational design approaches be integrated to refine the Integral Organisational Design (IOD) framework?

This paper is structured as follows. Firstly, the theoretical foundations are built in which the IOD framework, as well as consideration of control and coordination within the IOD, are introduced. Then, the methodology chapter presents the set-up of the research as well as the literature chosen for the study. The next chapter focuses on the synthesis of literature and results.

Later, chapter five presents a discussion of the results and their implications for practice and further research.

2. THEORETICAL FRAMEWORK:

2.1 SOCIOTECHNICAL APPROACH TO ORGANIZATIONAL DESIGN:

Sociotechnical theory or sociotechnical systems design (STD) in research is often treated as a unified concept. There are several variants of the perspective, as studied in Eijnatten (1992), including the United Kingdom, Scandinavian or Dutch one that differ in scope and methods applied (Munkvold, 2000). Yet, they all study "*joint optimisation of the social and technical system and empowerment of workers as key tenets*" (Munkvold, 2000, p. 14). The sociotechnical approach was one of the first theories that acknowledged the joint nature of the social structuring of an organisation (e.g., division of labour and grouping of tasks) and the technical-economic aspects (i.e., production processes). Interestingly, elements of STD recur today in numerous modern approaches while the STD itself is least known (Mohr & van Amelsvoort, 2016). Yet, the onset of the STD - improving everyone's quality of working life - is a central goal in organisations nowadays (Mohr & van Amelsvoort, 2016). The distinguishing element of the STD is defining control capacity, which can become a central, measurable indicator of the quality of working life (De Sitter, 1981, as cited in Mohr & van Amelsvoort, 2016). For that reason, the Dutch perspective, also known as Dutch Integral Organisational Design (IOD), is chosen as the main lens. Kuipers et al. (2020) state that the Dutch variant has undergone additional developments, and according to Achterberg & Vriens (2010), it is "*far more detailed than that of other authors on organization design*" (p. 228).

2.1.1 ORGANIZATIONAL STRUCTURE:

IOD distinguishes between control and production structures, which together constitute organisational structure. Achterbergh and Vriens (2010), based on several of De Sitter's definitions, identify the organisational structure as "*the grouping and coupling of transformations into tasks and the resulting relations between these tasks relative to orders*" (p. 240). The production substructure relates to the grouping and coupling of operational transformations, which aim at realising all activities connected to the primary organisational process (Achterbergh & Vriens, 2010). The primary process can be understood as the "raison d'être", the main offering of the firm (services and/or products), and its reason for existence. Dependencies within the production structure result in the main coordination needs. Furthermore, based on the production structure, an additional network of tasks dedicated to dealing with the disturbances within the production structure is identified, namely the control

substructure (Achterbergh & Vriens, 2010). Ultimately, the goal of organisational structure is to attenuate (decrease the number of disturbances) and, at the same time, amplify the regulatory potential to deal with the remaining disturbances. (Achterbergh & Vriens, 2010). By this, the organisational structure can help secure organisational viability, defined by Beer (1995) as organisational ability to survive. This can be obtained when the division of labour within production and regulatory structure is kept minimal (De Sitter et al., 1997).

2.2. COORDINATION IN IOD:

In the IOD, coordination is a subtle and implicit topic, compared to control. It is not the end itself but rather a tool for decreasing the number of disturbances, thus enhancing organisational control capacity (Kuipers et al., 2020).

Coordination follows from the division of labour - a distribution of tasks and roles over workplaces, people (micro), work groups (meso) and large departments (macro) (Kuiper et al., 2020). Each level of task and role distribution forms a node of interaction, thus defining an organisation as a social interaction network (Achterbergh & Vriens, 2019). The building blocks of such systems are activities which can be divided into four basic actions (Achterbergh & Vriens, 2019). Three of them relate to regulatory aspects, while the fourth focuses on performing the primary process. To secure an organisation's societal contribution, all nodes "*must maintain relationships alignment with each other*" (Kuipers et al., 2020, p. 20), that is, they need to coordinate work.

Coordination is particularly crucial within the primary process, also known as the transformation process, which converts organisational input (resources, data, people, etc.) into output (products, services, information, etc.) (Kuipers et al., 2020; Achterbergh & Vriens, 2010). This process consists of either interrelated or interdependent activities, based on division of labour, and the dependencies can occur both within separate processes or between two or more processes (Kuipers et al., 2020). To manage this process, Achterbergh and Vriens (2010) propose that transformations can be decomposed in at least two different ways: (1) into parts and (2) into aspects. Achterbergh and Vriens (2010) define decomposition into parts as involving the definition of desired effects between the beginning state and end state of the whole transformation. Thus, two or more activities, in sequence, realise the end state of the main transformation, resulting in additional coordination requirements. Decomposition into aspects, on the other hand, "*involves defining one or more characteristics (aspects) of the whole transformation and using them to define sub-transformations*" (Achterbergh & Vriens, 2010,

p.232). Tasks cover the complete original activity from beginning to end, but they are narrowed concerning the selected characteristic (e.g. type of order or client characteristics, etc.). It results in an autonomous flow, which reduces the coordination between the units.. Figure 1 presents a conceptual idea of transformation decompositions.

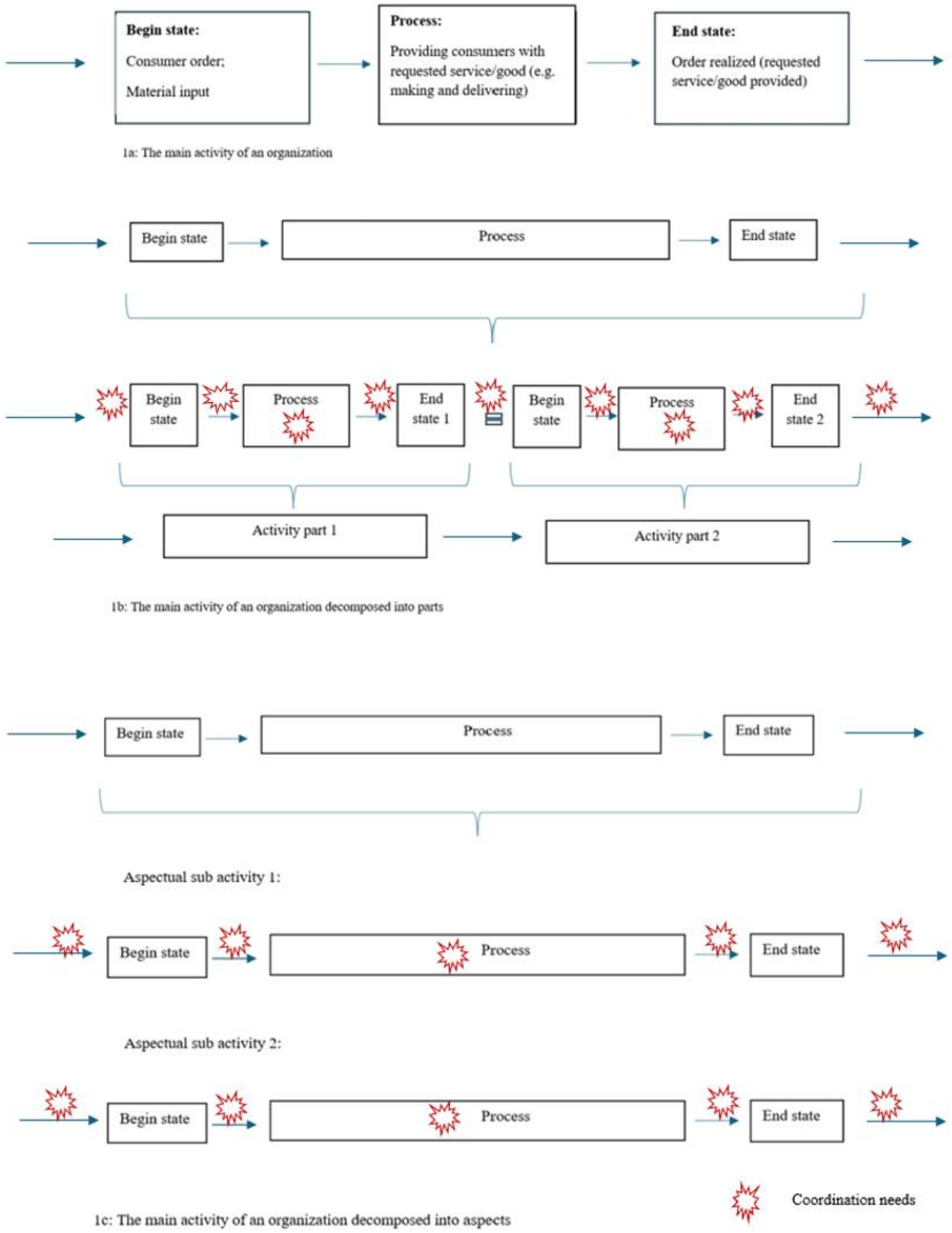

Figure 1: Decompositions of transformation

Decompositions result in a set of sub-activities which can be assigned to some operational units (individual, group or department), thus contributing to dependency relations. Both decompositions imply intra-unit coordination and possibly between the beginning and end states of the primary process. However, the decomposition into parts indicates additional coordination between the beginning and end states of sub-activities, thus increasing structural complexity. Figure 1 presents interaction nodes by the red symbol.

Ultimately, decomposition defines coordination needs as activities and tasks need to be integrated again to finalise the primary process (Kuiper et al., 2020). Although De Sitter does not elaborate on the connection of units, Kuipers et al. (2020) extend the topic by distinguishing between horizontal and vertical connections within an organisation. The categorisation is based on various design approaches (including Mintzberg and Galbraith). Horizontal or lateral connection is when direct coordination takes place between units without having to go through all of the links in a hierarchical chain of command (Kuipers et al., 2020). In autonomous teams, it is usually mutual coordination that is an integral part of task execution, often spontaneous and informal. However, horizontal coordination is more formalised. Table 1 summarises the possible alignments between meso and macro units.

Table 1: Types of alignments between meso and macro units (adapted from Kuipers et al., 2020)

Horizontal coordination between meso and macro units	
Automatic relationships	Routine coordination procedures between units based on the "*if-then principle*"; can be programmed in advance and once programmed, do not require managerial effort.
Temporary interdisciplinary relationships	Solving problems in a broader area across the boundaries of units, e.g. representatives of different units analyse and solve problems on a voluntary basis.
Permanent interdisciplinary relationships	Solving recurring problems relating to a broader area to be mastered, e.g. regular work consultations or keynote events.
Networking	Exchange between various organization units; aims at developing a sense of belonging based on shared objectives

Moreover, vertical coordination can be seen as the link between control levels. According to Kuipers et al. (2020), "*its aim is to ensure unity of viewpoint, uniformity of action and common purpose"* (p. 313). Although it can be connected to a top-down command structure, Kuiper et

al. (2020) also highlight its origin in mutual influence. Table 2 summarises possible forms of vertical coordination. Ultimately, it presents that vertical coordination is a tool for control.

Table 2: Vertical coordination forms (adapted from Kuipers et al., 2020)

Vertical coordination forms	
Autonomous relationships	When strategy, tactics, and operations must be intimately and permanently coordinated with one another.
Periodic/Intermittent links of strategic importance	Periodic consultations, e.g. between managers and selected members of the work council; work conferences, working groups with representatives; the goal is to jointly develop new strategies.
Power sessions	Periodic consultations on work and results; dialogue sessions in which management and staff, together with representatives of units, can mutually question one another about results and measures for improvements.
Top-down coordination	Orders are issued according to established procedures.

Despite these mechanisms, coordination is more intricate. Disturbances - connected to HR (e.g. sick worker), technology (e.g. shared resources) or structure (e.g. inadequate division of labour), occur and hinder smooth coordination. The IOD does not fully acknowledge that some resources are scarce and need to be shared (Kuipers et al., 2020), thus increasing coordination requirements. Also, perfect interaction networks do not exist (Kuipers et al., 2020), thus making organisational structure always retain some form of complexity. Hence, some level of complex coordination mechanisms may be required to deal with the remaining coordination needs.

2.3. CONTROL IN IOD:

Control gains in the IOD, an additional, new meaning. Rather than referring to specific goals and interests to be attained, control refers to "*shaping structural conditions for opportunities to formulate and implement goals*" (De Sitter et al., 1997). Since one cannot know specific objects or problems to be controlled (De Sitter et al., 1997), the structure has to improve its capacity to control, rather than simply control disturbances. Thus, the focus shifts from controlling individual events to enhancing overall capacity to regulate itself (De Sitter et al., 1997).

Control is required because disturbances occur within the operational substructure (Achterbergh & Vriens, 2010). Achterbergh and Vriens (2010) define disturbances as "*some events (potentially) causing the essential variables to change val*ue" (p.243) and hindering the realisation of the desired output. There are two sources of disturbances, namely internal

disturbances (relations within the task network) and external disturbances (relations in the environment outside the network) (Achterbergh & Vriens, 2010). The internal disturbances sources can be divided into: (1) structure-related disturbances, which concern the way how tasks are defined and coupled, (2) human resources disturbances (e.g. employees' knowledge, skills and motivation) and (3) technological disturbances connected to machines and technology employed (Achterbergh & Vriens, 2010). For the structure-related disturbances, De Sitter (1994, as cited in Achterbergh & Vriens, 2010) specifies four causes for the increased probability of disturbance occurrence. These are (1) the number of relations, (2) the variability of relations, (3) the nature of environmental changes, and (4) the standardisation of norms regarding output and processes. Most of them connect to coordination requirements. As the number and variability of relations increase, so does the complexity of coordination – and, thus, the likelihood of disturbances. Also, the instability or unpredictability of the environment precludes the prediction of disturbances. Lastly, standardisation becomes the disturbance itself when it prohibits dealing with the disturbance connected to one's task.

Consequently, the IOD differentiate the regulatory transformations based on two dimensions: internal vs external regulation and routine vs non-routine regulation (Achterbergh & Vriens, 2010). The first dimension refers to tackling disturbances affecting the tasks' operational aspects. Managing internally indicates that the necessary regulatory activity is a part of the defined task, while external tackling means that the task needs to involve its environment (Achterbergh & Vriens, 2010), Differentiation of routine or non-routine regulations refers to situations in which tasks and the network of tasks are either unchanged (routine regulation) or need to be changed (non-routine regulation) (Achterbergh & Vriens, 2010). From this classification, four classes of regulatory activities can be distinguished, namely (1) internal routine regulation, (2) external routine regulation, (3) internal non-routine regulation and (4) external non-routine regulation (Achterbergh & Vriens, 2010). Table 3 summarises and explains further these four regulatory activities.

Subsequently, Achterbergh and Vriens (2010) argue that types of regulation activities correspond to three regulatory potentials of Ashby's (1958), namely: control, design and operational regulation. Consequently, an alternative formulation of types of regulation, also used by De Sitter, is created, namely: strategic regulation, regulation by design and operational regulation (Achterbergh & Vriens, 2010). Operational regulation "*takes care of the day-to-day disturbances impinging on operational processes*" (Achterbergh & Vriens, 2019, p. 66), and it deals with disturbances given the existing organisational infrastructure and goals (Achterbergh

& Vriens, 2019). It is connected to external and internal routine regulations (Achterbergh & Vriens, 2010). Next, regulation by design "*deals with disturbances by changing the infrastructure of the organisation"* (Achterbergh & Vriens, 2019, p. 66). It aims at decreasing the probability of disturbances (attenuation) or building more operational regulation in the organisation (amplification), linking it to external and internal non-routine regulation (Achterbergh & Vriens, 2010). Lastly, strategic regulation refers to the redefinition of goals and, ultimately, the alteration of an organisation's societal contribution (Achterbergh & Vriens, 2019). Therefore, it links with non-routine external regulation (Achterbergh & Vriens, 2010). This classification also parallels Anthony's (1965) three levels of management - strategic, tactical and operational - which roughly correspond to strategic regulation, regulation by design, and operational regulation (Achterbergh & Vriens, 2010). Thus, it suggests distinguished roles for different regulatory activities. Yet, the IOD rather argues that regulation should be focused on local responsiveness/ (Molleman & Broekhuis, 2001), It assigns control tasks to the lowest organizational level and "*only if there are sound arguments not to allocate them there are they assigned to a higher level*" (Molleman & Broekhuis, 2001, p.278). Since the IOD is a more micro-oriented theory, the main goal is to improve operational regulation by creating autonomous teams. However, decentralisation of regulation by design or strategic regulation is not that clear.

Table 3: Types of regulatory activities (adapted from Achterbergh & Vriens, 2010)

Regulatory activity		
Operational regulation	Internal routine regulation	The regulatory activity does not involve other tasks and does not change the task or network of tasks.
Operational regulation	External routine regulation	The regulatory activity involves other tasks, but does not change the task itself or the network of tasks
Regulation by design	Internal nonroutine regulation	The regulatory activity does not involve other tasks, but changes the task's infrastructure and/or adds routine regulatory potential
Regulation by design Or Strategic Regulation	External non-routine regulation	The regulatory activity either changes the task's essential variables and norms or changes the infrastructure of the task's environment

In conclusion, De Sitter et al. (1997) propose design parameters and rules which are practical tools for designing structures with low coordination needs and increased control capacity. Although it is beyond the scope of this thesis to elaborate on them here, Appendix 8 presents

these design parameters and rules as they create a more practical image of coordination and control. Their understanding also allows for better synthesis with other design approaches, as they present a more comprehensive picture of each theory. For that reason, Figure 2 is a theoretical model summarising the IOD considerations of coordination and control, including also the design rules and parameters. Based on this model, a further synthesis and analysis of three organisational design approaches will be conducted.

Theme/dimension	The IOD perspective	Questions:
Coordination perspective: **Coordination:** alignment and integration of interdependent activities and tasks, emerging from the division of labour in the transformation process.	Coordination is a means for decreasing structural complexity and improving control possibilities.	How is coordination understood and seen in a given perspective?
Coordination mechanisms	Originally, autonomous coordination within the team was based on mutual adjustment; horizontal and vertical mechanisms were added for connecting units and levels.	How is coordination managed between different units? What are the mechanisms enabling coordination?
Control perspective: **Control:** decision authority and capacity to formulate and implement actions required to deal with disturbances	Control is required to deal with disturbances which affect the transformation process. It affects the quality of working life.	How is control understood and seen from a given perspective?
Control levels and mechanisms	Operational regulation, regulation by design and Strategic regulation have different scopes and breadths of impact.	What are, if any, control levels? What are the different tasks for a given control level?
Role of organisational structure	Organisational structure attenuates and amplifies. Simple structures (less coordination needed) with complex jobs (more individual control possibilities).	What is the relationship between coordination and/or control and organisational structure? How does organisational structure deal with coordination and/or control
Design rules/parameters	7 design parameters related to production structure, regulatory structure and separation between activities. Design rules in U shape: starting with production structure (macro-micro) and then regulatory structure (micro-macro).	What are the practical rules and parameters for designing organisational structure? How do they relate to coordination and/or control?
Relationship between coordination and control?	Coordination and control are separated concepts, yet they influence each other. Coordination is a means for decreasing disturbances occurrence.	What is the relationship between coordination and control? To what extent are they separate or united concepts?

Figure 2: Model for framework synthesis

3. METHODOLOGY:

This chapter presents and justifies the methodological choices. First, it defines the research paradigm chosen. Then, it elaborates on a research design. Later, it presents the main literature to be studied and explains the thematic analysis as a literature data analysis approach. Lastly, quality and ethical considerations are clarified.

3.1RESEARCH PARADIGM:

Guba and Lincoln (1994) define research paradigm as "*the basic belief system or worldview that guides the investigator*" (p. 105), and they state that any methodological choices are secondary to the choices of paradigm. This is because the research paradigm sets the limit for the inquirer, both for what is there to be known and what falls outside the limits of inquiry (Guba & Lincoln, 1994). By taking a position on ontological, epistemological and methodological choices, the research paradigm unfolds. This thesis takes the approach of post-positivism. In terms of ontology, post-positivism assumes critical reality (Cook & Campbell, 1979), as reality is assumed to exist but is only imperfectly apprehendable due to flawed human intellectual mechanisms. (Guba & Lincoln, 1994). The thesis aims at capturing the essence of literature, yet the researcher is aware of the imperfect tool of the human mind's capacity. Furthermore, epistemology takes the position of modified dualist/objectivist. The research does not assume that the investigated literature and the researcher are independent entities, since any interaction with the sources can result in being influenced by them. Yet, the research aims at objectivity by ensuring external guardians of critical traditions. Therefore, literature selection and analysis are based on the fit with preexisting knowledge about organisational design theories, their popularity, as well as their approaches to coordination and control. Also, it assumes that replicated findings are probably true but are always subject to falsification (Guba & Lincoln, 1994). To ensure replication, transparent processes of literature selection and analysis are presented. Lastly, the methodology in the post-positivism paradigm is connected to modified experimental/manipulative approaches (Guba & Lincoln, 1994). For literature review studies, this is harder to obtain or assess, as there are no "natural settings" for which one can study theories and falsify them. Yet, it is the position on ontology and epistemology which affects the methodological and ethical considerations of this thesis.

3.2 RESEARCH DESIGN:

This thesis is grounded in literature review research, specifically adopting a framework-synthesis approach. Snyder (2019) broadly defines literature reviews *as a more or less systematic way of collecting and synthesizing previous research*" (p. 333). However, rather than

aiming to comprehensively gather all relevant studies, this thesis focuses on selectively choosing three organisational design theories to compare them with the IOD. Booth et al. (2016) argue that "*good research synthesis can generally give us the most trustworthy answer to a specific review question*" (p.11). It uses an a priori framework to analyse and synthesise the findings (Booth et al., 2016). For this paper, it is the theoretical foundation of the IOD and its conceptualisation of coordination and control. Moreover, Kraus et al. (2023) mention that literature studies can be categorised based on qualitative (e.g. narrative) or quantitative (e.g. meta-analytic) components of analysis. In this framework-synthesis, the qualitative approach is adopted. Focus is put on the narrative conceptualisation of coordination and control. The chosen organisational design approaches provide information for the reconstruction and evaluation of the IOD. Accordingly, this thesis does not aim at a description of design approaches; rather, it seeks to synthesise different solutions for coordination and control requirements from the IOD perspective.

3.3. DATA COLLECTION:

This review applies a flexible, yet systematic approach to literature selection, centring around the main works of each author, selectively chosen by the researcher. To ensure a structured process of author selection, the decision is guided by 6C's classification of organisational design approaches (Lekkerkerk, 2025). They range from the least to the most detailed perspectives. They are: (1) chart approaches, (2) configuration approaches, (3) contingency approaches, (4) communication/information processing approaches, (5) computer-processes approaches, and (6) cybernetical or system thinking approaches. For this research, three of them – configuration, contingency, and communication/information processing - are chosen to compare with the IOD. The decision to exclude the chart approach is driven by overall simplicity and the lack of elaborate rules in designing structures. Furthermore, the IOD is an example of a cybernetic approach, and it is used as a base for framework-synthesis in this research. The computer-processes approach is excluded as it purposefully focuses on process-driven methodologies which are often enhanced by technological and computer tools.

Consequently, for the configuration approach, Mintzberg is chosen as a representative. According to Joseph and Sengul (2025), Mintzberg is one of the founders of contemporary research on organisational design. Also, his work is one of the most popular, and his configuration types have become widely acknowledged among scholars and practitioners. Additionally, lately his work focuses on rebalancing societies, thus making it a valuable theory to analyse and compare with the IOD. Next, the contingency or fit approach is illustrated by

Stanford's literature. She is one of the most well-known organisational design authors, with her books being bestsellers in organisational design literature. She is known for her practical insights on organisational design. Her approach is grounded in systems thinking and interconnections, thus making it a potentially valuable framework to compare and contrast with the IOD. Lastly, for the communication/information processing approach, the Galbraith framework is studied. Galbraith is a "*recognised expert on strategy and organizational design*" (Galbraith, 2014, p. 307) with "*more than forty-five years of research and practical experience*" (Galbraith, 2014, p. 307). Also, he is the creator of the widely used Star Model, acknowledged by various scholars (including Stanford) and used by practitioners. Thus, Galbraith's offer insights highly grounded in theory and tested in practice. Table 4 summarises each approach and presents the main literature to be analysed.

Table 4: Organisational design approaches and literature to be studied

Main approach:	**Represented by:**	**Literature to be analysed:**
Configuration approach**: organisational design based on configurations; configurations as ideal types that perform well under given circumstances**	**Mintzberg:** *"Recognising different species of organisations"* (Mintzberg, n.d.); How to choose the best organisational design for the business based on basic structures identified by the author (Mintzberg, n.d.)	Mintzberg, H. (1979). *The structuring of organizations: A synthesis of the research*. Englewood Cliffs, NJ: Prentice-Hall. Mintzberg, H. (2023). *Understanding organizations… finally!: Structuring in sevens*. Berrett Koehler Publishers.
Contingency/fit approach**: organisational design needs to be constantly readapted to a rapidly changing environment; what worked well in the past might not be beneficial under new circumstances.**	**Stanford: "***Organisations need to be in a state of readiness to design or redesign*" (Stanford, n.d.); Business survival depends on adaptation in the face of a rapidly changing business environment (Stanford, n.d.)	Stanford, N. (2013). *Organization Design: Engaging with change.* Routledge. Stanford, N. (2022). *Designing organizations: Why it matters and ways to do it well.* Economist Books
Communication/information-processing approach: **organisational design needs to ensure information flows to align work practices;** the **importance of information flow and communication**	**Galbraith**: "The *greater the uncertainty of the task, the greater the amount of information that has to be processed between decision makers*" (Galbraith, 1974, p. 28); "*Variations in organisational forms are variations in the ability to process varying amounts of information*" (Galbraith, 2012, p. 146)	Galbraith, J. R. (1974). Organization design: An information processing view. *Interfaces*, *4*(3), 28-36. Galbraith, J. R. (1973). *Designing complex organizations*. Addison-Wesley. Galbraith, J. R. (2014). *Designing organizations: Strategy, Structure, and Process at the Business Unit and Enterprise Levels.* (3rd ed.). Jossey-Bass.

3.4 DATA ANALYSIS:

The data analysis process can be split into two phases. Firstly, the aim is to unfold the conceptual differentiation between coordination and control. This phase adopts a holistic approach, involving reviewing core literature with minimal interruption and hesitation. (Booth et al., 2016). In this stage, memos and annotations are created, capturing the general associations or interpretations. This process provides a foundation for answering the first research questions. The method for the first phase aligns with thematic analysis, defined by Braun and Clarke (2006) as *a method for identifying and analysing patterns of meaning in a dataset*" (p. 4). According to Neuendorf (2019), thematic analysis aims to develop a story from the texts of interest. Thus, it allows for the objective interpretation of the conceptualisation of coordination and control requirements. Also, it assesses the extent of separation or overlap between the concepts. The second phase directly focuses on framework synthesis. For that, the IOD framework literature is treated as an "index paper" to which subsequent literature is compared (Booth et al., 2016). The aim is to theoretically enlarge the IOD approach; thus, synthesising the chosen literature with a theoretical model of IOD (Figure 2). General themes indicate the focus on literature analysis. Additionally, the theme of design rules and parameters is added, although it analysis is not included in the paper. Yet, Appendices contain information about organisational rules and parameters of each approach. Also, the Appendices include data collection and analysis documents, namely: 1) primary text extract and commentary, 2) theoretical model with supporting quotes; code table, and 3) synthesis table.

3.5 QUALITY OF THE RESEARCH:

Palmatier et al. (2018) propose three components for assessing literature review quality. They are depth and rigour, replicability and usability.

Firstly, depth and rigour are treated as unified terms, and they are not obtained when the study fails to demonstrate a systematic approach for selecting literature or when the complete overview offers only mind-numbing recitation without critical synthesis or evaluation (Palmatier et al., 2018). While it is framework-synthesis, with selectively chosen literature, its depth and rigour might be lowered. However, various papers compare organisational design approaches (e.g. Doty et al., 1993), as it is a good practice for comprehensive knowledge accumulation. Additionally, to increase rigour and depth, the selection was based on conceptual categorisation of organisational design approaches, and the already used theories in Kuipers et al. (2020) extension of De Sitter's perspective.

Replicability indicates that "*processes for the identification and inclusion of research articles should be described in sufficient detail, such that an interested reader could replicate the procedure*" (Palmatier et al., 2018). For this research, the inclusion of literature was selective. Yet, the analysis process is transparent and detailed - appendices with coding procedures are included in this paper.

Usability refers to the usefulness of reviews for both practitioners and scholars (Palmatier et al., 2018). This is ensured by studying the underdeveloped field of coordination and control, which is variously conceptualised across organisation design studies. The theoretical development can be obtained by ensuring conceptual clarity and a comprehensive understanding of coordination and control mechanisms. Also, it leads to practical usability as the design principles and strategies are more detailed and functional for practitioners.

3.6 ETHICAL CONSIDERATION:

According to Suri (2020), ethical considerations for literature reviews are typically not discussed explicitly since the "*reviewers do not collect deeply personal, sensitive or confidential information from participants*" (p. 41). Therefore, literature reviews do not violate the rules, which could be seen as harmful or unethical. Some considerations can be given to (1) informed subjectivity and reflexivity, (2) purposefully informed selective inclusivity, and (3) audience-appropriate transparency (Suri &Clarke, 2009). These rules aim to ensure that the researcher fairly and transparently informs the readers about their inquiry actions. Thus, in this research, the paradigm section presents the position and reflects on the role of the inquirer. Furthermore, the researcher purposefully and transparently informs the reader about the selective inclusivity of the organisational design approaches. Lastly, the researcher ensures that the results are presented in an unbiased way, not benefiting or favouring any of the organisational design authors.

4. RESULTS:

This section presents the results of the literature synthesis. Firstly, it provides the conceptualisation of coordination and control by different organisational design approaches. Then, the next section focuses on synthesising the theoretical insights to enhance the IOD perspective.

4.1 CONCEPTUALIZATION OF COORDINATION AND CONTROL IN DESIGN APPROACHES:

4.1.1: MINTZBERG PERSPECTIVE:

Mintzberg's theory, in both books studied (Mintzberg, 1979; 2023), treats coordination as a fundamental challenge of organisational design. However, control definition is expanding, starting with control being a response to the increasing complexity of coordination needs (Mintzberg, 1979) and evolving to leadership and engagement (Mintzberg, 2023). Also, the conceptualisation of concepts expands, starting with treating coordination and control as a unified term (Mintzberg, 1979) and moving to a separation between them (Mintzberg, 2023).

Firstly, the structure of an organisation defines the division of labour and its integration (Mintzberg, 1979). Mintzberg (2023) even calls structure the skeleton of the organisation, thus highlighting its fundamental characteristic in organising. It naturally connects more to coordination as it reflects various flows within the organisation. These flows connect the elements of the structure, presented in Table 5. According to Mintzberg (2023), structure should facilitate coordination, not create impenetrable silos or slabs. Also, Mintzberg (1979, 2023) argues that the form of structure depends on contextual variables, and different configurations will be the most suitable.

Table 5: Players of organisation (Adapted from Mintzberg 1979; 2023).

Elements (original terms 1979)	Players (updated terms 2023)	Definition
Operating Core	Operators	Perform the basic work related directly to the production of products or services.
Strategic Apex	Managers	Originally, the strategic apex as people charged with overall responsibility over the organisation (top management), while the middle line was the extension of the chief executives over their own unit. In 2023, the hierarchy is dropped and strategic apex with middle line are blended into one term: managers, who, depending on the form of organising, take different positions (see Appendix X)
Middle line		
Technostructure	Analysts	Specialised unit which provides support to the organisation outside the operating workflow: it plans, schedules, budgets and sometimes trains the people who do the work
Support staff	Support staff	Support operations indirectly; their work is not connected to the main transformation process, but is essential for organisational functioning.
	Culture	system of beliefs that permeates the organisation and provides a common frame for all the players.
	External influencers	Various stakeholders who shape the behaviour of the organisation from outside.

Following, coordination is a foundational process for any organisation. In 1979, Mintzberg argues that every organised human activity leads to the coordination of tasks due to the division of labour. The same argument repeats in the newest book: "*To make a movie or score a goal, people doing different things have to work together. This is called coordination, and it is the essence of organising, following the division of labour*" (Mintzberg, 2023, p. 39). Mintzberg sees coordination as organic and natural (2023), However, he also admits that putting each

worker's task together is challenging when it comes to a bigger workforce (Mintzberg, 2023). Coordination requirements exist because various flows (of authority, work material, information, and decision processes) join different parts of the organisation, and these flows represent the organisational functioning (Mintzberg, 1979). Additionally, by 2023, Mintzberg updates his perspective by adding public, private and plural sectors, highlighting the interconnectedness not only within organisations but also with the general environment.

To ensure the integration of effort, Mintzberg (1979, 2023) proposes a continuum of coordination mechanisms, ranging from informal to highly formalised. In the original version (Mintzberg, 1979), they included: (1) mutual adjustment, (2) direct supervision, (3) standardisation of work, (4) standardisation of skills, and (5) standardisation of outputs. Additionally, in 2023, Mintzberg also adds (6) standardisation of norms. The definitions are presented in Table 6. According to Mintzberg (1979), coordination mechanisms are the glue of structure, the basic elements that hold the organisation together. Interestingly, coordination mechanisms are "*as much concerned with control and communication as with coordination"* (Mintzberg, 1979, p. 3). Moreover, in 2023, Mintzberg links coordination mechanisms with decision authority, stating that *"direct supervision is the most horizontally centralising, whereas mutual adjustment is the least, with the forms of standardisation […] falling in between"* (p. 55) Additionally, Mintzberg (2023) calls mutual adjustment the purest form of coordination, being "*a coordination without control"* (p. 40), while other mechanisms always include some level of control. Accordingly, no single mechanism is seen as enough to handle the coordination requirements (Mintzberg, 2023), and usually, organisations need to adapt at least some of them.

Table 6: Coordination mechanisms (adapted from Mintzberg 1979; 2023)

Coordination mechanism	Definition
Mutual adjustment	Direct coordination, through conversation or otherwise; web-like.
Direct supervision	The manager, who is at the centre of a hub, grabs the whole situation and coordinates the work of others by informing them what to do.
Standardisation of work	Rule-bound organisation; Coordination through specified, programmed content of work.
Standardisation of skills	Coordination through standardised training and knowledge.
Standardisation of outputs	Outputs or results established; how it is done depends on the unit itself.
Standardisation of norms	Standardised norms or values commit people to a common belief.

Additionally, organization can also employ liaison devices which cut across the groupings and units (Mintzberg, 1979) and break down the silos and slabs within organisations (Mintzberg, 2023). They are *"flexible mechanisms to encourage loose informal relationships"* (Mintzberg, 1979, p.) and can be divided into: (1) liaison positions, (2) integrating managers, (3) meetings, standard committees, teams, and task forces, and (4) matrix structures. Their further elaboration is in Table 7.

Table 7: Liaison devices (Adapted from Mintzberg 1979; 2023)

Liaison devices	Definition
Liaison positions	Sit between the units and connect them, bypassing the vertical channels.
Integrating managers	Liaison position with formal authority, based on the decision process that cuts across the affected departments.
Meetings, standing committees, teams and task forces	Groups are formed to accomplish a particular task. Can be permanent (meetings and standing committees) or assembled (task forces).
Matrix structure	People report to 2 or more bosses; this violates the unity of command rule for the sake of greater collaboration.

Moving to control, in 1979, Mintzberg treats it as a response to increased complexity in coordination needs. He argues that: "*jobs must often be specialised vertically [controlled]*

because they are specialised horizontally [division of labour]" (Mintzberg, 1979, p. 72). Thus, the system of formal authority is built, which also establishes the hierarchy of the organisation (Mintzberg, 1979). Moreover, organisations formalise behaviour to reduce its variability, ultimately to predict and control it (Mintzberg, 1979). And the purpose of control is to "*assess whether or not the standard has been achieved"* (Mintzberg, 1979, p. 148). However, in the newest book, the focus of control has shifted. Now, it is no longer only about management rather it focuses on leadership. According to Mintzberg (2023), "*managing is controlling and deciding, doing and dealing, thinking and leading, and more, not add up, but blended together"* (p. 32). Additionally, Mintzberg (2023) criticises the term top management. He states that: "*seeing oneself on top of an organisation enables a chief to be on top of what is going on in that organisation? Hardly, with everyone else seen as below"* (Mintzberg, 2023, p. 12). Thus, the evolution of control highlights the shift from the traditional command-and-control style and the importance of knowledge.

In both books, it is highlighted that various organisational players exercise more or less control depending on the configuration chosen by the organisation. Additionally, Mintzberg (1979, 2023) argues that they have different regulatory capacities, with the strategic apex, technostructure, and middle line having the greatest one. Their responsibilities are presented in Table 8. In 2023, he also includes culture and external influencers as influential parties in the control execution.

Table 8: Role of organisational player in control (Adapted from Mintzberg, 1979).

Organizational player	Role in regulation
Strategic apex	Ensuring that the organisation serves its mission effectively and that it serves the needs of those people who control or otherwise have power over the organisation. Have 3 sets of duties: • Direct supervision, • Management of the organisation's boundary conditions, • Development of the organisation strategy,
Middle line	Performing all the managerial roles of the chief executive in the context of own unit. Joins strategic apex with operating core.
Technostructure	Creating standards, mostly standardisation of work and the possibility of outputs.

Moreover, Mintzberg (1979, 2023) acknowledges types of decentralisation (see Appendix 1D) as a mechanism for bringing decision authority to various parts of the organisation. As stated: "*decision-making power can be delegated vertically, down the hierarchy, more or less, or it can be dispersed horizontally, to non-managers […]. And this power can go partially or comprehensively"* (Mintzberg, 2023, p. 54). Additionally, Mintzberg (2023) introduces three planes of managing, which have different responsibilities, presented in Table 9.

Table 9: Planes of managing (Adapted from Mintzberg, 2023).

Planes of managing	Responsibilities
Information plane	Using information to help people take action, both through communication and control.
People plane	Being closer to action, helping people make things happen via the roles of leading and linking
Action plane	Handling disturbances reactively and managing opportunities proactively.

Ultimately, coordination and control are firstly treated as a unified term. Mintzberg (1979) states that direct supervision (purest form of control) and mutual adjustment (purest coordination) are partially interchangeable and that control and coordination are the same in principle. Then, in 2023, he argues that "c*oordination and control are two different concepts"* (Mintzberg, 2023, p. 40). However, from this perspective, it is visible that coordination and control are still interconnected. It is especially visible in coordination mechanisms, where these terms cannot be separated. However, in the updated version, control has a more holistic nature, focusing more on leadership and knowledge rather than hierarchy.

4.1.2: STANFORD PERSPECTIVE:

Stanford's general approach to organisational design differs extensively compared to other approaches studied. It is more holistic and less structural. Structure is treated as an element of organisational design, not its essence. Possibly, this is also the reason for a more holistic conceptualisation of coordination and control.

In both Stanford's (2013; 2023) works, structure is framed as a flexible, adaptive and networked component of organisational design. Karash, as cited in Stanford (2023), states that: "*structure is the network of relationships that creates behaviour. The essence of structure is not in the things themselves but in the relationships of things"* (p. 66). Therefore, this perspective aligns with a system-thinking approach to organising. In Stanford (2013), structure is strongly linked

to interconnections and dependencies, highlighting the coordination. Stanford (2013) states that: "*I think [Henry] Mintzberg got it right when he suggested that two things must be settled – the division of labour and coordination after that"* (p. 61). Yet, already in Stanford (2013), a strong link between structure and regulation was visible, and this perspective expanded to a main link. Firstly, Stanford (2013) states that "*any organisational structure should be temporary"* (p. 61*)* as they are a tool of the business. Also, she highlights that "*structure must be carefully chosen to position authority where at best delivers the business strategy"* (Stanford, 2013, p. 8). Then, Stanford (2022) argues that "*A key variable in the selection [of appropriate organisational structure] is the operating context -both internal and external -which changes over time"* (p. 72)*,* thus treating structure as a tool for alignment with the environment.

Subsequently, coordination in both Stanford (2013, 2022) works has a holistic nature. It is not about the alignment of activities within the organisation, but also about the coordination with the external environment. Stanford (2013) states that enterprise is not self-contained; rather, it *"is interconnected with other entities in a complex dynamic relationship and is dependent upon its external environment for survival*" (p. 14). In Stanford (2022), governments and civil societies are explicitly mentioned to expand the coordinating efforts. Additionally, coordination directly emphasises the impact of interconnections, not only to units but also symbols, products, systems and interconnections (Stanford, 2022). Thus, elements are "*linked together by dynamics that produce an effect, create a whole new system or influence its elements"* (OECD, as cited in Stanford, p. 29), and coordination itself cannot be limited to only alignment of activities, but needs to acknowledge the dynamic nature and impact of interconnections.

Consequently, Stanford (2013) proposes linking mechanisms which "*connect various people, teams and units of work enabling them to share and act on information that will keep their part of the work flowing"* (p. 115) Stanford (2013) acknowledges that links across boundaries are harder to maintain, thus she proposes both formal (structural) and informal connections which can be used to share information. Table 10 summarises the linking mechanisms. Although in 2022, Stanford also states that designing effective coordination between structures is a critical design activity, she does not elaborate on linking mechanisms for the external environment as well. However, she gives attention to social media, which can be used for collaboration and sharing ideas. Therefore, social media could possibly be a new linking mechanism which can be applied both internally as well as externally to include, e.g. customers or civil societies.

Table 10: Linking mechanisms (Adapted from Stanford, 2013)

Type of mechanisms:	Linking mechanisms:	Definition:
Formal mechanisms	Liaison roles	Person who has formal roles between or across work groups; usually includes the word coordination or liaison in the job title.
	Cross-unit groups	Standing monthly meetings, committees set up for a specific purpose or project teams.
	Integrator departments	Established to ensure that the parts of the work process work together effectively.
	Matrix structure	Formalise linkages through the organisational hierarchies; two bosses.
	Service level agreements	Explicit agreements between internal units or external parties, which define and manage responsibilities and expectations
Informal mechanisms	Technology-based collaboration channels	Platforms for sharing documents, working jointly on documents, having discussions or organising projects and teams and discovering people and information
	Informal network of people (possibly also formally established)	An informally created network of people who know each other.
	Social media channels	Social media platforms (Facebook groups, X accounts, integral profile, etc.)
	Ad hoc meetings	Called at short notice to discuss a particular issue or opportunity

Next, control understanding expands, the same as with the Mintzberg reasoning. Yet, Stanford consequently links the control with the alignment of goals. In earlier work, the control is associated with governance, authority and strategic oversight. According to Stanford (2013), *"a governance structure that keeps clear oversight of all of [simultaneous streams of work] and provides a coherent framework for them to operate within is essential"* (p. 190). Thus, it links to a more traditional command-and-control style. However, control is also linked to designing organization resilience and agility (Stanford, 2013). There are three types of triggers of change (presented in Table 11), and the governance body needs to be sensitive to capturing triggers when needed. This perspective is further deepened in Stanford (2022). According to the author, "*It is beyond our ability to know what the future will bring*" (Stanford, 2022, p. 18)*;* thus, *"we cannot plan without errors"* (Stanford, 2022, p. 18). However, preparing for uncertainty and delivering desired business results can be done by assessing the contexts, problems and opportunities as well as the need for design change and having in mind the constant organisational flux and change (Stanford, 2022). Thus, in 2022, it can be argued that organisational design is itself a form of control which enables the creation of the agile organisation, with a capability of dealing with uncertainty.

Table 11: Triggers of change (Adapted from Stanford, 2013).

Types of triggers of change:	**Definition:**
Current triggers	Influential events that require immediate reaction.
Forthcoming triggers	Influential events which not yet happened but are known and can be responded to proactively.
Future triggers	Predictions of influential events that require adaptive designs capable of effectively meeting what happens.

Therefore, as control also has a holistic nature, in both of Stanford's (2013; 2022) works, there is no clear distinction between control levels. Yet, Stanford (2013), recognises empowering workers in handling change. Also, Stanford (2022) gives attention to the diagonal representation of organisation in decision making. "*Only when metrics are defined by teams and individuals can people pushed forward with their own unique perspective and expertise"* (Stanford, 2022, p. 213). Thus, it allows individual organisational units to set their own process. Also, Stanford (2022) introduces the typology of leadership, including both formal and informal power within it. The groups of leadership are defined in Table 12.

Table 12: Leadership groups (Adapted from Stanford, 2022)

Leadership group:	Definition:
Internal formal leaders	Appointed to a leadership role within an organisation, focuses on heading a new direction or vision for a group, as well as coordinating interdependencies.
External formal leaders	Those in government, regulatory or expert advisory roles.
Internal informal leaders	Take on a leadership role within an organisation but have no formal appointment to it. Has informal power that enables it to influence organisational members.
External informal leaders	Those by virtue of visibility and/or credibility; individuals who have stature and credibility, known as influencers, opinion leaders, thought leaders, etc..

Although Stanford (2013; 2022) does not distinguish between levels, she defines clearly the possible control mechanisms. Stanford (2013) lists activities for resilience building, namely: (1) anticipating, (2) sensing, (3) responding, and (4) adapting. Furthermore, Stanford (2022) presents the skills for a continuous approach to organisational design, emphasising its connection to control. As all of them focus on dealing with an uncertain environment, they are strongly linked to Stanford's control understanding and are treated here as control mechanisms. Further elaboration is presented in Table 13. Additionally, for future anticipation, Stanford (2022) mentions possible control activities, including PESTLE scan, scenario creation, digital twinning, etc. All of these mechanisms and activities are mainly about strategic oversight.

Table 13: Control mechanisms (Adapted from Stanford, 2013; 2022).

	Control mechanisms:	Definition:
Activities for resilience building	Anticipating	Developing a view of possible or likely changes.
	Sensing	Continual reviews of market conditions, looking for trends and anomalies.
	Responding	Reacting to market shifts faster than competitors do
	Adapting	Reworking some of the business processes, aligning them more coherently within the organisation.
Skills for a continuous approach to organisational design	Signal detection	Reflecting carefully on trends in the environment, identifying which to pay attention to in the context of the specific organisation and its business strategy.
	Pattern recognitions	Recognising patterns in the signals and the data they are embedded in; understanding, organising and classifying information.
	Meaning-making	Articulating and giving expression to what that pattern stands for, what it means for the individuals in an organisation, and what it means for the operation of the organisation as a whole. It can come from anyone in the group.

Summing up, coordination and control, in earlier work, are more distinctive concepts, yet the mechanisms used for the sake of both of them and complementary and interrelated. While coordination focuses on the interconnection between parts of an organisation and the environment, control provides a framework within which the cooperation occurs. However, in 2022, the perspective changed. Coordination and control become more unified as they are both intertwined facets of organisation design rather than separate units. Stanford (2022) states that "*approaches to help map the dynamics of the surrounding system, explore the ways in which the relationships between system components [elements] affect its functioning, and ascertain which interventions can lead to better results"* (p. 33) are crucial in complex contexts. Since

the organisation is a system connected to various external and internal elements (coordination), it creates a control requirement for better future anticipation.

4.1.3: GALBRAITH PERSPECTIVE:

Galbraith's (1973; 1974; 2014) work presents the most theoretical stance on organisational design, compared with other design approaches analysed. It links structuring with the information processing capacity, thereby influencing the conceptualisation of coordination and control. In Galbraith's perspective, both of these terms gain verifiable characteristics.

Starting with the structure, Galbraith (1973) firstly associates it with the division of labour and integration of tasks. His original work is highly influenced by Thompson (1969) and aims at arranging interconnected activities. This position is also visible in the 2014 book. Galbraith (2014) states that interdependencies drive organisation since *"a principle of design is to create structural units based on the degree of interdependence"* (p. 10). Thus, structure should maximise coordination within an organisational unit and minimise interdependence across units (Galbraith, 2014). However, structure is also a strategic response to complexity and uncertainty, reflecting the organisation's response to information processing capacity (Galbraith, 1973). Moreover, Galbraith (2014) highlights the structural representation of strategic direction and market dynamics.

Following, coordination is an essential element for Galbraith (1973; 2014). Differentiation and then integration of task create the design problem since "*the behaviour that occurs in one of these sub task cannot be judged as good or bad except in relation to the behaviours occurring in other subtasks"* (Galbraith, 1973, p. 109), Accordingly, also in Galbraith (2014), author says that "*the unit cannot be completely separate because it is interdependent with the other functions"* (p. 123). Although specialisation allows for increased performance, it also hinders effective collaboration (Galbraith, 1973). Galbraith (2014) calls specialisation a two-edged sword since it creates a greater division of labour, requiring greater collaboration between units. Thus, finding structural solutions for permitting coordinated action across a large number of interdependent roles is a main organization design task (Galbraith, 1974). Especially that, no structure known, except for matrix, can handle all coordination required (Galbraith, 1973).

However, before starting to discuss coordination mechanisms, Galbraith's perspective requires control understanding. In Galbraith (1973), the author is influenced by Simon's theory of decision making, which highlights the limited capacity of individuals to make rational decisions. To make a rational choice, an organisation needs a specific amount of information,

defined as a function of three elements, namely (1) the diversity of the outputs, (2) the number of different input utilised, and (3) the level of goal difficulty or performance (Galbraith, 1973). According to Galbraith (1974), "*if the task is well understood prior to performing it, much of the activity can be preplanned"* (p. 28). However, as the environment becomes more complex, the uncertainty, defined as "*the difference between the amount of information required to perform the task and the amount of information already possessed by the organisation"* (Galbraith, 1973, p. 5), hinders the realisation of the task. Thus, it requires a greater amount of information to be processed between decision makers (Galbraith, 1974). To do so organisation has two choices: either to adopt strategies which reduce the information necessary to coordinate activities or increase organisational capacity to process more information (Galbraith, 1973). Although Galbraith (1973; 1974) does not explicitly call it control, its purpose is linked to control. It focuses on decision authority and being able to realise the purpose of the organisation. Furthermore, in a later book, Galbraith (2014) also mentions the information processing and decision-making capacity; however, control is more linked to strategy about "*direction in which the company is going to grow"* (Galbraith, 2014, p. 20). Yet, this direction still requires adequate execution of tasks and information processing capacity.

Therefore, Galbraith (1973) starts his consideration of coordination mechanisms by analysing the mechanistic model of organisation. It presents that, with increased uncertainty and complexity, organisations start managing coordination through control, namely by using (1) rules, programmes, and procedures, (2) creating hierarchy, and (3) goal setting. Each of these mechanisms is a step further in decreasing the uncertainty. They are not employed separately, but rather as an addition to previous mechanisms (Galbraith, 1973). Their explanation is presented in Table 14. The goal of these coordination mechanisms is to decrease the amount of information referred upward when an exceptional event occurs.

Table 14: Coordination through control mechanisms (Adapted from Galbraith, 1973).

Coordination through control mechanisms	Definition:
Rules, programmes, procedures	Specifying the necessary behaviours in advance of their execution in the form of rules or programmes. Limited to job-related situations which can be anticipated in advance and for which an appropriate response can be identified.
Hierarchy	Creating new roles, called managerial roles, and arranging them in a hierarchy. The occupants of these roles handle the information collection and decision-making tasks necessitated by uncertainty.
Goal setting	Specifying targets to be achieved and allowing the employees to select behaviours appropriate to the target.

However, as the uncertainty and complexity increase, the mechanisms stretch the processing capacity at the top level, making it ineffective (Galbraith, 1973). Thus, a new strategy needs to be employed. Galbraith (1973) proposes four strategies: either they "*reduce the amount of information that is processed, or they can add in two ways to increase its capacity to handle more information"* (p. 15). They are: (1) slack resources, (2) self-contained tasks, (3) horizontal information systems and (4) lateral relations. Their explanation is exhibited in Table 15, while Table 16 elaborates more on lateral relation mechanisms. Ultimately, they are strategies that "*(1) increase [organizational] ability to pre plan, (2) increase [organizational] flexibility to adapt their inability to pre-plan, (3) to decrease the level of performance required for continued viability"* (Galbraith, 1973, p. 4). Yet, in Galbraith (2014) the idea of coordination mechanisms which decrease information processing capacity is abandoned. Rather than the focus is put on "*creating communication links across the interfaces between functions"* (Galbraith, 2014, p. 11) and breaking down the silos, through the formal and informal processes. Also, Galbraith (2014) describes lateral processes coordination activities across different units, which decentralise general management decisions. Thus, they are as much coordination mechanisms as they can be control mechanisms.

Table 15: Design Strategies (Adapted from Galbraith, 1973)

	Design Strategies	Definition
Decreasing required information processing capacity	Slack resources	Reduce the required level of performance.
	Self-contained teams	Change from the functional task design to one in which each group has all the resources it needs to perform its tasks.
Taking the required information processing capacity as given and creating links to handle it	Horizontal vertical systems	Mechanisms which allow it to process information acquired during task performance without overloading the hierarchical communication channels, e.g. computers, man-machine combinations, assistants.
	Lateral relations	Cut across the line of authority and move the level of decision-making down to where the information exists.

Table 16: Lateral processes (Adapted from Galbraith, 2014).

Lateral processes	Definition	Involvement of management
Voluntary and informal process	Arise spontaneously; A form of organisation from the bottom.	Little to no; Voluntary processes can be enhanced by management through, e.g. interdepartmental rotation or events, colocation, etc. (See appendix X).
E-coordination	Using the Internet and social technology to communicate and coordinate across departments.	Little, focused on creating channels, administering them, etc..
Formal groups	Teams or task forces are formally created, members appointed, charters defined, and goals set for the cross-functional effort.	Created by management, yet management does not need to be part of the group.
Integrators	Lead the formal groups, as, at some point, full-time leaders might be required.	Integration and involvement in a formal group.
Matrix organization	The integrator role becomes a line organisational position with a functional boss.	Full management involvement, including two or more bosses and a line of authority.

Next, Galbraith (1973, 2014) does not distinguish explicitly between the control levels. Yet, he acknowledges the top of the hierarchy, which should be only for exceptional cases (Galbraith, 1973). Also, Galbraith (1973, 2014) highlights the importance of choosing the right people to work at a lower level: "*Shift from control based on supervision and surveillance to control based on selection of responsible workers"* (Galbraith, 1973, p. 13). In Galbraith (2014), the author also states that "*the conversion from a centralized hub-and-spoke system of decision*

making to a more decentralized, cross functional team approach to making decisions" (p. 62) is crucial. Thus, specific levels are not identified; only a broad categorisation of top and lower hierarchy is presented. The main tasks of control representatives are to create strategic direction and to manage the lateral processes. However, Galbraith (2014) also introduces the categorisation of control mechanisms, that is, (1) operational control, (2) strategic control and (3) financial control, which are presented in Table 17.

Table 17: Form of controls (Adapted from Galbraith, 2014).

Form of control	Definition
Operational control	Detailed decisions about scheduling, inventories, and pricing.
Strategic Control	Designation of products, markets, technologies, and charters to be pursued by the organisational units.
Financial control	Straightforward budget allocation, measurement, and accountability to meet the financial targets.

Summing up, in earlier work, Galbraith (1973) treats coordination and control as interdependent. They are both elements of information processing capacity. Also, they cannot be separated from one another – coordination might be done by means of control, or it requires a regulatory authority. Moreover, coordination can be a form of workers' empowerment. In Galbraith (2014), the concepts become more distinct, yet they are still interdependent. Coordination mechanisms enhance decentralisation and increase the organisation's decision-making capacity, while control is more focused on strategic oversight. However, other forms of regulatory activities are mostly seen in coordination mechanisms again.

4.2 SYNTHESIS OF ORGANIZATIONAL DESIGN APPROACHES WITH THE IOD:

This section synthesises all the design approaches around the IOD perspective. The goal is to create a more comprehensive and detailed IOD theory.

4.2.1 COORDINATION AND COORDINATION MECHANISMS:

None of the examined approaches – except for earlier Galbraith (1973; 1974) – advocate for reducing coordination needs. Rather, all of them treat coordination as an essential problem of organisational design. Also, more recent contributions (post-2000) emphasise the importance of increased coordination.

Interestingly, Galbraith (2014) departs from his earlier focus and commits fully to increased communication and linkages between units. Mintzberg (1979) first frames coordination within the organisation, to later expand the view and include external influencers and sector variations (Mintzberg, 2023). Similarly, Stanford (2013, 2022) advocates a broad perspective on coordination, incorporating also the external environment.

A consistent theme across approaches is the rising popularity of network structures, which by their nature rely on high interconnections (See appendices 2C, 3C, 4C, 7C). Yet, Galbraith (2014) also agrees with creating maximum interdependencies within units, aligning with Mintzberg's (1979) various grouping bases. These elements align strongly with the IOD, particularly with decomposing tasks based on aspects. However, the main message is compatible between design approaches, and it is creating and matching coordination needs internally and externally. Thus, coordination is not treated as a means of reducing structural complexity (De Sitter et al., 1997); rather, it is an answer for increased external and internal complexities. Hence, the synthesis emphasises the complexity of contemporary organisational systems, which might require additional coordination requirements.

Following, the IOD's original focus on autonomous teams and mutual adjustment is complemented by earlier contributions of Mintzberg (1979) and Galbraith (1973), who link coordination mechanisms with control activities, such as standardisation or hierarchy. They both could be connected to operational regulation, as they relate to the execution of tasks and might, but not have to, involve a network of tasks. Also, both authors recognise mutual adjustment as a comprehensive, yet insufficient coordination mechanism (Mintzberg, 1979; Galbraith, 1973). Thus, necessitating additional coordination efforts. Mintzberg (1979, 2023) introduces coordination mechanisms which, along with mutual adjustment, include a spectrum of mechanisms with pure coordination and control. However, as Galbraith (1973) notes, at some level, these mechanisms are not enough, requiring more decentralised coordination (Mintzberg, 1979, 2023; Stanford, 2013; Galbraith, 1973, 2014). Liaison mechanisms, firstly emphasised by Galbraith (1973; 1974), and also adopted by Mintzberg (1979, 2023) and Stanford (2013), cut across hierarchical boundaries and facilitate lateral coordination. Galbraith (2014) argues that they are the principal means of coordinating in a complex and dynamic environment. Yet, none of the approaches distinguishes between horizontal and vertical mechanisms. Rather, liaison roles decentralised decision-making by linking people without vertical intervention. Additionally, Stanford (2013, 2022) and Galbraith (1973, 1974, 2014) recognise social media and technology's impact on coordination simplification.

Collectively, these insights suggest that while self-contained teams are useful for initial simplification, organisational design must include complex lateral processes. Together with the support of technology, these coordination mechanisms allow for full acknowledgement of the interdependencies between units.

4.2.2 CONTROL AND CONTROL MECHANISMS:

Regarding control, it is understood differently across the approaches, yet all of them agree that it is a form of decision-making authority. Unlike other approaches, the IOD frames control as the capacity to formulate and implement actions necessary to address disturbances. On the other hand, Mintzberg (1979) links control to increased complexity in coordination needs, aiming at a prediction and reduction of variability in task execution. Similarly, while not explicitly stated, Galbraith (1973) views control as managing uncertainty and information overload. Uncertainty can be connected to the IOD concept of disturbance, as can Stanford's (2013) triggers of change. Thus, both of these authors acknowledge the impact of events on task execution and the need for regulatory action. Moreover, since 2000, control is associated more with strategic oversight, leadership and engagement. This evolution broadens the IOD perspective to not only focus on disturbance management but also encompass the continuous and dynamic nature of governance. It is aimed at creating a regulatory structure - agile and resilient for unexpected future events (Stanford, 2013, 2022), based on engagement and knowledge of leaders (Mintzberg, 2023; Stanford, 2022; Galbraith, 2014), and aimed at dealing with complexity of word (Galbraith, 1973, Stanford, 2013). This also presents\ a need for integration of regulatory levels.

For that reason, possibly, no design approach – except for earlier Mintzberg (1979) – focuses on control levels. In fact, only Mintzberg (1979) creates a more detailed image of hierarchy, which is yet dropped in Mintzberg (2023). Despite this, to a greater or lesser extent, all approaches include the hierarchy. Galbraith (2014) and Stanford (2013) talk about top and lower levels, and Mintzberg (1979, 2023) mentions control activities, including top-down approaches (action-planning control) and bottom-up practices (performance control). Galbraith (2014) highlights the necessity of hierarchy since "*this large number of people cannot continually communicate among themselves and decide on what they're going to do. Instead, we select a few people and place them in a hierarchy of authority*" (p. 23). Nonetheless, decentralisation of decision—making authority emerges as a clear trend in all perspectives (Mintzberg, 2023; Stanford, 2022; Galbraith, 2014).

Additionally, there are mechanisms mentioned which can be linked to control mechanisms in IOD. Firstly, each of Stanford's (2013, 2022) control mechanisms can be linked to strategic regulation, as can the control levels of Galbraith (2014). Possibly, tasks of strategic apex (Mintzberg, 1979) could also be connected to strategic regulation, while technostructure could be doing both regulation by design and strategic regulation. In a more empowering configuration, the operating core (Mintzberg, 1979) could have an operational regulatory potential. Yet, in a synthesised IOD perspective, it is suggested to integrate more regulatory levels, allowing both top and bottom to regulate strategically, structurally and operationally. Also, liaison roles (Galbraith, 2014) - although coordination mechanisms – could also function as a form of regulatory activities, by bringing task authority to workers or introducing structural innovations like mirror departments (See Appendix 7A). Moreover, Mintzberg (2023) expands the topic of control mechanisms by the concept of planes of management. The decision plane is mostly connected to general regulation in IOD, yet people and action planes are similarly important in managing. Finally, Stanford (2022) suggests that organisational design can be a form of control – a proactive response to environmental changes and uncertainty. Thus, possibly linking it to regulation by design.

In summary, while this synthesis does not significantly deepen the understanding of control levels, it clarifies the range of control mechanisms relevant to IOD. It possibly also diminishes the importance of clearly defined regulatory levels, as decentralisation has become a widely acknowledged trend.

4.2.3 DESIGN RULES AND PARAMETERS:

Finally, the design rules and parameters of organisational design approaches (see Appendices 9, 10, 11) translate theory into practical behaviour.

Only Mintzberg (1979; 2023) includes in his perspective the idea of design parameters. They are broader in definition, focusing not only on structure, but also including, e.g. behavioural elements (*training and indoctrination*). They are not separated based on coordination and control; rather, they often roughly relate to both of these concepts. Thus, they connect structure with softer aspects of organisational design, which are also emphasised in Galbraith's (2014) star model, or Stanford's (2013; 2022) approach. Additionally, for Mintzberg (1979; 2023), adequate configuration of parameter values and coordination mechanisms leads to the ideal form of organisations. Mintzberg (2023) expands the perspective by including forces driving organisations into certain structures. They are especially important as they can explain why

complex organisations with simple jobs might still exist, in opposition to the IOD. Mintzberg (2023) asks: "*Why change a programming machine to do what it was not designed to do, instead of concentrating on fine-tuning what it does well"* (p. 84). This critique emphasises the importance of capability fit and goal alignment.

Moreover, Galbraith's (1973; 1974) design strategies and their order can suggest that self-contained teams, functionally similar to autonomous cells in IOD, are only the first line against information overload. Yet, at some point, additional capacity is required. Vertical information systems or lateral relations become essential overlays. This perspective is reinforced by all contemporary approaches studied. Moreover, Galbraith's (2014) star model, above all, brings attention to choosing the right people. Empowering lower-levels to diagnose disturbances and act decisively demands adequate and capable people. Selection, knowledge and capability-building become important elements of design. It is also visible in Mintzberg (2023), warning against forcing an organisation into what it is not. To ensure that operational, structural and strategic design can be given to workers, organisations need to choose the right people, learn them to make decisions around uncertainty and ensure that all elements of the system (Galbraith, 2014; Stanford, 2022) amplify the decentralisation and right decision-making.

Finally, Stanford (2013; 2022) does not offer any specific design rules. Yet, she presents organisational design as a process for deploying them. The phases in the project could be used as "*before-work*" for designing an organisation with the IOD rules. Ultimately, to ensure that there is understanding, clear roles and expectations, and that workers are prepared to change their routine.

Although no design approach alone offers specific design rules, combined, they result in a stronger theory. Mintzberg's perspective contributes to caution in changing structure, focusing on alignment the restructuring with the organisational capabilities and goals. Galbraith contributes to the increased importance of matching information processing capacity with coordination mechanisms. It also emphasises people selection and capacity-building, elements which could be acknowledged by practitioners before introducing the IOD structures. Also, Stanford's approach frames organisational design as a dynamic project focused on alignment and readiness for change. Collectively, these design approaches strengthen IOD rules by (1) integrating soft elements of organisational design, (2) stressing contextual fit over idea, and (3) emphasising the pre-phase of changing structure.

The analysis of all three approaches and the IOD perspective, based on the theoretical model, is presented in Figure 3, which summarises the result section.

Table 4: Summary of design approaches perspectives

	IOD	Mintzberg	Stanford	Galbraith
Coordination	Coordination reduces structural complexity, thus improving control.	Coordination is the essence of organising. Managing interdependencies between players and groupings.	Coordination of internal and external system elements.	Coordination solves interdependencies created by task differentiation.
Coordination mechanisms	Mutual adjustment within autonomous teams; formal horizontal and vertical mechanisms	Six coordination mechanisms, liaison devices.	Formal and informal linking mechanisms.	Coordination through control, lateral processes, horizontal information systems, self-contained teams and slack resources.
Control	Control is required to deal with disturbances which affect the transformation process. It affects the quality of working life.	Initially connected to hierarchy and standardisation, it later expanded to leadership and engagement.	Control is strategic alignment and oversight; it evolves to organisational agility and resilience in an uncertain, changing environment.	Control is an organisation's capability to manage uncertainty through information processing capacity and decision-making authority.
Control mechanisms	Strategic regulation, Regulation by design, Operational regulation,	Organisational players, Planes of managing, Types of decentralisations	Activities for resilience building, Continuous organisational design, Leadership groups.	Operational control, Strategic control, Financial control
Role of organisational structure	Attenuating and amplifying characteristics. Simple structures with complex jobs.	Defines the division of labour and integration of tasks. Reflects the flows within the organisation which connect players in the organisation	A component of organisational design. Firstly, more associated with the division of labour, then as a tool for alignment with the environment.	Structure oriented around interdependencies; also, response to information processing capacity and uncertainty.
Design rules/parameters	Design parameters and Design rules	Configurations, design parameters, and forces	Organisational design project phases	Design strategies, Star model,
Relationship between coordination and control	Coordination and control are separated concepts, yet they influence each other. Coordination is a means for decreasing disturbances occurrence.	Unified terms. Later acknowledgement of differences, but still inseparable. Coordination mechanisms include coordination and control elements.	Coordination and control are intertwined facets of organisational design. Coordination creates a control requirement for better future anticipation	Interdependent concepts, even with some distinction. Increased coordination for the sake of better information processing capacity (control of dealing with uncertainty)

Figure 3: Summary of the all design approaches studies, based on theoretical model

5. CONCLUSIONS:

Conceptualisation of coordination and control is often fragmented and confusing, leading to inconsistencies in the organisational design field. One of the design theories distinguishing more explicitly between coordination and control is the IOD. Yet, it has shortcomings in acknowledging the full complexities of coordination between units and various levels. Also, the design principles are treated as general structural solutions (De Sitter et al., 1997), leaving a gap for systematic coherence and practicability. Therefore, this research aimed at examining the conceptualisation of coordination and control within the lenses of Mintzberg (1979; 2023), Stanford (2013; 2022), and Galbraith (1973; 1974; 2014) and its further synthesis within the IOD approach, based on the theoretical model created in Chapter 2. The research questions for this thesis were: 1. **How do various organisational design approaches conceptualise coordination and control requirements?,** 1.1 **To what extent are coordination and control treated as distinct or overlapping concepts in existing research?** and 2. **How can insights from various organisational design approaches be integrated to refine the Integral Organisational Design (IOD) framework?**

Firstly, the analysis of coordination and control conceptualisation reveals both convergence and divergence in the understanding of these terms. Coordination in each approach is associated with division of labour and integration of tasks. Additionally, Stanford (2013; 2022) broadens the perspective by taking a holistic approach and recognising interconnections with the external environment, in line with Mintzberg (2023). However, control conceptualisation differs and expands in each perspective. In earlier Mintzberg (1979), control is a response to increased complexity in coordination needs, and its main goal is to formalise behaviour, to ultimately reduce variability and increase predictive behaviour. However, in Mintzberg (2023), control is more associated with leadership and engagement, and less with control-and-command style. Likewise, Stanford (2013; 2022) starts with a traditional understanding of control as alignment of organisational goals, and expands to building resilient and agile organisations, capable of meeting an uncertain future. Galbraith (2014), in contrast, associates control with decision-making and information processing capacity. Yet, its goal is also connected to decision-making in complex and uncertain situations. Thus, while coordination is consistently linked to task division and integration, control conceptualization varies: from traditional command-and-control style (Mintzberg, 1979; Stanford 2013), to engagement and adaptability (Mintzberg, 2023; Stanford, 2022), finally to decision-making under uncertainty and strategic oversight (Stanford, 2022; Galbraith, 1973; 2014).

While theoretically there is a distinction between coordination and control in all approaches, the analysis of coordination and control mechanisms reveals that both of them are often interconnected. Mintzberg (1979) starts with the perspective that coordination and control are in principle the same, and later (Mintzberg, 2023) abandons this idea. However, Mintzberg's (1979; 2023) coordination mechanisms are a continuum of coordination and control practices. The same is with the liaison relationships, which, from each perspective, are coordination practices linked to control at lower levels. Stanford (2013), on the other hand, starts with more distinguishable characteristics of coordination and control, and evolves into the perspective of coordination and control being intertwined facets of organisational design (Stanford, 2022). Similarly, Galbraith (1973) treats coordination and control as interdependent elements of information processing capacity, unable to be separated from each other. Yet, in Galbraith (2014), the concepts become more distinct - control focuses on strategic oversight, while other forms of regulation are more coordination-oriented. Yet. There is still a reciprocal relationship between them. Thus, although coordination and control are conceptually different in theory, they are treated as overlapping and interdependent in practice. All three perspectives recognise the reciprocal relationship between coordination and control. While distinction becomes clearer in more recent work, especially for Mintzberg (2023) and Galbraith (2014), the mechanisms used for the sake of coordination often blur the boundaries between the two.

Furthermore, synthesis reveals the need for a more complex and layered form of coordination. While an autonomous team with mutual adjustment might be a first step in organisational design, lateral relationship seems to be a necessary element of structuring. Also, as control is uniquely defined in IOD, studied approaches allow for a practical perspective by including various control activities, connected to operational regulation, regulation by design and strategic regulation. Additionally, the synthesis results in the conclusion of integration of regulatory levels for the sake of alignment and agility. Moreover, design rules and parameters enhance IOD by including soft elements and a pre-phase in restructuring. Also, they stress the importance of contextual and strategic fit.

Hence, this research contributes both academically and practically. It offers a more nuanced and integrated view of coordination and control within organization design. Theoretically, it clarifies the distinction and interdependencies between coordination and control, thus enhancing conceptual coherence in the field. Practically, findings equip managers with a better understanding of control and coordination mechanisms, enabling balanced coordination and control needs in increasingly complex, uncertain, and dynamic environments. Above all, it

recognises that decentralised decision-making, through coordination mechanisms, might result in a more agile and resilient structure, capable of dealing with uncertain events.

However, limitations exist. Primarily, all organisation design approaches chosen have a more holistic, strategic or macro focus. The IOD is an example of micro-focused design theory; thus, it might hinder the synthesis of theories. It is especially visible in control mechanisms, as most of them have a strategic orientation. Additionally, the analysis is limited to only three design frameworks. Although they are considered the most influential authors, they still might not capture the full spectrum of coordination and control found in other approaches. Additionally, synthesis – although systematic and directed by a theoretical model – is still an interpretive method. Thus, this study could benefit more from including the inter-coder process. Also, empirical validation could be a further expansion of the topic.

Consequently, further research should explore the operationalisation of redefined IOD rules. Confirmation of careful people choice, pre-phase preparation and inclusion of soft elements could validate the theory. Additionally, comprehensive case studies could be used to examine what the exact actions are within each regulatory activity, and to what extent the proposed mechanisms of Stanford (2013; 2022), Galbraith (1973; 1974; 2014) and Mintzberg (1979; 2023) are included. Moreover, the evolving role of technology and social media should be examined to further conceptualise its impact on coordination and control practices. Ultimately, this thesis lays a foundation for a more comprehensive IOD design approach and conceptualisation of coordination and control. However, its limitations possibly affect the quality of the thesis. Therefore, the recommendations are included to suggest further research which can expand the topic.

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APPENDICES:

This font means that the text is a quotation from the book.

This font means the research's first idea and comments.

This font means that the text is taken from the book, but it has not been quoted one by one.

APPENDIX 1: MINTZBERG (1979) DATA COLLECTION AND ANALYSIS

APPENDIX 1A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

Intro:

- "*Structure seems to be at the root of many of the question we raise about the organizations*" (p. vii),
- *This book has been written on the premise that the research on structuring of organisations has come of age but the literature has not there is the need to step back from the research analyse it in a context and synthesise it into manageable theory*,
- *Too little research has been made on the important question of how decision process is flow through organisations* (61)

Confusion:

- "*working on a giant jigsaw puzzle, with many missing pieces" (p. vii),*
- *"I felt I had found a logical place for all the pieces available to me. In fact, the image become so sharp that I felt confident in describing some of the missing pieces*" (p. vii).
- Coordination mechanisms are "*as much concerned with control and communication as with coordination*" (p. 3)
    - "*Recent developments in the area of control, or cybernetics, have shown [control and coordination] to be the same in principle*" (Litterer, 1965, p. 233 as cited in Mintzberg, 1979).
- Coordination and control treated as unified term,
- "*Direct supervision or mutual adjustment, these two being partly interchangeable*" (p. 9)
- "*When direct supervision fails, perhaps because the task of coordination is too big for one brain, the organization will resort to mutual adjustment. alternatively, when mutual adjustment breaks down, perhaps because there is a need for one brain to guide others that cannot agree among themselves, the organization wall turn to direct supervision*" (p.9)
    - <u>It feels like the easiest and purest form of coordination is mutual adjustment, while direct supervision is the most direct form of control to ensure coordination.</u>
    - <u>Between these two there is spectrum of other mixes of pure coordination and control through standardization,</u>

    - Yet, because they are interchangeable, Mintzberg assumes that they are in fact the same as both aim at the same thing to ensure that structure of organization works properly,
    - Thus coordination = control,
    - Different forms of coordination are different mixes of coordination and control needs
- unit grouping is this design parameter by which the coordinating mechanism of direct supervision is built into the structure structure(p.106) and it is said in the text about grouping creating hierarchy and supervision (but direct supervision is according to Mintzberg not only about control but also coordination)
- "Control - that is, direct supervision -is only one factor among many in deciding how many positions to group into one unit or how many units to group in one large unit" (p. 135, when talking about unit size):
    - But it was said that direct supervision is not control in itself but rather a mechanisms for coordination that put focus on control,
    - Very often visible that, except from mutual adjustment, other coordination mechanisms are more often associated with control in Mintzberg writing.
- When talking about unit size Mintzberg states that things, especially in management, are not necessarily what they seem and because of that we had to *better choose our terms (like control)* (p. 142) and do it very carefully and be quite sure of what we are measuring when we do empirical research:
    - But at the same time he uses a term coordination and control, or connect direct supervision with control on one page and then not on the other,
- *"But calling a bureaucracy the centralised because rules instead of managers control the workers is like calling puppets purposeful because computers instead of people pull their strings*" (p. 197):
    - Again it talks about the control not coordination

Coordination need:

- As the organization grows, the coordination needs become greater and greater since more people start working there and organization increases its product offer,

- Anecdote with Ms Raku and pottery business → opening and closing of the whole book (coordination is the centre of structuring),
- "*every organized human activity […] gives rise to two fundamental and opposing requirements: the division of labour into various tasks to be performed and the coordination of these tasks to accomplish the activity*" (p. 2),
- Thompson division of interdependencies.
- Grouping is a fundamental means to coordinate work in the organisation (page 106)

Control need:

- As coordination needs become more elaborated, "*there is a need for leadership*" (p.8), next standardization of work processes, outputs and skills,
- Continuum,
- At the end mutual adjustment is again the main coordination and control mechanisms when coordination is very complex:
    - "*Sophisticated problem solvers facing extremely complicated situations must communicate informally if they ate to accomplish their work*" (p. 8),
- Coordination as the main requirements which forces to adapt control measures in order to coordinate but eventually the control is given back to operators through mutual adjustment,
- earlier, some of the control over the work was removed from the operator; now it begins to be removed from the manager as well as the system's designed by the analysts take increasing responsibility for coordination" (p. 19),
- It seems like control is a mean for coordination; you need to control some aspects by specialisation or direct supervision to ensure that the work is coordinated and more precisely that the flows within the organisation are coordinated,
- *One grouping cannot contain all the interdependencies; this must be picked up in higher order groupings, thus necessitating the construction of a hierarchy* (page 119),
- *"Purpose of control is to assess whether or not the standard has been achieved"* (p. 148).

Structure definition:

- The sum total of the ways in which it divides its labour into distinct tasks and then achieves coordination among them (p. 2),

- Structure reflects natural work and communication flows (p. 68)

Coordination mechanisms:

- Mutual adjustment:
    - Coordination through informal communication,
    - Control rests in the hands of the doers (p. 3),
- Direct supervision:
    - Coordination through one individual take responsibility for the work of others,
    - "*one brain coordinates several hands*" (p.4)
- Standardization:
    - Operators "*need not worry about coordinating with their colleagues under ordinary circumstances – they know exactly what to expect of them and proceed accordingly*" (p.5)
    - Standardization of work processes:
        - Coordination through specified of programmed content of work,
    - Standardization of outputs:
        - Coordination through standardization of results outputs,
        - "*they were expected to produce certain profit and growth levels every quarter: how they did this was their own business*" (p.6),
    - Standardization of skills:
        - Coordination through standardized training and knowledge,
- 5 mechanisms are the glue of structure the basic elements that hold organisations together (p. 9).
- *"Coordinating mechanism form a continuum with direct supervision the most horizontally centralised and mutual adjustment the least and with the 3 form of standardisation - 1st work processes, then outputs, finally skills - falling in between*" (p. 198)

Formal and informal structure:

- "*Formal and informal structures are intertwined and often indistinguishable*" (p.11).

Five parts of organisation:

- operating core:

    - defined as operators who perform the basic work related directly to the production of products or services
    - Standardisation is generally carried furthest here,
- Strategic apex
    - Those people charged with overall responsibility for the organisation
    - "*Charged with ensuring that organisations serve its mission in an effective way and also that it serves the needs of those people who control or otherwise have power over the organisation*" (p. 25),
    - 3 sets of duties:
        - Direct supervision
            - "*To the extent that the organisation relies on this mechanism of coordination it is the managers of the strategic apex and middle line who effect it*" (p.25),
            - "*Direct supervision at the strategic apex means that that whole organisation function smoothly as a single integrated unit*" (p. 25),
        - Management of the organisation's boundary conditions:
            - Relationships with its environment
        - Development of the organisation strategy
            - Top managers search for effective ways to carry out the organisation mission and sometimes even seek to change that machine
- middle line:
    - join strategic apex with operating core,
    - to the extent that the organisation is large and reliant on direct supervision for coordination, it requires middle line managers, (p. 27),
    - direct supervision requires close personal contact between manager and operator,
    - "*The middle line manager performs all the managerial roles of the chief executive but in the context of managing his own unit*" (29)
    - "*At each successively lower level the decisions were more frequent, of shorter duration, and less elastic, ambiguous, and abstract; solutions tended to be more pat or predetermined; the significance of events an internal relationships was*

more clear; in general lower level decisions making was more structured" (p. 29, study of Martin 1956),

- Technostructure:
    - Specialised and provide support to the organisation outside the operating workflow
    - Especially important when standardisation become accepted coordinating mechanism.
- All the parts of organization need to function together through the linkages between them.

Flows:

- Parts of the organisation are joined together by different flows (different flows create coordination needs),
    - Flow of authority
    - Flow of Work material,
    - Flow of information,
    - Flow of decision processes,
- Only by focusing on this real flows of authority work materials information and decision process is can we begin to see how the organisation really functions
- *organisation as a regulated system characterised by orderly flows of materials information and decision process* (p 45)
    - these include horizontal workflows in the operating core and elsewhere, upward aggregated flows of performance information and exceptions, downward elaborated flows of commands, and horizontal information flows between staff specialists and line managers
- 3 flows in the regulated system
    - Operating workflow
        - Flow of work through the operating core,
    - Flow of control information:
        - *regulates the vertical flows of information and decision making from the operating flow up the chain of authority* (p. 42),
        - can go up and down
            - Up is the feedback information on the operating work
            - Down are the commands and work instructions,

    - Regulated control system includes a specification of the kinds of decisions that can be made at each level of the hierarchy (vertical division of decision making),
    - commands coming down the hierarchy may be stopped at a given management level and handled there
- staff information flow:
    - communication flows between line and stuff made for the purpose of feeding staff information and advice into line decision making (p. 45).

Organizations as informal system:

- system of informal communication (similarly to sociotechnical perspective),
- Importance of informal communication
    - *Most work just cannot get done without some informal communication (life is simply too complicated to regulate everythin*g) (p.49),
    - organisations are social in nature,
- network of informal communication
    - *Set of informal channels connected by nerve centres - individuals who stand at the crossroads of the channels (*51),
    - More fluid less orderly flow processes in organisations (thus, harder coordination),
- *two systems seem to be rather interdependent: at the very least the formal appears to shape the informal, while the informer greatly influences what works in the formal and sometimes even reflect its shape to come* (53),

Organisation as a system of work constellations:

- *People in organisations tend to work in cliques, or small peer groups based on horizontal not vertical relationships* (54),
- Work constellations as quasi-independent cliques of individuals who work on decision appropriate to their own level in the hierarchy.

Organisation as a system of ad hoc decision process

- Authority and communication in organisations are not ends in themselves but facilitating processes for the other two basic flow processes the making of decisions on the production of goods and services,

Organisational decision processes categorization:

- operating decisions
    - Taken routinely in processes that are typically programmed and executed quickly almost automatically by operators or law-echelon support staffers,
    - Phases of operating decision making largely predetermine in such terms as if they do X if B do Y,
- Administrative decisions
    - coordinative or exceptional decisions
        - Coordinated decisions guide and coordinate the operating decisions
        - Exception decisions are those made on an ad hoc basis but with minor overall consequences these are non routine an less programme
            - They involve A distinct recognition step and their steps of diagnosis search and selection are typically more elaborate than for the operating and many of the coordinated decisions
            - Include the design of custom made solutions
            - Tend to cut across functional areas
- strategic decisions
    - Also exceptions but by definition they are significant in their impact on the organisation
    - No type of decision is inherently strategic decisions are strategic only in context
    - The same decision can be labelled strategic exception and operating in different contexts
    - Set of waves of other decisions in the hierarchy,
    - many exception an coordinated decision must be made to implement them, also including operating decisions as well.

Design parameters

- In the case of *organisational structure, design means turning those knobs that influence the division of labour and the coordinating mechanism, thereby affecting how the*

organisation functions: how materials authority information and decision processes flow through it.

Design of positions

- Job specialisation
    - Can be specialised in 2 dimensions;
        - breadth or scope (horizontal job specialization): how many different tasks are contained in each and how broad or narrow is each of these tasks (p.69):
            - Organisations divide their labour and specialised their jobs to increase productivity
            - By repeating the task it becomes more specialised so people can do it faster and better
            - job specialisation creates a number of its own problems notably of communication and coordination (p.73):
                - This is exactly what ST says: separation and specialization, so in Mintzberg terms horizontal and vertical specialization, creates coordination problems which could be stopped by decreasing specialization and separation,
        - depth refers to the control over the work (vertical job specialization)"
            - Separates the performance of the work from the administration of it
            - Worker only performs the activity;
            - Control of the work is often passed to a manager with the overview necessary to coordinate the work by direct supervision or to an analyst who can do so by standardisation (p. 72),,
            - "*Jobs must often be specialised vertically because they are specialised horizontally*" (p.72):
                - But this is what ST tries to stop!

- Behaviour formalisation
    - Organisations way of prescribing discretion (p.81),
    - 3 ways to formalise behaviour:
        - Formalisation my job: formal job description,
        - formalisation by workflow
        - Formalisation by rules
    - Power over how that work is to be done passes from operator to that person who designs the specifications often an analyst in the technostructure → leads to vertical specialization,
    - Organisations formalise behaviour to reduce its variability, ultimately to predict and control it (p. 83),
        - <u>You cannot really predict the variability of work; so control is needed to ensure that people behave as you want, and you do it by behaviour formalization; subtler form of control,</u>
- Training an indoctrination:
    - *training refers to the process by which job related skills and knowledge are taught while indoctrination is the process by which organisational norms are acquired* (p.95),
    - For once that individuals working autonomously will act in the best interest of the organisation (coordination),
    - Indoctrination And training are basically substitutes
        - Depending on the work in question the organisation can either control it directly through its own procedures and rules or else it can achieve indirect control by hiring duly trained professionals,

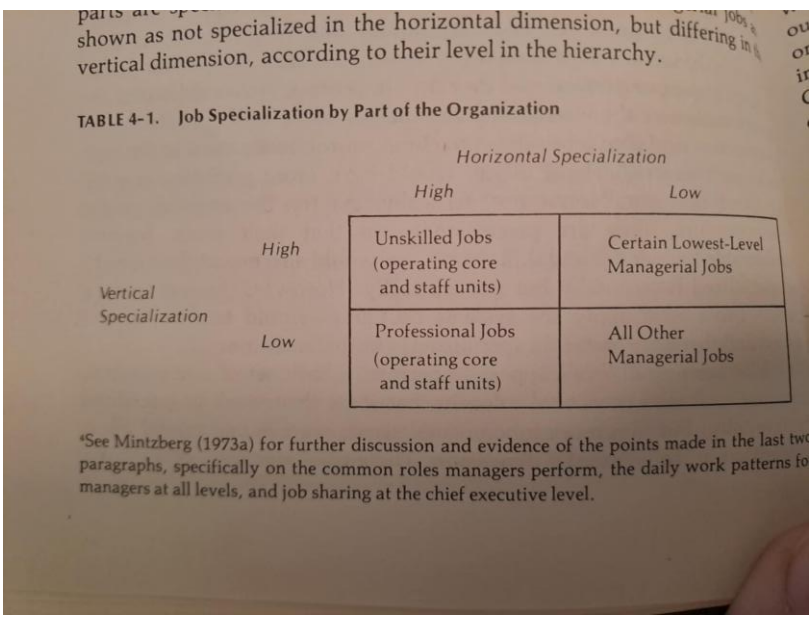

shown as not specialized in the horizontal dimension, but differing in
vertical dimension, according to their level in the hierarchy.

TABLE 4-1. Job Specialization by Part of the Organization

Vertical Specialization	Horizontal Specialization: High	Horizontal Specialization: Low
High	Unskilled Jobs (operating core and staff units)	Certain Lowest-Level Managerial Jobs
Low	Professional Jobs (operating core and staff units)	All Other Managerial Jobs

[4]See Mintzberg (1973a) for further discussion and evidence of the points made in the last two paragraphs, specifically on the common roles managers perform, the daily work patterns of managers at all levels, and job sharing at the chief executive level.

Design of superstructure:

- unit grouping
    - *it is through the process of grouping into units that the system of formal authority is*

established and the hierarchy of the organisation is built,

- By creating division of labour a control structure arises and the superstructure occurs,
- Effects of grouping:
  - Grouping established a system of common supervision among position and units:
    - So grouping create a control needs and control structure even though it is not named like that,
  - Grouping requires positions and units to share common resources:
    - This is a problem in ST we're just not really explained by De Sitter,
  - grouping creates common measures of performance,
  - grouping encourages mutual adjustment:
    - this is what ST encourage to do; create units which can coordinated work between the workers within the units.
- Grouping stimulate to an important degree to important coordinating mechanism direct supervision and mutual adjustment and can form the basis for 3rd, standardisation of outputs by providing common measures of performance (p.107),
- basis for grouping
  - two essential ones groupings:
    - market grouping (can encompasses different one; by clients, by order type, by market, by characteristics, etc)
    - Functional grouping,
- Criteria for grouping
  - Workflow interdependencies:
    - In the market based grouping the members of a single unit have a sense of territorial integrity; they control a well defined organisational process; most of the problems that arise in the course of their work can be solved simply, through the mutual adjustment; and many of the rest, which must be referred up the hierarchy, can still be handled within the unit, by that single manager in charge of the workflow (p.118),

        - Process interdependencies:
            - processes used in the workflow,
            - *interdependencies related to specialisation which favour functional grouping* (page 122),
        - scale interdependencies:
            - groups may have to be formed to reach sizes large enough to function efficiently,
        - social interdependencies:
            - every superstructure design ends up as a compromise between the objective factors of workflow, process, and scale interdependency, and the subject of factors of personality and social need,
    - Function grouping lacks a built-in mechanism for coordinating the workflow,
    - Grouping by market set up relatively self-contained units to deal with particular workflows:
        - *ideally these units contain all the important sequential and reciprocal interdependencies so that only the pulled ones remain* (p.127),
        - *By choosing the market basis for grouping, the organisation opts for workflow coordination at the expense of process and scale specialisation (129),*
    - Based on Litterer (1965) in market structure workflow coordination takes place within a single unit while coordination related to work processes and methods, namely those associated with specialisation, must take place across different units and, therefore, involves a higher level of management.
    - *If the workflow interdependencies are the significant ones and if they cannot easily be contained by standardisation, the organisation will try to contain them in a market based grouping to facilitate direct supervision and mutual adjustment* (p.129),
    - *if the workflow is irregular if some devastation can easily contain workflow interdependencies, or if the process and scale interdependencies are the significant ones, then the organisation will be inclined to seek the advantages of specialisation and choose the functional basis for grouping instead* (p.129).

- Unit size:
    - How many individuals should report to each manager and what should be his span of control also what shape should the superstructure be,
    - "*Matter of confusion in this area seems to steam from considering unit size, or a span of control only with respect to the coordinating mechanism of direct supervision, not standardisation or mutual adjustment*" (p. 138),
    - "*The greater the use of standardisation for coordination, the larger the size of the work you need*" (p.139),
    - "*The greater the reliance on mutual adjustment (due to interdependencies among complex tasks), the smaller the size of the work unit*" (141),
    - "*All coordinating mechanism remaining equal, the more independent the tasks(complex or not) in a unit, the greater will be the need for contact between the manager and the employees to coordinate their work*" (141),
        - "*Span of control has nothing to do with control; it is merely an indication of the need to maintain a small face to face work group to encourage mutual adjustment when the work is complex and interdependent*" (p. 142).

Design of lateral linkages:

- planning and control systems:
    - Two kinds of planning and control systems:
        - Performance control which is concerned with after the fact monitoring of results:
            - purpose is to regulate the overall results of a given unit,
            - *most relied upon where the interdependencies between units are primarily of a pooled nature* (p. 150) so the units are group on the market basis,.
            - *Unit perform adequately that is make an appropriate contribution to the central organisation without squandering its resources* (p. 150) so because of little interdependency between units coordination requires the regulation of performance but not the actions,

- *"Performance control systems serves to preclude the direct supervision and so to granted the freedom it needs to determine its own decision and actions" (p. 151),*
- Possible performance control systems:
    - statistical quality control of operations, standard costing analysis of cost variances, inventory control and production scheduling by operations research techniques, marginal costing, flexible or activity budgeting, internal audit, the use of internal rates of return or present values in evaluating investments, systematic evaluation of senior personnel, and performance or operational audit,
- Performance control systems serve to measure and motivate,
- Can be connected to regulation types in the IOD,
- *"Performance and control system may be not only top down but also bottom up, where the units at the very bottom establish their own performance standards and these are then aggregated up the hierarchy by unit until they emerge at the strategic apex as composite standards" (p.* 155)

- action planning oriented to specifying activities that will take place:
    - Mostly in functional structure,
    - *Action planning does not necessarily respect unit autonomy nor does it necessarily map onto the system of grouping. action plans specify decisions that call for specific actions* (p. 153). thus some of the proposed actions may be taken within single units but others can cost across unit boundaries,
    - *"Action planning emerges as the means by which the non routine decisions and actions of an entire organisation, typically structured on a functional basis, can be designed as an integrated system" (p.154),*
    - *"Action planning is essentially top down" (157),*
- *"In general the more global the responsibilities of a unit, the greater the propensity to control its overall performance rather than its specific actions" (page 159),.*

- Liaison devices:
    - *Organisations have developed a whole set of devices to encourage liaison contact between individuals, devices that can be incorporated into the formal structure (p.161),*
    - Based on Galbreith defines 4 types of liaison devices:
        - Liaison positions:
            - *"when a considerable amount of contact is necessary to coordinate the work of 2 units, a liaison position may be formally established to route the communication directly, bypassing the vertical channels" (p.162),*
        - Task forces and standing committees:
            - "*task force is a committee formed to accomplish a particular task and then disband*" (p. 164),
            - "*standing committee is the more permanent interdepartmental grouping, one that meets regularly to discuss issues of common interest*" (p. 164),
        - Integrating managers:
            - "*when more coordination by mutual adjustment is required then liaison positions, task forces, and standing committees can provide, the organisation may designate an integrating manager in effect a licence position with formal authority*" (p. 165),
            - "*The formal power of the integrating managers always include some aspects of the decision process that cut across the affected department but it never (by definition) extends to formal authority over the departmental personnel*" (p. 165),
        - Matrix structures:
            - "*by using matrix structure, the organisation avoids choosing one basis of grouping over another: instead, it chooses both*" (p. 169),
    - *"liaison devices can be used with any basis for grouping since they are designed to override the limitations of using only a single one (p. 177) and literature Suggest that these devices are most often superimposed on functional groupings to introduce an orientation to markets*" (p. 177)

        - But, then why not other way round, to enhance IOD?
    - *liaison devices are flexible mechanism to encourage loose informal relationship*s (p. 178),
    - liaison devices are mostly connected to middle line in Mintzberg, but why not operating core? To reduce hierarchy and increase control as IOD suggest?

Design of decision making system:

- most closely resemble the regulation structure of IOD,
- Issue off centralisation and decentralization discussed exclusively in terms of power over the decisions made in the organisation,
- "*when all the power for decision making rests at a single point in the organisation - ultimately in the hands of a single individual - we shall call the structure centralised; to the extent that the power is dispersed among many individuals, we shall call the structure decentralised*" (p. 181),
- the author suggests that they have been given different reasons for centralising structure very often it is connected the lust for power but ultimately it is because of the need for coordination,
- "*why, then, should an organisation decentralised? Simply because all the decisions cannot be understood at one centre, in one brain*" (p. 182),
- "*past some point the top managers can be neither smarter nor better coordinators. They will have been better off to have left the decisional power with other brains, which together had the processing capacities -and the time -to assimilate the necessary information*" (.p 183),
- "*to sum up, having the power to make a decision gives one neither the information nor the cognitive capacity to make it*" (p. 183),
- types of decentralisation:
    - Vertical decentralization: dispersal of formal power down the chain of authority,
    - horizontal decentralisation: extent to which non managers control decision process,
    - selective decentralization: power over different kinds of decision rests in different places in the organisation,
    - parallel decentralisation: dispersal of power for many kinds of decisions to the same place.

- "*Organisation that is selectively decentralised in the vertical dimension will coordinated decision making large by mutual adjustment*" (190),
- "*Parallel vertical decentralisation is the only way to grant market based units the power they need to function quasi autonomously*" (p. 191),
- Horizontal decentralisation focuses on the shift of power from managers to non-managers:
    - To single individual by virtue of the office occupied.
    - Few analysts on the virtue of their system of standardisation on decision of others,
    - experts by virtue of knowledge:
        - Informal expert power superimposed on the traditional authority structure: "*The extent that the organisation has need of specialised knowledge, notably because certain decisions are highly technical ones, certain experts attained considerable informal power*" (p. 199),
        - expert power merge with formal authority: "*as expertise becomes increasingly important in decision making, the distinction between line and staff between the formal authority to choose on one hand and the expertise to advise on the other-becomes increasingly artificial" (p.200)*
        - Expert power with the operators: "*power rests in the operating core, at the bottom of hierarchy of non managers*" (p. 201)
    - Everyone by virtue of membership in the organisation,:
        - As long as knowledge is not uniformly dispersed, so too willpower not be evenly distributed,
        - democratic organisations do not really exist and there is always some form of a power,
        - More decentralised networks tended ,to use more messages to accomplish the task and to make more errors but they can do settle down to nearly the same operating efficiency as the centralised.
        - Centrality evoked autocratic behaviour
        - Democratisation in the long run leads to centralization
        - "*We shall have to settle for meritocracy, not democracy, in our non volunteer organisations, and then only one of this calls for by tasks that are professional in nature*" (p. 208),

- Types of decentralisation:
    - vertical and horizontal centralization: decision power is concentrated in the hands of a single individual at the strategic apex,
    - limited horizontal decentralisation selective: formal power is concentrated in the upper strategic apex but also in technostructure because of their role in formalising behaviour,
    - limited vertical decentralisation parallel: managers are delegated in parallel a good deal of formal power to make the decision concerning the markets there is also standardisation of outputs so technostructure gets some power but only at the top,
    - Selective vertical and horizontal decentralisation: power for different types of decisions is delegated to work consolation at various levels of the key or key; these constellations may select the views of the staff experts according to how technical order decisions they must make.
        - Mutual adjustment mainly
        - Could be a solution for IOD,
    - Vertical and horizontal decentralisation: this is in power concentrated in the operating core because its members are professionals whose work is coordinated large by the standardisation of skills
-

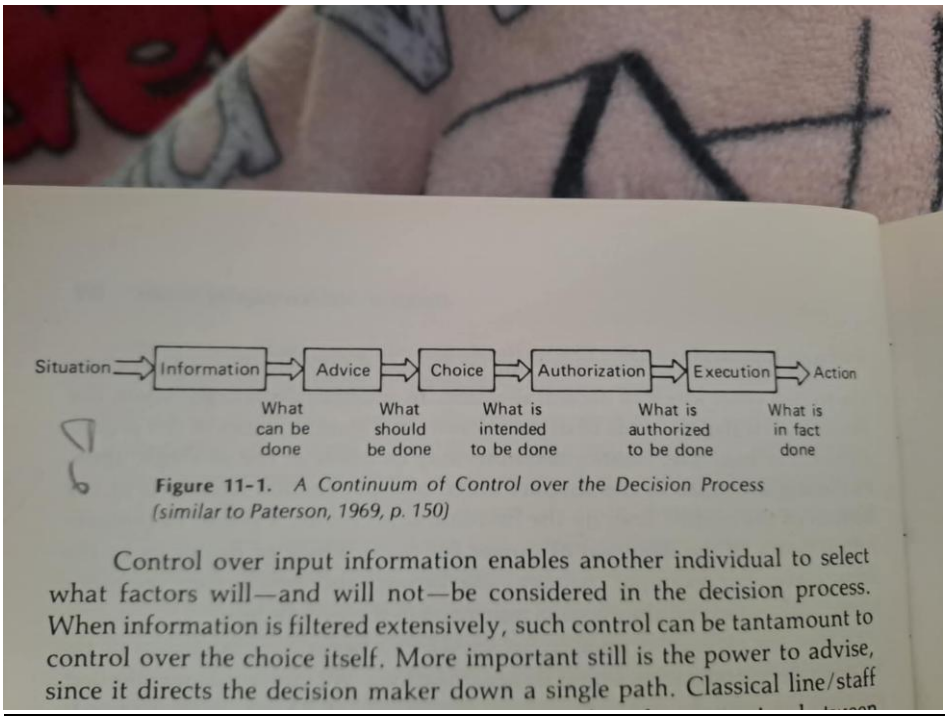


Figure 11-1. *A Continuum of Control over the Decision Process (similar to Paterson, 1969, p. 150)*

Control over input information enables another individual to select what factors will—and will not—be considered in the decision process. When information is filtered extensively, such control can be tantamount to control over the choice itself. More important still is the power to advise, since it directs the decision maker down a single path. Classical line/staff

-

Similarity to ST:

- Talks about the job enrichment and enlargement in design parameter of position design,
- Quality of working life mentioned as important for designing jobs,
- acknowledge that in horizontal job enlargement worker engages in a wide variety of the tasks associated with producing products and services,
- acknowledge that in vertically enlarged job, worker not only does carry out more tasks but he also gains more control over them
- Job enlargement pays to the extent that the gains from better motivated workers in a particular job offset the losses from less than optimal technical specialisation (p. 77),
- Showing dysfunctionality of highly bureaucratic structure,
- From macro to micro creation of unit groupings:
    - Yet, it says nothing about creating control structure,
- Grouping encourages strong coordination within a unit, but it creates problems of coordination between units
- Mintzberg state that the relationship between complex, interdependent task and small unit size is based on difficulty to supervise so instead of direct supervision it gives rise to increase in mutual adjustment,
- Acknowledges that neither coordination mechanism (not including mutual adjustment) are sufficient to achieve the coordination within the organisation because important interdependencies remain after all the individual positions have been designed:
    - That's also link to confusion because what then, the mutual adjustment is completely different form of coordinating mechanisms?
    - It gives the feeling of mutual adjustment being the clearest form of coordination while other coordination mechanisms use control to coordinate.
- decentralization also allows to respond quickly to local conditions,
- decentralization is as stimulus for motivation
- Vertical decentralisation closely related to IOD, as it deal with the delegation of the power down the chain of authority

APPENDIX 1B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	Questions	Quotes
Coordination perspective	How coordination is understood and seen in a given perspective?	Anecdote of Ms Raku and pottery business (it opens and closes the whole book); coordination being main issue in organizational structuring
		"*every organized human activity […] gives rise to two fundamental and opposing requirements: the division of labour into various tasks to be performed and the coordination of these tasks to accomplish the activity"*
		Grouping is a fundamental means to coordinate work in the organisation
		Parts of the organization are joined together by different flows: • Flows of authority, • Flow of work material, • Flow of information, • Flow of decision processes
		Only by focusing on this real flows of authority work materials information and decision process is can we begin to see how the organisation really functions "*organisation as a regulated system characterised by orderly flows of materials information and decision process* "
		3 types of flows in regulated system: • Operating workflow, • Flow of control information, • Staff information flow
		Grouping requires positions and units to share common resources, common measures of performance and encourages mutual adjustment
		Possible criteria for grouping:

Theme/dimension	Questions	Quotes
		• Process interdependencies • Workflow interdependencies, • Scale interdependencies, • Social interdependencies
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	mutual adjustment as the purest form of coordination
		"*Coordinating mechanism form a continuum with direct supervision the most horizontally centralised and mutual adjustment the least and with the 3 form of standardisation - 1st work processes, then outputs, finally skills - falling in between*"
		"*Sophisticated problem solvers facing extremely complicated situations must communicate informally if they ate to accomplish their work"*
		Coordination mechanisms: • Mutual adjustment, • Direct supervision, • Standardization of work processes, • Standardization of outputs, • Standardization of skills
		Coordination mechanisms are the glue of structure, the basic elements that hold organizations together
		All the parts of organization need to function together through the linkages between them
		Function grouping lacks a built-in mechanism for coordinating the workflow,
		Grouping by market set up relatively self-contained units to deal with workflow:

Theme/dimension	Questions	Quotes
		• "*ideally these units contain all the important sequential and reciprocal interdependencies so that only the pulled ones remain"*
		If the workflow interdependencies are the significant ones and if they cannot easily be contained by standardisation, the organisation will try to contain them in a market based grouping to facilitate direct supervision and mutual adjustment
		if the workflow is irregular if some devastation can easily contain workflow interdependencies, or if the process and scale interdependencies are the significant ones, then the organisation will be inclined to seek the advantages of specialisation and choose the functional basis for grouping instead
		"*Organisations have developed a whole set of devices to encourage liaison contact between individuals, devices that can be incorporated into the formal structure"*
		Based on Galbraith, defines 4 types of liaison devices: • Liaison positions, • Task forces and standing committees, • Integrating managers, • Matrix structure
		liaison devices can be used with any basis for grouping since they are designed to override the limitations of using only a single one" and "literature Suggest that these devices are most

Theme/dimension	Questions	Quotes
		often superimposed on functional groupings to introduce an orientation to market"
		"*liaison devices are flexible mechanism to encourage loose informal relationships"*
Control perspective	How control is understood and seen from a given perspective?	As coordination needs become more elaborated, "*there is a need for leadership*", next standardization of work processes, outputs and skills
		"*Purpose of control is to assess whether or not the standard has been achieved"*
		Regulated control system includes a specification of the kinds of decisions that can be made at each level of the hierarchy (vertical division of decision making)
		"*Most work just cannot get done without some informal communication (life is simply too complicated to regulate everything*"
		"*Jobs must often be specialised vertically [controlled] because they are specialised horizontally [division of labour]"*
		Organisations formalise behaviour to reduce its variability, ultimately to predict and control it
		"it is through the process of grouping into units that the system of formal authority is established and the hierarchy of the organisation is built"
		Can be seen in the power over decision making
		"*when all the power for decision making rests at a single point in the organisation - ultimately in the hands of a single individual - we shall call the structure centralised; to the extent that the power is dispersed among many individuals, we shall call the structure decentralised"*

Theme/dimension	Questions	Quotes
		Centralizing decision making is because of the need for coordination
		"*why, then, should an organisation decentralised? Simply because all the decisions cannot be understood at one centre, in one brain*"
		""*past some point the top managers can be neither smarter nor better coordinators. They will have been better off to have left the decisional power with other brains, which together had the processing capacities -and the time -to assimilate the necessary information"*
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Direct supervision as purest form of control
		"*One grouping cannot contain all the interdependencies; this must be picked up in higher order groupings, thus necessitating the construction of a hierarchy"*
		5 parts of o organizations (in different configurations they have more or less control over work)
		Strategic apex: "*Charged with ensuring that organisations serve its mission in an effective way and also that it serves the needs of those people who control or otherwise have power over the organisation"*
		3 sets of duties of strategic apex: • Direct supervisions: o "*To the extent that the organisation relies on this mechanism of coordination it is the managers of the strategic apex and middle line who effect it",*

Theme/dimension	Questions	Quotes
		• Management of the organization's boundary conditions, • Development of the organization strategy
		Middle line: • Join strategic apex with operating core, • "*The middle line manager performs all the managerial roles of the chief executive but in the context of managing his own unit"* • Martin (1956) study: "*At each successively lower level the decisions were more frequent, of shorter duration, and less elastic, ambiguous, and abstract; solutions tended to be more pat or predetermined; the significance of events an internal relationships was more clear; in general lower level decisions making was more structured"*
		Technostructure: • Especially important when standardization is becoming acceptable coordination mechanisms
		Organizational decision processes categorization: • Operating decisions, • Administrative decisions, • Strategic decisions
		Performance control with after the fact monitoring: "*Performance control systems serves to preclude the direct supervision and so to granted the freedom it needs to determine its own decision and actions"*
		Performance control systems: statistical quality control of operations, standard costing analysis of

Theme/dimension	Questions	Quotes
		cost variances, inventory control and production scheduling by operations research techniques, marginal costing, flexible or activity budgeting, internal audit, the use of internal rates of return or present values in evaluating investments, systematic evaluation of senior personnel, and performance or operational audit,
		"*Performance and control system may be not only top down but also bottom up, where the units at the very bottom establish their own performance standards and these are then aggregated up the hierarchy by unit until they emerge at the strategic apex as composite standards"*
		Action planning concerned with specifying activities that will take place: "*Action planning emerges as the means by which the non routine decisions and actions of an entire organisation, typically structured on a functional basis, can be designed as an integrated system"*
		"In general the more global the responsibilities of a unit, the greater the propensity to control its overall performance rather than its specific actions"
		Types of decentralization: • Vertical decentralization, • Horizontal decentralization, • Selective decentralization, • Parallel decentralization, Combination of possible decentralizations: • Vertical and horizontal centralization, • Selective Limited horizontal decentralisation,

Theme/dimension	Questions	Quotes
		• Parallel limited vertical decentralization, • Selective vertical and horizontal decentralization
		"*Organisation that is selectively the centralised in the vertical dimension will coordinated decision making large by mutual adjustment"*
		Horizontal decentralisation focuses on the shift of power from managers to non-managers
		Experts by virtue of knowledge
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	Structure: "*The sum total of the ways in which it divides its labour into distinct tasks and then achieves coordination among them*"
		Structure reflect natural work and communication flows
		"*Formal and informal structures are intertwined and often indistinguishable"*
		5 parts of organization: • Operating core, • Strategic apex, • Middle line • Technostructure • Supporting staff
		"*two systems seem to be rather interdependent: at the very least the formal appears to shape the informal, while the informer greatly influences what works in the formal and sometimes even reflect its shape to come"*
		Organizations seen as system of work constellations: "*People in organisations tend to work in cliques, or small peer groups based on horizontal not vertical relationships"*

Theme/dimension	Questions	Quotes
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	*design means turning those knobs that influence the division of labour and the coordinating mechanism, thereby affecting how the organisation functions: how materials authority information and decision processes flow through it.*
		Design parameters: • Job specialization (vertical and horizontal), • Behaviour formalization, • Training and indoctrination • Unit grouping, • Unit size, • Planning and control systems, • Liaison devices, • (de-)centralization
		Planning and control systems as design parameter directly related to control while liaison devices as parameter related to coordination
		job specialization as parameter related to both control and coordination
		Behaviour formalization is coordination is a mechanisms for both coordination and control → not really separating it from each other
		unit grouping and unit size strongly connected to structure and they do not separate control from coordination
		Decentralization connected to control over decision making
		5 configuration of structures
Relationship between	What is the relationship	*"I felt I had found a logical place for all the pieces available to me. In fact, the image become*

Theme/dimension	Questions	Quotes
coordination and control?	between coordination and control?; To what extent they are separate or united concepts?	*so sharp that I felt confident in describing some of the missing pieces"*
		"Coordination mechanisms are "*as much concerned with control and communication as with coordination"*
		"*Recent developments in the area of control, or cybernetics, have shown [control and coordination] to be the same in principle*"
		Coordination and control as unified term
		"Direct supervision or mutual adjustment, these two being partly interchangeable"
		"*When direct supervision fails, perhaps because the task of coordination is too big for one brain, the organization will resort to mutual adjustment. alternatively, when mutual adjustment breaks down, perhaps because there is a need for one brain to guide others that cannot agree among themselves, the organization wall turn to direct supervision"*
		Different forms of coordination mechanisms are just diverse mixes of coordination and control needs
		Unit grouping as parameter for creating direct supervision coordination mechanisms (creating hierarchy and supervision) but it is about coordination and not only control
		Except from mutual adjustment, other coordination mechanisms more often associated with some form of control
		things, especially in management, are not necessarily what they seem and because of that we had to *better choose our terms (like control)* "

Theme/dimension	Questions	Quotes
		Coordination as the main requirements which forces to adapt control measures in order to coordinate but eventually the control is given back to operators through mutual adjustment
		Control as means for coordination
		Authority and communication in organisations are not ends in themselves but facilitating processes for the other two basic flow processes the making of decisions on the production of goods and services

APPENDIX 1C: SYNTHESIS TABLE:

Theme/dimension	**Questions**	**Conclusions**	**IOD comparison and contrast**
Coordination perspective	How coordination is understood and seen in a given perspective?	Coordination as the fundamental challenge in organizational design. It requires balancing the division of labour and integration of efforts. It is seen as the glue that combine together different tasks and parts of organization by the various flows. Coordination is embedded in the flows and groupings of activities and by focusing on coordination, a true organizational functioning emerge. Flows are define based on the actual work and information flows/	Coordination here is the main driver of organizational design. It focuses on combining all relevant parts of the organization and flows together. The focus is not put on reducing coordination needs rather matching coordination to complex flows.
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	Coordination is achieved through continuum of coordination mechanisms varying from informal, purest coordination (mutual	Multiple coordination mechanisms which, not only include mutual adjustment, but also forms mixed with control. Liaison devices are introduced

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		adjustment) to more formalized, controlled (direct supervision and standardizations). Also, organizations can employ liaison devices which cut across the groupings and units. It is above all used in extremely complicated situation and with the shortcomings of functional grouping	which focuses on combining formally or informally groupings which are separated from each other. It acknowledges that liaison devices are primarily use to introduce market orientation in functional structure. Thus, it suggests it could be also used in other forms of structure to ensure the linkages between units. Also Mintzberg, focuses on middle line with liaison devices, yet why not use it by workers themselves, thus making it more suitable for the IOD.
Control perspective	How control is understood and seen from a given perspective?	Control is a response for increased complexity in coordination needs, e.g. based on the size. It is achieved mainly through	Control is resultant of increased complexity in coordination needs, seen in the form of coordination mechanisms. The goal is not to give

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		standardization, hierarchy and formalization of activities in order to reduce variability and increase predictability of actions. Control also arises due to division of labour, creating hierarchy. Control can be either centralized or decentralized, depending on the complexity and the economy of scale. Ultimately, control serves coordination by ensuring alignment with standards and goals of the whole organization	operating core greater authority, rather to predict and reduce variability of actions. Yet, you cannot always predict the variability of work and precisely this is why the control should be given back to operators in the IOD. Also, control is also linked to authority over decision making, similarly to IOD.
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Organizations are constructed by 5 parts, and each of them have distinct control roles; depending on the configuration this role is more or less elaborated. Strategic apex is responsible for overseeing mission and	There are no levels of control, rather there are parts of organization which have different regulatory tasks; depending on configuration, they have greater or lower decision authority.

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		supervises the top-level interactions. Middle line links apex with the operating core, it handles unit-level decisions. Technostructure supports control through creating standards and norms. Operating core executes tasks with varying level of autonomy and support staff provides indirect services to the core processes. Control mechanisms include performance control systems and action planning as well as various decentralization types, which give control over decision making for various parts and on various level.	Also, they could be connected to regulatory levels in the IOD, e.g. strategic apex equals strategic regulation, operational regulation equals operating core, line managers and technostructure, etc., Horizontal decentralisation focuses on the shift of power from managers to non-managers: Moreover, there are categories of decision process including operating decisions (operational regulation), administrative decisions (non-routine and connected to coordination mostly; as they include the design of custom made solutions it could also be a regulation be design), and strategic

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
			decisions (strategic regulation). Additionally various types of decentralization put control on various parts of organization.
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	Structure defines how labour is divided and then integrated. It reflects actual work and communication flows, both informal and formal. Organization parts are connected by various flows and have various levels of control depending on structural configuration. Designing structure focuses on the flow of material, authority and processes.	Structure is not separated into operational and regulatory structure. It is one element mainly focuses on flows, thus connecting more to coordination. However, various parts of organization (elements in structure), gain more or less control depending on the configuration
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Design involves adjusting key parameters in a way that they can combined create a required results. Also, there are configurations, ideal	There are various parameters, focusing not only on structure but also controlling performance, training, or behaviour formalization. All

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		types, which suggest what types of structure and design parameters configuration is the most adequate for given type of organization. Parameters influence both coordination and control, with many of them having dual-purpose goal.	elements need to be put into unified and synchronized configuration to ensure smooth operation in organization. There are 5 ideal types which combines various coordination mechanisms and parameters value and they present the theoretical ideal configuration for given enterprise. Mintzberg agrees that specialization creates a number of its own problems connected to communication and coordination, the same as in the IOD, however he also argues that sometimes it is inevitable, while IOD tries to reduce it.
Relationship between coordination and control?	What is the relationship between coordination and control?; To what	Coordination and control are deeply intertwined and often indistinguishable in	Coordination and control are not separated. In fact, they are

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
	extent they are separate or united concepts?	practice. Coordination mechanisms often serves control functions or have elements of control within them. While mutual adjustment is the purest form of coordination, other mechanisms blend aspects of control and coordination. Yet, the purest form of control – direct supervision – is directly associated with mutual adjustment – purest form of coordination. Ultimately, control is a means to enable coordination and the terms are often functionally interchangeable	interchangeable and coordination mechanisms have elements of control as well as coordination. Ultimately, control is a means for coordinating more complex interdependencies. Also, both aim at the same goal of ensuring proper operation of structure. Mintzberg also agrees that when work becomes complex the mutual adjustment becomes again the main coordination mechanisms, the same case with the IOD.

APPENDIX 1D: MINZTBERG'S (1979) TYPES OF DECENTRALIZATIONS:

Type of decentralization		Link to coordination mechanisms
Parallel decentralization	Dispersal of power for many kinds of decision to the same place	• Parallel vertical decentralization grant market based units the power to

Vertical decentralization	Dispersal of formal power down the chain of authority	make quasi-autonomous decisions • Organization selectively decentralized in the vertical dimension coordinated decision-making largely by mutual adjustment.
Selective decentralization	Power over different kind of decision rests in different places in the organization	
Horizontal decentralization	Extent to which non-managers control decision process	Shift of power based on: • Virtue of knowledge, • Virtue of office, • Virtue of system of standardization on other's decisions, • Virtue of membership

APPENDIX 2: MINTZBERG (2023) DATA COLLECTION AND ANALYSIS:

APPENDIX 2A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

Organization and structure:

- "*organisation can be defined as collective action structured for the pursuit of a common mission*" (p.2),
- "*the structure of the organisation can be defined as the pattern of relationships designed to enable its people to take that action together*" (p.2),

Coordination:

- in both definitions of organisation and a structure concept of coordination is visible in the words of: collective, common, or the pattern of relationships, to name just a few
    - so organising and structuring is all about coordination because the definitions assume so,
- figure 1.1: mapping our world together:
    - circle with private, public and plural sector,
    - Greater focus on coordination between sectors and how organisations relates to each other or can relate to each other,
- When talking about the players and the parts of organization in chapter 2:
    - Starts with the chart of parts of the cow,
    - "*in a healthy cow the parts don't even know that they are parts; they just work together harmoniously. The ad asked would you like your organisation to work like a chart or a cow*?" (p. 11):
        - it feels like coordination should be natural just like the cow is, so in a healthy and good organisation different parts of it can work separately but contribute to the common mission or goal of the organisation,
- Adding external influencers as the principle players may indicate that organisation does not only need to coordinate and organise its internal environment, but it also needs to take into account the needs and wants of the stakeholders,
- change in the logo structure comparing to the previous book:
    - "*I decided to drop hierarchy in the logo*" (p. 18),
    - now it's all more about the chains, hubs, webs, and sets, to focus more about the connections between the parts rather than just hierarchy,

    - so it feels again it's more about the coordination and coordination becomes more important because control is not really feasible anymore in current environment:
        - also, it is more in line with Stanford approach,
    - organizations as chain: "*work is seen to flow in a linear sequence*" (p. 18):
        - "*much that goes in on organisations is not [linear]"* (p. 19),
            - this point can be also seen in the IOD; we try to create parallel flows in linear logic usually but very often there are some interconnections because of their shared resources or disturbances etc.; so maybe linearity is hard to obtain in organisation?,
    - organisation as hub: "*hub is a coordinating centre; a focal point of activity"* (p. 19),
    - organisation as web: "*Webs, or networks, are open-ended movement of people, information, and/or materials, with no fixed sequence or a cent*re" (p. 19):
        - very not like IOD, it creates so many relationships,
        - but web in the micro level of teams is a perfect structure to enable mutual adjustment,
        - "*they move flexibly, variably. When you don't quite know where you are going[…] or where the centre is where the centre is […], but you do need to work closely together, you had better organise as a web*" (p. 19) ,
    - organisation as set: "the parts are "loosely-coupled," barely connecting with each other" (p. 20),
        - this how the IOD streams could be seen
- "*To make a movie or score a goal, people doing different things have to work together. This is called coordination, and it is the essence of organising, following the division of labour*" (p. 39),
- "*Each player in a film or a game knows what to do, but to put all their work together - too coordinate it - is another matter. However naturally this happen in the cow, nature fail us when it comes to coordinating a herd of cows, let alone a herd of film makers*" (p. 39),
- "*while many organisations favour one of the mechanisms of coordination, few can get by without using several, usually all*" (p. 44),
- "currently. The literature of management gives considerable attention to teams, task forces, and networks, all manifestations of mutual adjustment:

    - so there is greater focus on pure coordination as mutual adjustment is seen as the purest form of coordination

Coordination mechanisms:

- Mutual adjustment: "*people coordinate directly, through conversation or otherwise, web-like*" (p.40),
- Direct supervision: "*comes from a manager who, at the centre of a hub, can grasp the whole of a situation is his or her head, and thus coordinate the work of others by informing them what to do*" (p. 41):
    - "*control by formal authority - namely, direct supervision*" (p. 45)
- Standardization of work: "*Organisations that are rule-bound*" (p. 41),
- standardization of outputs: "If *the work itself cannot be standardised, sometimes the outputs or results of it can be*" (p. 42),
- Standardization of skills: "*extensive training standardises people's skills and knowledge, thus enabling them to coordinate almost automatically*" (p.42):
    - "*they coordinate thanks to the standardisation of their skills and knowledge to the point where each person knows exactly what to expect of the others (unless something goes wrong, in which case it's time for mutual adjustment*" (p. 42),
    - Could be that regulation by design is created by standardization of skills and knowledge so that disturbances within the work can be decreased or resolved by mutual adjustment,
- standardisation of norms: "*standardised norms (or values) commit people to common beliefs that enable them to coordinate with each other*" (p. 43):
    - again regulation by design!!!

Coordination and control:

- Previously that was the term most used by Mintzberg,
- "*Coordination and control are two different concepts. Mutual adjustment is coordination without control, while the other 4 coordinating mechanisms are different forms of control*" (p. 40),
- "*both mutual adjustment and direct supervision are informal, flexible mechanisms of coordination. […]. In contrast, the form mechanisms of standardisation that follow are usually built into the formal structure of the organisation, Many pre-programmed by analysts in its technostructure - hence they constitute coordination by design*" (p. 41):

- Could it be possibly regulation by design in IOD?

Control:

- "*why do we have so much trouble working together socially? Is it because we are so obsessed with those charts*? " (p. 11):
  - Maybe hierarchy and very formal structuring contributes to introducing too much focus on control and status or power or any other element and then coordination and collaboration becomes harder,
- "*what the chart certainly shows is that we are obsessed with authority, seduced by status - who's on top and all that"* (p. 12),
- *"we use the term top management rather casually. On top of what? The chart, to be sure, the salary scale too, maybe even the headquarters building. But thus seeing oneself on top of an organisation enable a chief to be on top of what is going on in that organisation? Hardly, with everyone else seen as below"* (p. 12):
  - Control should be seen in term of knowledge; and often the top management does not have knowledge of operations in the organization,
- The main players who role is predominantly to control are analysts, and managers. Also culture and external influencers might have impact on controlling the behaviour of organization:
  - Control in Mintzberg term is more about controlling behaviour and ensuring that the organisation can operate and contribute to 1 goal,
- Managing in the forms (could it be control in the forms?):
  - irrepressible managing in the personal enterprise: "*management in the personal enterprise is essentially the chief, irrepressibly, the hub around from everyone and everything revolves*" (p. 114),
  - managing as fine-tuning the programmed machine: "*the managers have to fine tune their bureaucratic machine. continuously, especially to avoid disturbances. Since "uncertainty is the biggest enemy," the left must be kept tight on the conflicts that arise in these structures*" (p. 115),
  - external managing in the professional assembly: "*what the managers here do, at every level, is support professionals more than supervise them*" (p. 116),
  - engaged managing in the project pioneer: "*managers in the project pioneer commonly engage in the project teams, while many of the experts commonly engage in the process of managing*" (p. 117):

        - in theory, it is the IOD, at least in a terms of control cause workers can manage and control not only their own work but also the work of their teams by mutual adjustment direct supervision etc., but in terms of control it's completely different idea because here a lot of coordination need is required from macro perspective

Players in organizations:

- Change from elements to players (comparing to previous book),
- Operators: "*do the basic operating work of the organisation*" (p. 14),
- support staff: "*support operations indirectly*" (p. 14),
- analyst: "*use analysts to control and adapt the activities in one way or another: they plan them, schedule them, budget them and sometimes train the people who do them - they just don't do them themselves*" (p.15),
- culture: "*the system of beliefs that permeates the organisation, providing a common frame for all the players, ideally to breathe some life into the skeleton of the structure*" (p. 16),
- external influencers: "*seek to shape the behaviour of the organisation from the outside*" (p. 16):
    - focus on external environment,
- where is the **manager** in the new forms of organising:
    - in chain*: "on top of the horizontal chain of operation is built the vertical chain of command" (*p. 21),
        - separation of operating and control activities,
    - in hub: "*manager who is on top of it is out of it […] the manager has to be in a centre, where the action is"* (p. 21),
    - in web: "*where to find the manager in a web? Everywhere - along every line and at all the nodes*" (p. 21); "*Moreover, in a web, managing can be, not only everywhere, but everyone"* (p. 22)
        - could It be that In the web everyone needs to be a manager, so too cold, because control is needed along every line and at all the nodes,
    - in set: "*with the people working largely on their own, the managers not only can be out of it, but may do better by largely staying out of it -instead exercising oversight*" (p. 22):

        - "*no surgeon in an operating room relies on a manager to give instructions or otherwise to exercise control. Once the resources are allocated […], people know what they have to do and just get on doing it*" (p. 22-23),
    - "let's not tie all our hubs, webs, and sets in chains" (p. 23)
        - controlling does not need to be necessarily connected to hierarchy we can find managers or people who control the operations pretty much everywhere depending on how we see the organisation and flow within it.
- "*If you ask what managers do, the answer will likely be that they plan, organise, coordinate, and control. As noted earlier, these 5 words, all about control, date back to 1916*" (p. 31):
    - in previous book the feeling was that control is a form of coordination; it is needed because we need to ensure that parts are working together; but here it says that coordination is about controlling or at least it used to be,
- *"managing is controlling and deciding, doing and dealing, thinking and leading, and more, not add up, but blended together*" (p. 32),
- 3 planes of managing (control in terms of ensuring given behaviour and controlling people, actions and information):
    - "*on the information plane, managers use information to help people take action, in the roles of communicating and controlling*" (p. 32):
        - Communication all around,
        - Controlling inside: "*direct use of the manager's information is to steer the behaviour of people in the unit. Not all of managing is about controlling, but some of it is, through the exercise of formal authority*" (p. 33),
    - On the people plane: "*to manage with people, instead of through information, is to move closer to action, by helping other people make things happen, via the roles of leading and linking*" (p. 33),
    - On the action plane:
        - "*managers handle disturbances reactively as well as manage opportunities proactively*" (p. 34).

Design parameters:

- Describing them as parts or elements of the living creature, similar to cow;
- "*Design of positions (these cells of the organisation body): their scope, degree of formalisation, and the training and indoctrination they require. Next comes the design of the superstructure (the skeleton of the organisation): how these positions are grouped into units, what size this unit should be, and how much decision making power should be decentralised to them. Finally, there is the fleshing out of the superstructure: the systems of planning and control and the lateral linkages to connect all these positions and units together"* (p. 46),
- Designing positions:
    - Scope*: "positions can be narrowed or broad, specialised or general"* (p. 46),
    - Formalisation: "*organisations formalise work to prescribe discretion in carrying it out, ultimately to predict and control it*" (p. 47),
    - Training and indoctrination: "*what skills and knowledge need to be brought to the job as well as what norms have to be assimilated there*" (p. 48),
- designing the superstructure:
    - grouping into units: "*skeleton of the organisation, the bones that hold its part together*" (p. 49),
        - "*grouping gets so much attention that it has come to be seen as almost synonymous with structuring -hence the obsession with those organisation charts*" (p. 49),
        - why group:
            - to encourage mutual adjustment: "*people are encouraged to communicate and cooperate*" (p. 49):
                - for purest form of coordination - mutual adjustment,
            - to enable direct supervision" "*even specialised physicians who work largely on their own need a chief*" (p. 49),
            - to obtain a common result,
            - the 3 reasons for grouping encourage all of these elements within a unit and thus "*can discourage it across units"* (p. 50),
                - silos and slabs in organisations:

        - "*organisations may need siloes for the sake of specialisation, but they don't need impenetrable walls*" (p. 50),
        - "*it's not seamlessness we need in our organisations but good seams – tailored connection between the units*" (p. 50),
        - "*if siloes are vertical barriers to the horizontal flow of information in the organisation, discouraging lateral mutual adjustment in favour of hierarchical direct supervision, the slabs are horizontal barriers to the vertical flow of information, from one level in the hierarchy to another"* (p. 50):
            - <u>problem is not only vertical barriers to horizontal flow but also it is important to remember about horizontal barriers to the vertical flow of information,</u>
    - How to group:
        - by what, how, why, where, for whom, when,
        - "*some of these bases of grouping fall into two broad categories: by means (what and how) and by ends (why and for whom). Grouping by means favours specialisation, so that people can learn from each other, but at the expense of coordination with other specialists. Grouping by ends does the opposite: it encourages coordination across the workflow but at the expense of specialisation within it*" (p. 52),
    - "*Grouping is no panacea for organisation design, just one design element among many*" (p. 52),
- Sizing the units: "*we commonly call this design element span of control, as if it's all about control by a manager -namely, coordination by direct supervision. It is not. Size of unit is a better label, because other mechanism of coordination come into play here*" (p. 53),
- Decentralisation: "*when all the power for decision making rests with a single individual, an organisation can obviously be called centralised; when that*

power is dispersed more or less equally among everyone, it can obviously be called decentralised" (p. 54),

- "*decision making power can be delegated vertically, down the hierarchy, more or less, or it can be dispersed horizontally, to non-managers […]. And this power can go partially or comprehensively*" (p. 54),
- "*considering the coordinating mechanism in these terms, direct supervision is the most horizontally centralising whereas mutual adjustment is the least, with the forms of standardisation […] falling in between*."(p. 55),

- systems of planning and control: "*coordinate by standardising outputs across positions in the units; liaison devices coordinate by encouraging mutual adjustment*" (p. 55),
  - *"action plans delineate intended targets, or outputs -what is to be achieved and when, but not how -why performance controls measure how successfully these targets have been met. Action planning is essentially top down, beginning, in theory at least […], with the formulation of strategies by the senior management, which are deconstructed into specific projects, programmes, budgets, schedules, and other operating plans for implementation by everyone else. Performance control measure the after-the-fact results of this actions, from the bottom up the hierarchy*" (p. 55-56),
- lateral linkages:
  - "*all the design elements so far discussed can take structural design only so far, because much that matters in organisations requires lateral linkages of a less formal nature, to encourage mutual adjustment across the silos and the slabs. A whole set of these have found increasing application in recent times*" (p. 56)
    - Exactly, what the IOD also has a problem with. Even with reduced coordination needs, in current organisations, units, teams, etc., they need to have an opportunity to be connected
  - liaison positions: "*designed to sit between the units and connect them together"* (p. 56),
  - integrating managers: except from being liaison position, now the integrating manager "*have some formal authority*" (p. 56),
  - meetings, standing committees, teams, and task forces
  - matrix structure: "*encourages collaboration by violating one of the sacred principles of management, called the unity of command. […] in matrix structure,*

people reported two or more bosses, which increase ambiguity for the sake of collaboration" (p. 58).

Consideration of coordination and control within the forms of organizations:

- "*why change a programming machine to do what it was not designed to do, instead of concentrating on fine tuning what it does well. Efficiency is it's forte, not innovation. An organisation cannot put blinders on its people and then expect peripheral vision*" (p. 84)
    - Maybe IOD it's not optimal for every form of organisation if we assume that the form of organisation by Mintzberg are our baseline for seeing organisations
- "*so long as we demand inexpensive, mass-produced products and services, which can be provided more efficiently by people than by actual machines, the programmed machine will remain with us -with all its fault*" (p. 85),
- "*while the machine organisation defers to the authority of office, the professional organisation differs to the autonomy of expertise*" (p. 88)
    - maybe control from the IOD perspective cannot be applied everywhere; as long as there is the autonomy of expertise or skills, etc. Then one may have autonomy to make the decisions while the work is unskilled the authority of office and direct supervision of someone controlling the work is more applicable job
- "power tends to corrupt and absolute power corrupts absolutely, citing Lord Action:
    - possibly that is the problem of someone else controlling the work; because if you have the power and control over somebody you are more likely to use this power negatively or without the actual knowledge
- *"the project pioneer is depicted in the logo for this chapter as a web -namely, a network of open-ended mutual adjustments"* (p 99),
- *"the project organisation is selectively decentralised: power flows to whoever can deal with whatever is necessary at the moment managers and non-managers alike"* (p. 101),
- *"the managers of the project pioneer then not to manage in the conventional sense. They connect more than control especially across the teams"* (p. 101)
- Possibly, could it be that each team forms some form of project pioneer organization and lateral linkages enables to connect teams again,
- *"direct supervision is the most natural coordinating mechanism at the outset of an organisation, since people tend to turn to the chief for guidance. Mutual adjustment, in contrast, can be limited until the people get to know each other, and it takes time to establish standards"* (p. 184),

- *"job enlargement takes the machine organisation toward the professional form, innovative teamwork takes it toward the project form, and turn around takes any form to the personal organisation temporarily"* (p. 191):
    - *"job expansion can increase the scope of positions in the operating core. […]. People empowerment can give the operating employees greater control over their own work […]. Skill enhancement can upgrade the capabilities of the operating employees, so that they get closer to professional status"* (p. 191-192).
    - In Mintzberg eyes, the IOD tries to take the machine organisation toward a different form because it focuses on job enlargement partially?

Forces for organizing:

- "*sometimes it makes more sense to view organisations as a system of forces instead of a portfolio of forms. […] we need to understand them if we are to understand why organisations structured themselves as they do"* (p. 121)
- Forces in 4 forms:
    - Consolidation in the personal enterprise: "*one person can consolidate the efforts of everyone else*" (p. 124),
    - efficiency in the programming machine: "*we need more order around here. This is the mantra of the machine organisation*" (p. 124),
    - proficiency in the professional assembly,
    - collaboration in the project pioneer,
- forces for all forms:
    - "one of them, the infusion of culture, tightens up the structure, by encouraging people to pull together, and the other two loosen it up, the overlay of separation by pushing the units away from each other, and the intrusion of conflict that pulls people and the units apart from each other" (p. 126):
        - it adds new elements and a new perspective, it is now not only about the structure in this very technical term but also about the social aspects and the IOD tries to focus on social aspect by studying how structuring can affect people life but it does not truly acknowledged the culture conflicts or overlay of separation.
        - Now within the teams there are close connections and relationships but between them there is none so there is this overlay of separation which

pushed the units away from them and it can be problematic when the disturbances happen

- Overlay of separation: "*sometimes there is the need to encourage further separation -to grant units greater autonomy within the structure. To do this, organisation turns to a loose mechanism of coordination, the standardisation of outputs*" (p. 127),
- Infusion of culture: "*organisations generally function more effectively when people work in compelling cultures that reduced their status differences*" (p. 129):
  - Possibly, the same with the IOD, if we are giving power and control back to workers who execute the work, they are more likely to work efficiently, even in machine bureaucracies!!!,

APPENDIX 2B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	**Questions**	**Quotes**
Coordination perspective	How coordination is understood and seen in a given perspective?	Mapping our world together as circles with private, public and plural sectors
		Greater focus on coordination between sectors and how organisations relates to each other or can relate to each other,
		"*in a healthy cow the parts don't even know that they are parts; they just work together harmoniously. The ad asked would you like your organisation to work like a chart or a cow*?"
		Coordination as something natural, metaphor of cow,
		Adding external influencers as a players in organizations
		Change in the logo structure comparing to previous book: "*I decided to drop hierarchy in the logo"*
		"*To make a movie or score a goal, people doing different things have to work together. This is called coordination, and it is the essence of organising, following the division of labour*"
		"Each player in a film or a game knows what to do, but to put all their work together -too coordinate it - is another matter. However naturally this happen in the cow, nature fail us when it comes to coordinating a herd of cows, let alone a herd of film makers"
		grouping into units: "*skeleton of the organisation, the bones that hold its part together*"

Theme/dimension	Questions	Quotes
		"*it's not seamlessness we need in our organisations but good seams – tailored connection between the units*"
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	*"while many organisations favour one of the mechanisms of coordination, few can get by without using several, usually all"*
		currently. The literature of management gives considerable attention to teams, task forces, and networks, all manifestations of mutual adjustment
		Coordination mechanisms: • Mutual adjustment, • Direct supervision, • Standardization of work, • Standardization of outputs, • Standardization of skills, • Standardization of norms
		"*all the design elements so far discussed can take structural design only so far, because much that matters in organisations requires lateral linkages of a less formal nature, to encourage mutual adjustment across the silos and the slabs. A whole set of these have found increasing application in recent times"*
		Lateral linkages: • Liaison positions, • Integrating managers, • Meetings, standard committees, teams, task forces, • Matrix structure

Theme/dimension	Questions	Quotes
Control perspective	How control is understood and seen from a given perspective?	"*Why do we have so much trouble working together socially? Is it because we are so obsessed with those charts*"
		what the chart certainly shows is that we are obsessed with authority, seduced by status - who's on top and all that
		"we use the term top management rather casually. On top of what? The chart, to be sure, the salary scale too, maybe even the headquarters building. But thus seeing oneself on top of an organisation enable a chief to be on top of what is going on in that organisation? Hardly, with everyone else seen as below"
		""*"managing is controlling and deciding, doing and dealing, thinking and leading, and more, not add up, but blended together"*
		If you ask what managers do, the answer will likely be that they plan, organise, coordinate, and control. As noted earlier, these 5 words, all about control, date back to 1916"
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	The main parts of organization who role is predominantly to control are analysts and managers. Also, culture and external influencers might have impact on controlling
		In different configurations/forms differ types of control are used, and different parts of organizations are gaining more or less decision authority (managing in the forms),
		Managers take different positions depending on new forms of organising

Theme/dimension	Questions	Quotes
		On people plane: "*to manage with people, instead of through information, is to move closer to action, by helping other people make things happen, via the roles of leading and linking*"
		3 planes of managing: • Information plane, • People plane • Action plane
		"on the information plane, managers use information to help people take action, in the roles of communicating and controlling" and *"direct use of the manager's information is to steer the behaviour of people in the unit. Not all of managing is about controlling, but some of it is, through the exercise of formal author"*
		On action plane: "*managers handle disturbances reactively as well as manage opportunities proactively"*
		"decision making power can be delegated vertically, down the hierarchy, more or less, or it can be dispersed horizontally, to non-managers […]. And this power can go partially or comprehensively"
		"*action plans delineate intended targets, or outputs -what is to be achieved and when, but not how -why performance controls measure how successfully these targets have been met. Action planning is essentially top down, beginning, in theory at least […], with the formulation of strategies by the senior management, which are deconstructed into*

Theme/dimension	Questions	Quotes
		specific projects, programmes, budgets, schedules, and other operating plans for implementation by everyone else. Performance control measure the after-the-fact results of this actions, from the bottom up the hierarchy
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	"*organisation can be defined as collective action structured for the pursuit of a common mission"*
		"*the structure of the organisation can be defined as the pattern of relationships designed to enable its people to take that action together"*
		Organizations as: • Chains, • Hubs, • Webs, • Sets
		Players in organizations (previously elements/parts): • Operators, • Support staff, • Analyst, • Culture, • External influencers, • Managers
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do	Design parameters as the elements or parts of the living creature, similar to cow
		Design parameters: • scope of positions, • formalization, • training and indoctrination

Theme/dimension	Questions	Quotes
	they relate to coordination and/or control	• grouping • into units, • sizing the units, • decentralization, • system of planning and control, • lateral linkages,
		"*Design of positions (these cells of the organisation body): their scope, degree of formalisation, and the training and indoctrination they require. Next comes the design of the superstructure (the skeleton of the organisation): how these positions are grouped into units, what size this unit should be, and how much decision making power should be decentralised to them. Finally, there is the fleshing out of the superstructure: the systems of planning and control and the lateral linkages to connect all these positions and units together"*
		Formalization is primarily to predict and control the behaviour of workers
		"*grouping gets so much attention that it has come to be seen as almost synonymous with structuring -hence the obsession with those organisation charts"*
		Why grouping: • to encourage .mutual adjustment, • to enable direct supervision, • to obtain common results the 3 reasons for grouping encourage all of these elements within a unit and thus "*can discourage it across units"*

Theme/dimension	Questions	Quotes
		Grouping leads to silos and slabs in organization:
		"*organisations may need siloes for the sake of specialisation, but they don't need impenetrable walls*"
		if siloes are vertical barriers to the horizontal flow of information in the organisation, discouraging lateral mutual adjustment in favour of hierarchical direct supervision, the slabs are horizontal barriers to the vertical flow of information, from one level in the hierarchy to another
		Sizing the unit: *we commonly call this design element span of control, as if it's all about control by a manager -namely, coordination by direct supervision. It is not. Size of unit is a better label, because other mechanism of coordination come into play here*
		Decentralization: delegation of decision authority (mostly about control)
		Forms of organizing depends on the context and in different environments different forms works the best
		Forms are ideal types which symbolizes how organization can be structured and what players in organizations are gaining more power and how much coordination is required there
		Forces for organizing: *sometimes it makes more sense to view organisations as a system of forces instead of a portfolio of forms. […] we need to understand them if we are to*

Theme/dimension	Questions	Quotes
		understand why organisations structured themselves as they do
		Forces: • consolidation, • efficiency, • proficiency, • collaboration, • culture, • overlay of separation, • intrusion of conflicts
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	in both definitions of organisation and a structure concept of coordination is visible in the words of: collective, common, or the pattern of relationships,
		"Coordination and control are two different concepts. Mutual adjustment is coordination without control, while the other 4 coordinating mechanisms are different forms of control"
		""*both mutual adjustment and direct supervision are informal, flexible mechanisms of coordination. […]. In contrast, the form mechanisms of standardisation that follow are usually built into the formal structure of the organisation, Many pre-programmed by analysts in its technostructure - hence they constitute coordination by design"*
		"considering the coordinating mechanism in these terms, direct supervision is the most horizontally centralising whereas mutual adjustment is the least, with the forms of standardisation […] falling in between"

Theme/dimension	Questions	Quotes
		Systems of planning and control are both for control and coordination

APPENDIX 2C: SYNTHESIS TABLE:

Theme/dimension	**Questions**	**Conclusions**	**Comparison and Contrast with the IOD**
Coordination perspective	How coordination is understood and seen in a given perspective?	Coordination is viewed as natural, organic and even essential. It is about collaboration, now not only within the business but also across public, private and plural sectors. Greater emphasis on moving beyond charts toward interconnected forms and systems of relationships.	Greater focus on collaboration and interconnected systems (increased complexity) and not just efficiency and simplicity. Coordination is emergent and foundational process in organizational design. Coordination is centre of the theory as control seems not to be feasible anymore in current environment
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	There are 6 coordination mechanisms which vary on the level of control included in them. Usually, no single mechanisms is enough to coordination the	6 coordination mechanisms with varying level of formalized control put on the unit. Acknowledgement that mutual adjustment is a purest form of

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		relationships. Also, because of the silos and slabs in organizations, the need for lateral linkages to ensure that there are connections between the parts separated by grouping. Mechanisms can be both formal and informal and they help aligned the fragmented units. In this perspective, it is acknowledged that organizations gives greater consideration to new manifestations of mutual adjustment	coordination, while often more formalized, controlled coordination mechanisms are needed to ensure alignment of actions. Also, highlighted importance of formal and informal lateral linkages roles which combine units separated from each other by grouping. Some coordination mechanisms could be seen as control activities in the IOD. E.g. standardization of outputs could be strategic while standardization of norms or skills, and work could be seen as regulation

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
			by design. Mintzberg could them coordination by design
Control perspective	How control is understood and seen from a given perspective?	Control is often misunderstood as authority and hierarchy, which does not take into account the managers knowledge and being in the centre of action. Control is about deciding and leading, dealing and doing, thinking and leading, all blended together. It is more about leadership now than management	Control is more leadership-centric, focused on managerial engagement and involvement, not just authority. It is more organic perspective, moving away from traditional perspective of control. It is still about decision authority, but its focused is put much more on the leadership characterises. Maybe IOD it's not optimal for every form of organisation if we assume that the form of organisation by

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
			Mintzberg are our baseline for seeing organisations.
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Control can be executed across three planes and there are different control actions varying on the type of plane. Control is mostly associated with managers. It also is shaped by culture and external influencers. Additionally, there is acknowledgment of distribution of decision authority by horizontal decentralization. Also, depending on the new forms of organising, managers can take different positions as being in the centre of the network or above, supervising, etc., While action plans are more connected to	Control includes different planes on which managers manage the information and actions. Efforts on action plane are most similar to control perspective in the IOD. Acknowledgment of possibility of decentralizing decision authority, depending on the form and context of the organization, in different organizational forms, different platers are gaining more or less power. Controlling does

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		top-down control mechanisms, performance controls gives greater power to workers and are more bottom-up associated.	not need to be necessarily connected to hierarchy we can find managers or people who control the operations pretty much everywhere depending on how we see the organisation and flow within it.
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	Structure defines the patterns of relationships, thus, it naturally connects more to coordination. Structure is called the skeleton of the organization. However, structure also influences which player gains control in the organization. Good structure should facilitate coordination and not create impenetrable silos or slabs.	Structure is patterns of relationships and it facilitates coordination and control rather than absorb disturbances and amplifies control possibilities. Structure is more organic and not instrumental. Mintzberg acknowledges that organizations as chain are almost

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
			impractical and unreal in current world, thus, to some extent criticizing the IOD. But he also mentions organizations as set, which could be more feasibly by connected to the IOD
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	There are design parameters which values depends on the context and form of organization. While some of the design parameters are mostly connected to control (e.g. action and performance control systems), some of them are more related to coordination (groping). Some of them are inseparable from both coordination and control (size of unit).	Parameters values vary by organizational form. Design should be context dependent, and it needs to acknowledge 7 forces which drives organization in certain direction. Mintzberg acknowledges overlay of separation which pushed the units away from each

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		Moreover, there are 7 forces which drive organization into certain form.	other, making dealing with disturbances harder. Also, infusion of culture can bring additional insights to not really apply IOD everywhere. Mayve just giving control back to workers without self-contained teams is already quite enough to create motivated workforce.
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	Coordination and control are distinct but related concepts. Mutual adjustment is coordination without any form of control while other coordination mechanisms include combination of coordination and control. Control tends to be more formal and	Coordination and control are now explicitly acknowledged by by distinct from each other. However, there is still some theoretical interconnection between coordination and control (e.g.

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		centralized in this lens, while coordination has more informal and distributed nature. Although, now the distinct mature of concepts is acknowledges, some parts of coordination and control cannot be separated and this can be seen in coordination mechanisms.	coordination mechanisms). The goal of both is to ensures that organizational structure works effectively.

APPENDIX 3: STANFORD (2013) DATA COLLECTION AND ANALYSIS

APPENDIX 3A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

General thoughts:

- Completely different approach to organizational design; it is not about the structures per se or they do not dominate the organizational design; it feels like organizational design in this perspective is an ongoing process, very dynamic and fast and the focus is put on survival and adaptation of organization to dynamic and changing environment;
- So, structures enable adaptation and flexibility and matching fast-changing environment but they are not explicitly discussed.
- *"Design is always in motion"* (p. 61),
- *"Throughout the book the emphasis has been on designing the structure of an organisation around the work of the organisation*" (p. 233)

Organizations and their structures:

- "*moving us away from thinking of them [organizations] less as bounded systems, and more as complex, adaptive organisms*" (p. 2),
- Fast-moving changes require to think very differently about the way organizations are structured:
    - "*a growing number are thinking of their enterprises as networks with dependencies and interrelationships rather than fixed, hierarchical, bounded structures*" (p. 2),
- When making structural decision based on personalities, politics and expediency:
    - "*is a mistake on two counts. First, it fails to explicitly recognize that structure choices affect organizational capabilities, and, second, that getting work done efficiently in order to meet organizational goals is, or should be, the purpose of the organizing frameworks and structures*" (p. 31),
- Adapted from Corkindale (2011): "*Any organizational structure should be temporary. Organizations have no separate existence; they function as tools of the business. […] As for building an organization I think [Henry] Mintzberg got it right when he suggested that two things must be settled – the division of labour and coordination after that. But again, any division, any organization is always temporary*" (p. 61)
    - Only coordination as importance not control!!!

- *"When managers think about structure they are generally thinking about 'their' organization and not the interrelationships their departments have with other parts of the organization and with external entities. To be effective the structural choices made in one part of the organization must recognize the consequences both in that part and also in other parts of the wider system"* (p. 129):
    - Coordination need, but also the difference in understanding structures and importance of coordination not only the work but above all the environment internally and externally,
    - "*keeping an eye on trends likely to have an impact on a particular organisation is a crucially activity for organisation designers*" (p. 239),
    - *The enduring areas in which to look for trends are more or less covered by the STEEPLE acronym"* (p. 239)

Organization design:

- "*the output of an organization design process*" (p. 6),
- Design and structure is something different:
    - You need to "*develop insight about the relationship between organisation design an organisation structure*" (p.6),
    - Structure is part of a high-level organization design (p. 101),
    - Difference comparing to other approaches; in the IOD structure is in the centre of organizational design but here it is more a reciprocal relationship rather than following one,
- "*Organization design is more often than not assumed to be the organization structure – that is, the series of boxes that are ordered in a hierarchy and are shown as an organization chart*" (p. 7),
- "*different structures do different things. […] the structure must be carefully chosen to position authority where at best delivers the business strategy*" (p. 8)
    - Authority could be seen as a form of control in IOD; control allows to make decisions by yourself and Stanford's authority does exactly the same,
- Business processes drive the organization structure; "*A structure designed to deliver a known work f l ow is more efficient and effective than one in which the workflow has to fit around the structure*" (p. 8),
- Structure must support the flow of work efficiently and effectively,
- "*The organization chart (structure) is one part of the overall design*" (p. 9),

- "*the structure is only a part of the overall design and contributes to a coherent answer to a series of questions*" (p. 10),
- "*organization design process involves aligning the various elements of the organization, including the structure, to deliver a business purpose*" (p. 10),
- "*think of the enterprise as an adaptive open system that is not self-contained, is interconnected with other entities in a complex dynamic relationship and is dependent upon its external environment for survival*" (p. 14):
    - Links to coordination; but here another meaning than in other perspectives; coordination is about the whole environment and system and not only the workflow within the organization!!,
- When talking about good organization design "*Is as little design as possible – less, but better – because it concentrates on the essential aspects, and the processes and systems are not burdened with non-essentials. Back to purity, back to simplicity*" (p. 20)
- *"an organization design is better seen not as a static end state but rather as an ongoing process of adaptation and renewal"* (p. 200):
    - Step and wait approach.
- Some form of control could be given away simply by using social media as a new channel for communication:
    - "*as the external interaction channels and opportunities change so should the internal interactions and channels*" (p. 214),
    - Example of Euan Semple:
        - Social media offer managers "*more than just traditional command and control ways of communicating*" (p. 214),
        - Citing Semple (n.d.) "*The potential for these more connected conversational [social mediatools is that more people are more able to deal with issues, become innovative, find other people dealing with issues and connect with each other to begin to practically do stuff using these tools, with the need for a lot less management*" (p. 214-215)

Coordination:

- Greater focus on coordination; it is all about how work flows within the organization, so flow requires coordination.

- *"Typical organisation chart does not show the interdependencies interactions latter coordinators and handover points that the people in the roles on the chart have"* (p. 8)
- *"organization structure that optimizes the workflow both within the organization and to stakeholders outside it"* (p.9):
    - Here, again different look on structure; it is not only internal but its goal is also much more external and customers are not only the end point; they are the external stakeholders of organizations;
- "*They interpret, decode and respond to signals and information about de environment and their own functioning in relation to the environment*"(p. 14):
    - When talking about open systems; it shows these different meaning of coordination which takes more broad focus on external and internal coordination,
- "*Organization design demands expertise in the integration of IT systems, work process improvement and business analytics*" (p. 35),
- "*Once the core processes have been mapped – preferably on one long sheet of paper with the activities/tasks on sticky notes that can be easily moved around – arrange the process flows one under the other, scan across them looking for appropriate groupings that conform to the design criteria and deliver the business purpose*" (p. 114),
- Coordination is more about the connection of various people, teams and units (see develop linking mechanisms):
    - Maybe because Stanford takes this model approach adapted from Nadler where there is high focus on divisions and units which acts independently but they need to contribute to overall organization,
- Organization systems model element (people, work, informal organization and formal organization) are interconnected, thus creating coordination needs.
- Formal linking mechanisms:
    - Liaison roles: "*someone has the specific job of working between or across work groups. Often these are formal roles and may include the word coordinator or liaison in the job title*" (p.116),
    - cross unit groups: "*standing monthly meetings, committees set up for a specific purpose or project teams*" (p. 116),
    - integrator departments: "*these are established to ensure that the parts of the work process are working together effectively*" (p. 116),

    - Matrix structures: "*formalise linkages through the organisational hierarchies but can be difficult and costly to operate"* (p. 118),
    - Service-level agreements,
- Informal linking mechanisms:
    - technology based collaboration channels: "*employees, customers, and partners can share documents, work on them jointly, have discussions, organised projects and teams and discover people and information*" (p. 118, Sharepoint, 2012),
    - Informal network of people which can also be formally established,
    - Social media channels,
    - ad hoc meetings: "*often called at short notice to discuss particular issue or opportunity*" (p. 119),
- *"Where there are a number of streams of work progressing simultaneously, a governance structure that keeps clear oversight of all of them and provides a coherent framework for them to operate within is essential (see Chapter 5). Reminders about collaboration, boundaries and principles all help the project teams stay in touch with one another's progress*" (p. 190)

Similarity to IOD:

- "*Organizations, however, are basically purposeful social systems operating in a constant state of flux*" (p. 14),
- "*In organization design work the more differentiated/specialized the systems of the organization are, the more integrative and linking mechanisms are needed*." (p. 15):
    - Exactly, that is why IOD try to reduce the complexity of the systems internally,
    - However, Stanford accept complexity externally and also possibly internally if needed. She does not say anything about making structures or organizational design simpler in form; rather she takes this approach of networks and boundaries organisms.
- Open system thinking:
    - "consist of the patterned activities of a number of individuals" (p. 14) and "*these patterned activities are complementary or interdependent with respect to some common output or outcome; they are repeated, relatively enduring, and bounded in space and time*" (p. 14):
        - Again, it leads to coordination,
- Relationship as the centre of work

- Grouping can be done not only based on function but also work process, product, service, project, market segment, user/customer need, etc,

System model:

- "'*systems models' that graphically represent, in shorthand form, the various organizational elements that collectively comprise the system, including the IT infrastructures, the business processes, the skills of the workforce, the workforce profi le, the policies and procedures and the operating context: all the interacting stuff that delivers the required organizational outcome – product, service, shareholder value or whatever*" (p. 15)
    - Coordination need again,
    - Again, it is not about the structure itself; it is also about the infrastructure, business processes, workforce (in IOD HR),
- Adapting of Nadler and Tushman's model:
    - "*highlights the independent but interconnected business units or divisions*" (p. 16):
        - COORDINATION again,
        - Some form of CONTROL in term of units independence,
    - *"alignment of the work, the people, the informal organization and the formal organization is critical to organizational balance. This alignment should maintain the appropriate integrity of each business unit whilst enabling synergies between them to be exploited. Simultaneously it has to ensure that each business unit contributes to the 'greater good' of the whole organization (coherence)"* (p. 19)

Control:

- Often connected to authority, autonomy or independence, or power,
- "*One of the issues around obtaining resources is that control of them is often tied to an organizational power base, or bases. Leaders and others can choose to give or withhold resources depending on their view of the benefits or dis-benefits of the organization design*" (p. 151)
- "*future thinking requires pave the way for designing for organizational resilience and agility – that is, the ability to meet whatever future comes into play*" (p. 59):
    - Could be link to thinking about disturbances;

    - Stanford takes again more broad approach and not only think about "work disturbances" but environmental disturbances which can affect the whole organization,
    - *"data-gathering on the operating environment that is triggering the need for a redesign"* (p. 86)
- Methods for resilience and agility building:
    - Anticipating: "*developing a view of possible or likely changes – not trying to predict actual changes*" (p.59),
    - Sensing: "*continual reviews of market conditions, looking for trends and especially anomalies*" (p.59),
    - Responding: "respond to market shifts faster than competitors do" (p.59),
    - Adapting: "*Once initial market changes have been identified, organizations often find that they need to rework some of their business processes*" (p.59).
- "*three time-framed triggers of change: current triggers that require an immediate reaction; forthcoming triggers that are known and which can be responded to proactively; future triggers that are predictions rather than certainties, which require adaptive designs capable of effectively meeting what happens*" (p. 73):
    - basically, they can be connected to disturbances !!!!!
- Importance of leaders and change management:
    - When talking about the experience of one government leader: "*This leader realized that if he forced the hoteling issue he could end up with a demotivated workforce and drops in productivity*" (p. 69):
        - Exactly why the control also needs to be given to other members and not be held only on top of the organization,
        - Adapting Chris Rogers of leadership practice:
            - "*From elite practice to emergent property: Leadership would be recognized as an emergent property of people in relationship, not as an elite practice confined to individuals at senior levels in organizations. That is, it would be understood as a complex social process enacted by many people in the normal course of their everyday interactions*" (p.162)
            - "*From controlling to contributing Those in formal leadership positions (as well as others who prescribe leadership behaviours or commentate upon their performance) would accept that they*

were not in control of organizational outcomes. As powerful participants in the ongoing process of social interaction, they would of course be contributing to those dynamics and outcomes in important and influential ways – whether intentionally or not. But they would not be in control of them." (p. 162),

- "*From diagnosis to dialogue The currently dominant view on leadership, based on a rational-scientific model of organizational dynamics, assumes that strategic and operational challenges can be dealt with by expert diagnosis – whether a leader's own or that offered by specialist advisers. […]. Instead, it would recognize that knowledge in a social process is co-created through the everyday conversations and interactions that take place locally – between specific people , at specific times and in specific circumstances . Ongoing dialogue, focusing on joint sense-making-cum-action-taking, and seeking to tap into people's collective wisdom, would therefore be seen as the essence of strategic and operational leadership*" (p. 162):
    - Knowledge to control operationally, but also being able to make decision on design or maybe even strategically, so they need to be able to communicate it,
    - Maybe merely giving the possibility to make decision based on knowledge could be seen not only as strategic leadership but also strategic regulation as it can lead to strategic outcomes!
- "*From standing out to standing in: actively participating in the conversations around important emerging issues. This means paying attention to what's going on in the day-to-day conversations and interactions that comprise the organization ; seeking to shift the patterns and content of interactions in organizationally beneficial ways*" (p. 163)

- "*People are well equipped to handle change if they have power and agency in the situation*" (p. 69)

- Margaret Wheatley's 'Ten Principles for Creating Healthy Organizational and Community Change' (could be possibly also seen as a reason for why control should be given to operators or people executing the work; and noy only for change project):
    - People support what they create (creating ownership by involving people),
    - People act responsibly when they care (creating accountability by creating care and care is creating by caring on other; workers, customers, etc.),
    - Conversation is the way human being have always thought:
        - "*We have tended to think that conversation is too casual, that it doesn't go anywhere, that it is nonlinear and messy. So we go back to the flipcharts. […] But is important to remember that it is only through conversation that people discover what they care about. They discover shared meaning and they discover each other*" (p. 70):
            - "*Questions: How often are we confident enough to use conversation as a legitimate problem-solving, thinking together process rather than using these very technical processes which not only bore us, they disengage us and they separate us from one another*" (p. 70)
            - Conversation as the easiest form of coordination which allows for control as well,
    - To change the conversation, change who is in it:
        - "*Who can join the conversation, who has a different perspective, who will help take it out of the loop it has got stuck in and open the way to new thinking?*" (p. 71)
        - Exactly, why not give some control to workers to gain different perspectives and possibly better solutions,
    - Expect leaders to come from anywhere:
        - "*Do people in our organization feel they have the agency and permission to take the lead in making things better?* " (p. 71),
    - we focus on what works and it releases our creative energy,
    - wisdom resides within us:
        - "*the wisdom is within us to solve our problems. When people are in regular reflective practice together and are in good, trusting relationships with their colleagues what becomes available to them is their own wisdom*" (p. 72),

        - "if we can't find the solution we will go and look for it"
    - Everything is a failure in the middle,
    - Humans can handle anything as long as we're together:
        - "*I have found that it is the quality of our human relationships, and being in it together, that actually gets us through. In modern organizations relationships have been denigrated, we call them touchy-feely, etc. This is not only a misnomer; it paralyses us and prevents us from being effective responders in the age of uncertainty. So we need to take relationships much more seriously than we have up till now*" (p. 73),
    - Generosity, forgiveness and love,
- Acknowledges also informal form of power which allows for control in terms of decision-making or shaping course of action,
- "*Cascading transition work to the lowest possible level to get maximum involvement and ownership. Involving people who do the frontline work in the organization in the project design teams provides a reality check to the new design*" (p. 173):
    - It also ensures that design works the best possibly,
- "*remember, front-line staff are the people delivering for the business. Unfortunately, they often come last in the pecking order of communication, training and support in new processes. Put them as much in the spotlight as other grades of staff to ensure parity of treatment. Where lower levels of staff need more help, give it to them or customers will suffer*":
    - Could be connected to operational control,
- *"People resist the change, try to shift the burden and/or become accidental adversaries […]. Emotional and behavioural barriers may be the cause when: […] There is an us and them mentality or in groups and out groups"* (p. 191):
    - yeah exactly, because strategic decisions are not made with people who execute the work!!!

Designing organization:

- Start with high level organization design including structure (during design phase), Then take the high-level design into the detailed operational design (planning to transition):
    - Difference comparing to IOD, it treats the design a bit more separated between high level organization and the "operating" organization,
- Detailed operational design:

- "*makes transparent how high level functions and tasks are delegated to different work units and individuals; clarifies the vertical an lateral relationships between work units an individuals in terms of processes, communications, flow of information and chain of command; ensures work processes arts streamline and flow smoothly for the organisations; […]*" (p. 102),
    - Defines coordination and control,
- "*appoint a representative from each level of the organization to each work stream, […]. Remember this 'diagonal slice' of organizational members conforms to the tested principle that those who do the work should redesign it*" (p. 135):
    - Control requirement,
    - Also could be possible explanation how one can engage workers in more strategic and regulation by design; by creating design teams with the diagonal slice!!!!,
- "*Those who have worked on the high-level design are not always the best people to take the design into the development of the operational design and implementation plan. For this detailed work select people from a 'diagonal slice' of the organization to have representation from the various levels and types of work*" (p. 136-137),
- "When talking about design phase and planning to transition phase: "*Think of it as a meeting to 'pass the baton' as in a relay race between one team and the next. Each team's objective is to design, for their part of the whole system, the conditions for peak performance workflow as specified by the high-level design. Their work must align with the work of each of the other teams to deliver something that is more than the sum of the individual parts*" (p. 137)

- "*Use activity cards for each work stream to list what is needed to take the design from high-level to detailed operational design. Ensure that each work stream is aware of what others are doing so that all the work is proceeding in the same direction*" (p. 144):
    - How possibly strategic and regulation by design regulation could be given to workers themselves,
    - Coordination needs,
- High level design of ideal state:

- "*In the design phase the work is focused on the higher levels of the organisation: the high level business processes, the macro level groupings of work and the top layers of the hierarchies. Think of it as the umbrella or macro design*" (p. 110):
    - You wholly design the macro organization, no separation between production and control; every big/top element is designed here.
- "*The more detailed design work comes in the planning to transition phase. It is at this point that attention shifts to the granularity of the workflows and business process, the allocation of resources, job roles and responsibilities and the detail of policies and procedures - all of which may need to be changed or developed if the macro design points to this*" (p. 110):
    - You assign people, resources, responsibilities; it is not really micro design but it is more like fitting elements into the ideal high-level design,
    - But at the same time, you think about people, resources and responsibilities beforehand to create this macro design; it just feels like after the ideal design you allocate elements;

- High level design steps:
    - Identifying three or so core business processes:
        - "Business processes are the end-to-end major sets of steps or tasks which when completed convert an input into an output (Input → Process → Output)" (p. 112),
        - *"They are the 'heartbeat' of an organization, and they include those processes that are strategic in nature*" (p. 112)
        - Raison de entre of organization
    - "*Review the core business processes and look for sensible and appropriate groupings of the work activities in the core processes. Then group or cluster the work, paying attention to the design criteria, the business purpose of the redesign and the likelihood that work will flow effectively through the groupings*" (p. 111),
        - Coordination need,
        - But it does not say anything about reducing coordination need or whatever, it just shows that grouping creates coordination so it needs to be done sensibly and appropriately,

- *"Grouping the activity is necessary as it defines the strategic groups that will deliver the work, provides a framework for the more detailed design and illustrates how the organization might operate"* (p. 114)

- Evaluate each set of groupings in terms of design criteria, business purpose and workflow,
- *"For those two or three sets that remain consider linking mechanisms that enable effective: co-ordination, decision making and control, multi-directional movement of information, chains of command, delegation of functions and tasks. The linking mechanisms can be on a scale of informal to formal and shown both laterally (across the groupings) and vertically (up and down the groupings)"* (p. 111):
  - Here coordination is also for control need; you need to create coordination mechanisms that enable e.g. control!!!!,
  - "*Linking mechanisms are those that connect various people, teams and units of work enabling them to share and act on information that will keep their part of the work flowing*" (p. 115),
  - *"Those that are established within boundaries, for example within an operating division, are easier to maintain than those that are established across boundaries. Across-boundary linking may require more formal mechanisms than within-boundary linking"* (p.116),
- Conduct impact analysis:
  - "*Conduct an impact analysis on the selected options with their linking mechanisms. Doing this provides a structured approach for looking at them in order to identify as many of the negative and positive impacts or consequences of each as possible*" (p. 119),
  - gives idea about possible disturbances connected to linking mechanisms and groupings of work which are not really discussed in IOD; it also presents attenuation and amplification possibilities,
  - Impact analysis template

Low impact/easy to achieve	**High impact/easy to achieve**
Low impact/hard to achieve	**High impact/hard to achieve**

        - *"Once the impact analysis is complete and the implications assessed, eliminate, blend and/or amend each of the grouped sets to arrive at the final two design options with the pros and cons of each in terms of their operational design implications and implementation implications*" (p. 120),
    - Develop high-level organization chart:
        - "*develop a high-level organization chart, starting with the top two or three levels, and then working down the next few levels until there is a fairly complete structure*" (p. 120),
        - *"Consider: how high-level functions and tasks could be delegated to different work units and individuals; the vertical and lateral relationships between work units and individuals in terms of processes; communications, flow of information and decision making; chain of command; span of control; location of authority, accountability and control; volume of work and level of effort required to do the work (this may require specialists); the types of position within each group (this may require specialists)*" (p.120):
            - When designing high-level think about the control and coordination,
    - Test the chosen structure:

APPENDIX 3B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	**Questions**	**Quotes**
Coordination perspective	How coordination is understood and seen in a given perspective?	"*think of the enterprise as an adaptive open system that is not self-contained, is interconnected with other entities in a complex dynamic relationship and is dependent upon its external environment for survival*"
		It is all about how work flows within the organization, and this requires coordination
		"*They interpret, decode and respond to signals and information about de environment and their own functioning in relation to the environment"*
		System model elements (people, work, informal organization and formal organization) are interconnected, thus requiring coordination
		"'*systems models' that graphically represent, in shorthand form, the various organizational elements that collectively comprise the system, including the IT infrastructures, the business processes, the skills of the workforce, the workforce profile, the policies and procedures and the operating context: all the interacting stuff that delivers the required organizational outcome – product, service, shareholder value or whatever*"
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	*Linking mechanisms are those that connect various people, teams and units of work enabling them to share and act on information that will keep their part of the work flowing"* *"Those that are established within boundaries, for example within an operating division, are easier to maintain than those that are established across boundaries. Across-boundary linking may*

Theme/dimension	Questions	Quotes
		require more formal mechanisms than within-boundary linking" Formal linking mechanisms: • Liaison roles, • Cross unit groups, • Integrator departments, • Matrix structures, • Service-level agreements Informal linking mechanisms: • Technology based collaboration channels, • Informal network of people, • Social media channels, • Ad hoc meeting
Control perspective	How control is understood and seen from a given perspective?	*Where there are a number of streams of work progressing simultaneously, a governance structure that keeps clear oversight of all of them and provides a coherent framework for them to operate within is essential (see Chapter 5). Reminders about collaboration, boundaries and principles all help the project teams stay in touch with one another's progress*
		connected to authority, autonomy or independence, or power,
		"One of the issues around obtaining resources is that control of them is often tied to an organizational power base, or bases. Leaders and others can choose to give or withhold

Theme/dimension	Questions	Quotes
		resources depending on their view of the benefits or dis-benefits of the organization design"
		"*future thinking requires pave the way for designing for organizational resilience and agility – that is, the ability to meet whatever future comes into play*"
		"three time-framed triggers of change: current triggers that require an immediate reaction; forthcoming triggers that are known and which can be responded to proactively; future triggers that are predictions rather than certainties, which require adaptive designs capable of effectively meeting what happens"
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Social media offer managers ""*more than just traditional command and control ways of communicating*" "
		Resilience and agility building: • Anticipating, • Sensing, • Responding, • Adapting,
		Leadership which is boundless; Chris Rogers leadership practices
		"*People are well equipped to handle change if they have power and agency in the situation"*
		Margaret Wheatley's principles for creating health organizational and community change
		"*Cascading transition work to the lowest possible level to get maximum involvement and ownership. Involving people who do the frontline work in the organization in the project design teams provides a reality check to the new design*"

Theme/dimension	Questions	Quotes
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	Structures enable adaptation and flexibility and the fit with fast-changing environment, they are not discussed explicitly per se
		"*Throughout the book the emphasis has been on designing the structure of an organisation around the work of the organisation"*
		"*a growing number are thinking of their enterprises as networks with dependencies and interrelationships rather than fixed, hierarchical, bounded structures"*
		"moving us away from thinking of them [organizations] less as bounded systems, and more as complex, adaptive organisms"
		"*getting work done efficiently in order to meet organizational goals is, or should be, the purpose of the organizing frameworks and structures"*
		Any organizational structure should be temporary. Organizations have no separate existence; they function as tools of the business. […] As for building an organization I think [Henry] Mintzberg got it right when he suggested that two things must be settled – the division of labour and coordination after that. But again, any division, any organization is always temporary"
		"When managers think about structure they are generally thinking about 'their' organization and not the interrelationships their departments have with other parts of the organization and with external entities. To be effective the structural choices made in one part of the organization must

Theme/dimension	Questions	Quotes
		recognize the consequences both in that part and also in other parts of the wider system"
		"*develop insight about the relationship between organisation design an organisation structure"*
		"*different structures do different things. […] the structure must be carefully chosen to position authority where at best delivers the business strategy"*
		"organization structure that optimizes the workflow both within the organization and to stakeholders outside it"
		alignment of the work, the people, the informal organization and the formal organization is critical to organizational balance. This alignment should maintain the appropriate integrity of each business unit whilst enabling synergies between them to be exploited. Simultaneously it has to ensure that each business unit contributes to the 'greater good' of the whole organization (coherence)"
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Organizational design phase model: • Design phase (start with high level organization design): o "*In the design phase the work is focused on the higher levels of the organisation: the high level business processes, the macro level groupings of work and the top layers of the hierarchies. Think of it as the umbrella or macro design*"

Theme/dimension	Questions	Quotes
		○ Identifying 3 or so core business processes, • Planning to transition) take the high-level design and create a detailed operational design: ○ "*makes transparent how high level functions and tasks are delegated to different work units and individuals; clarifies the vertical an lateral relationships between work units an individuals in terms of processes, communications, flow of information and chain of command; ensures work processes arts streamline and flow smoothly for the organisations"* ○ *"Remember this 'diagonal slice' of organizational members conforms to the tested principle that those who do the work should redesign it*" ○ "*Use activity cards for each work stream to list what is needed to take the design from high-level to detailed operational design. Ensure that each work stream is aware of what others are doing so that all the work is proceeding in the same direction*" • Test the structure

Theme/dimension	Questions	Quotes
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	No direct quotes. See conceptualization of coordination and control

APPENDIX 3C: SYNTHESIS TABLE:

Theme/dimension	**Questions**	**Conclusions**	**IOD comparison and contrast**
Coordination perspective	How coordination is understood and seen in a given perspective?	Coordination as the management of interconnected components, both internal and external, within the dynamic and complex system. Coordination ensures integration of organizational design elements to produce the desired outcomes' It put emphasise on the flow of work, system interdependence and the need for responsiveness to environmental changes,	Coordination here have broader perspective, including also the interconnections and relationships with external environment. Coordination in Stanford is not so much about autonomous teams rather than people, teams and diverse units, which could be caused by the use of Nadler model which focuses on divisions and units which act independently but they need to contribute to overall organization
			"In organization design work the more differentiated/specialized the systems of the organization are, the more integrative and linking mechanisms are needed."
			Stanford accept complexity externally and also possibly internally if needed. She

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
			does not say anything about making structures or organizational design simpler in form; rather she takes this approach of networks and boundaries organisms.
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	Both formal (liaison roles, cross-unit groups, integrator departments, matrix structure and service level agreements) and informal methods (technology-based collaboration tools, informal personal networks, social media channels and ad hoc meetings) which facilitate communication, integration and alignment between diverse units.	Put greater importance of across units coordination mechanisms and introduces other systems than mutual adjustments within the team.
Control perspective	How control is understood and seen from a given perspective?	Control mostly interpreted as governance, authority and strategic oversights	Stanford's authority can be seen as a form of control since both of these concepts allow to have decisions authority.

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		which ensures goal alignments. It is mostly concerned with power dynamics, resource allocation and the ability to shape organizational responses to change. It is about providing a coherent framework in which simultaneous stream of work can resiliently and with agility work in evolving conditions.	Complexity and uncertainty can be connected to the IOD concept of disturbances. In Stanford, this requires agility and resilience, and not only flexibility in giving control back to workers. It is more about strategic orientation toward future.
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Multi-levels strategies which include leadership practices, social media and frontline workers. There is no clear division in control levels, and it seems that focus is on strategic oversight, put on many levels by	While the IOD distinguishes between different control levels and tasks. In Stanford perspective the main control level is the strategic oversight and orientation. She acknowledges giving control back to workforce, but mainly because of the need of

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		distribution of agency, building ownership and creating adaptive capacity.	agility and alignment. So control levels have a structure more or less of heterarchy, yet, Stanford highly supports the idea of workforce involvement in decision making. Moreover, she acknowledges informal for of power which is also a source of decision authority.
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	Organizational structure is a framework for coordination and control but it is flexible, networked and temporary rather than hierarchical. The main focus is put on interconnection and flow of work, around which the structure is organized, thus coordination is main importance in creating structure. Yet, structure is also	Structure here has more reciprocal conception, comparing to the IOD. Structure and organizational structure are interrelated rather than structure following organizational design

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		a tool for adaptation and alignment with internal and external changes. Thus, structure is oriented around the coordination and might be a tool for strategic control.	
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Organizational design phase model with high design and operational design	Design here is treated more separately between high level organization and the operational organization. You start with macro design and then you try to fit the micro elements into tested high design. IOD have more unified concepts of designing. In Stanford it is detailed operational design which defines coordination and control requirements while in IOD it is general organizational design which creates control levels, interdependencies, etc.,
Relationship between	What is the relationship	Coordination and control are	Coordination and control are more separated in the

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
coordination and control?	between coordination and control?; To what extent they are separate or united concepts?	distinctive concepts, but as mechanisms they are complementary and interrelated. Coordination focuses on how parts of an organization work together, while control provides the framework within which this cooperation occurs. Control is used to enable coordination not to restrict it. But as concepts, they are mutually reinforcing aspects of organizational success.	IOD. Control is more connected to individual decision authority and dealing with disturbances while coordination focuses on interconnection and in fact reduction of disturbances. In Stanford it is more subtle distinction between concepts and the control is more for the sake of coordination rather than other way round.

APPENDIX 4: STANFORD (2022) DATA COLLECTION AND ANALYSIS

APPENDIX 4A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

Introduction:

- "*now organisation design is evolving to take on complexity - challenges that are new in themselves, that are of great significance to people and the planet, and that emerge and interact in surprising, often alarming, ways*" (Shillady, xvii),
- "*in its contemporary form, organisation design matters more than ever; it answers tougher questions, involves participants more frankly and demands more of them, and the values action over order*" (Shillady, xvii),
- "*arguably, no other discipline [organization design] has such power to help people and their leaders confront new realities and create enterprises fit for a turbulent word*" (Shillady, xvii),
- "*these decisions [organizational design decisions] are not always easy to make, especially in a landscape where organisations have become more interconnected and complex. Compounding the complexity is a never ending array of dynamic choices that bring with them tensions, difficulty and consequences, both intended and unintended*" (Salman, xviii),
- "*organisations face a never ending challenge of balancing continuity (supply) and change (demand)"* (Slinger, xviii),
- "*going beyond optimising this individual elements [business models, information systems, operational processes, product and service portfolios, team responsibilities, collaboration], purposeful organisation design will help you understand how they can be organised coherently as a system, and how to reshape their interplay to bring about a desire future*" (Guenther, xix),
- "*we are indeed at the somewhere between traditional, hierarchical command and control organisation and organisational forms that we have not yet seen come into the mainstream*" (Stanford, xxii).

Organizational design approach:

- "*although organisational structure is discussed in this book, it is not the main focus. Organisational structure -the arrangement of the different departments/units of an organisation and the different teams and roles working in each department/unit, in an ordered way -is only one of several elements in organisation design*" (p. 3),

- Throughout the book it seems that the structure is just a small part of organisational design and in fact organisational design it's not really about restructuring rather about creating assist them which can deal with complexity an interconnections of elements
- stand for even argued that: "*the focus on structure is a common one*" (p. 71) but this is not enough as presented by the article of 10 principles of organisational design,
- *"Even in traditional organisation there is rarely a single structure; most comprised several structures. This is because each structure has different attributes and business units need a structure that most efficiently and effectively delivered a products or services"* (p. 72),
- Either continuous approach or project approach (phases); they require different skills

Coordination:

- "*to explain in the differences between design and structure, consider the analogy of a vehicle. Like an organisation, vehicle comprises multiple interdependent elements aligned to deliver high performance*" (p. 3),
- Different definitions of organizational design cited:
    - *"what all these definitions have in common is that they view an organisation as much more than an organisation chart. They describe a system, comprising interdependent elements that collectively work to deliver a purpose*" (p. 5),
- Organizational design definition by Stanford: "*intentionally arranging people, work and formal organisational elements to effectively and efficiently achieve a business purpose and strategy*" (p. 5)
- "*A vehicle design will not deliver if its elements are designed in isolation. Designing an organisation takes a similar appreciation that organisational elements are interdependent and that the design would not deliver if its elements are designed in isolation*" (p. 5),
- "*organisation design requires system thinking: about the many elements of the organisation and the connection between them*" (p. 7):
    - System thinking: "*a set of synergistic analytic skills used to improve the capability of identifying and understanding the organisational elements and their interdependencies, predict their behaviours and device modifications to them in order to produce desired effect*" (p. 16),
    - "*a practical starting point is to accept the organisations are systems -that is, they are composed of interrelated and interdependent elements, "linked together*

by dynamics that produce an effect, create a whole new system or influence its elements" (OECD, as cited in Stanford, p. 29),

- Regardless of system thinking methods and definitions: "*what the definition have in common is references to interconnections, the understanding of dynamic behaviour, systems structure as a cause of the behaviour, and the idea of seeing systems as wholes rather than parts of silos"* (p. 30),
- In organization design work, this means, among the others to:
  - "*put desired outcomes 1st instead of institutional interest and resource control"* (p. 30),
  - "*promoting value based decisions (instead of simply regulating) to allow individual organisational units to set their own processes to achieve shared goals*" (p. 31),
  - "*designing functions and organisational units around users*" (p. 31),
  - "*involving senior management*" (p. 31),
  - "*inviting the participation of a critical mass of a cross representing different positions and roles*" (p. 31),
- Different models:
  - "*the models prompt conversations about the interactions, interdependencies, and relationships between the organisational elements. This moves the discussion away from a focus on one element - usually the structure -towards a discussion that is more likely to recognise the organisation as a system*" (p. 34),
  - "*they enable a step back from the day-to-day organisation -aiming to foster an impartial objectivity that facilitates constructive discussion about organisational elements and their relationships to the external ecosystem and environment; the way teams, roles and tasks or organised; the way business processes are run and the way value is delivered*" (p. 35),
  - "*most models forced a clear declaration of the organisation's purpose*" (p. 37):
    - Connected to control

- "*in organisation design, getting the units align organised coherently works to the benefit of the whole organisation*" (p. 8),
- Analogy to human body:

    - Processes, systems, organs, etc., work in harmony to enabling interaction with the environment,
    - The same should do organization, its part should enable the whole to interact with dynamic and complex environment,
- Structure: "*structure is the network of relationships that creates behaviour. The essence of structure is not in the things themselves but in the relationships of things*" (Karash, cited in Stanford, p. 66),
- "*Designing effective coordination and linkage between these various structures is a critical design activity*" (p. 72),
- Project phase: plan to transition:
    - "*the important thing to remember is that changes in one area have repercussions, intended or not, in another area*" (p. 128)
- Importance of stakeholders, governments, civil societies, workers, etc.; coordination expanded to coordinating efforts and interest of multiple stakeholders
- "*design can be primarily focused on one of the orders (for example, designing a new product) but designers must recognise that there will likely be an impact on, or interdependence with, the other orders [symbols, products, interactions and systems*" (p. 238):
    - Orders of design increase in complexity starting with low, discrete problems to high, holistic and networked problems,

Coordination and control:

- It seems like coordination is highly connected to strategic regulation in IOD; you coordinate multiple actions since you want to ensure that the purpose of organization is achieved!:
    - Because the approach to organizational design in much different that in other books!
    - It could be suggested that organizational design is a form of strategic regulation itself as it ensures that the goal of organization are constantly updated to the environment!
    - "*Organisation design is driven by the business purpose and strategy, the operating model and operating context*" (p. 7):

        - *"the design process starts with an assumption that leaders know and are agreed on the organisation's purpose, strategy and operating model*" (p. 14),
- "*organisations are social arrangements for achieving controlled performance in pursuit of an agreed purpose*" (p. 22),
- "*organisation design is a series of activities aimed at aligning all the elements of an enterprise in order to increase performance and deliver the business purpose and strategy*" (p. 28):
    - Coordination for the sake of strategic control!
- "*Because most organisation design is taking place in a complex context it requires systems approaches to help map the dynamics of the surrounding system, explore the ways in which the relationships between system components [elements] affect its functioning, and ascertain which interventions can lead to better results*" (OECD, as cited in Stanford, p. 33):
    - Taking system thinking allow to look at complex coordination needs to control them better, aka to deal with the disturbances connected to system complexity and interconnection!
- Project phase: transition:
    - "*key to successful transition is knowledge that all the contributing elements – systems, processes, technology, structures and capabilities - are operating In Sync to deliver the intended outcomes of the new design. This involves careful monitoring*" (p. 133):
        - Coordination requirements create control needs and possibly that is why they are not separated,
- Importance of social media:
    - "*social media use in the workplace has a positive impact on workers attitudes, motivation, engagement and performance. Its use helping them to collaborate, share ideas, solve problems, and support decision making*" (p. 151)
        - operational regulation, regulation by design and strategic regulation,
    - "*companies also use social media channels to contact employees on various matters including policy changes and announcements. The rise of social messaging platforms and the mixed personal/business use of them by employees has design consequences, including changing networks of interaction and influence, behaviours and knowledge and information flows*" (p. 151)

- In context of measurement: "*use data sources and approaches that reflect the interdependencies of the organisational elements and their impact on human performance and well-being*" (p. 195)

Control:

- "*Agreeing a strategy needs to occur before an operating model can be drawn up. The operating model describes the elements needed in order for the business to create value for customers and capture some of the value for itself. Organisation design turns the operating model into the reality of day-to-day business*":
    - Regulation by design possibly!
- "*Organisation design takes strong, thoughtfully used, future oriented mindsets and methods*" (p. 7):
    - "*It is beyond our ability to know what the future will bring. We cannot plan without errors, because we do not actually know anything about the future before it's already reality*" (p. 18):
    - Uncertainty as a disturbance which in Stanford view does not require giving control to the workers, rather it requires strategic orientation and organization design focus!
    - "*The form organisations take also make them more, or less, capable of meeting uncertainty*" (p. 20),
- "*the more everyone in an organisation fills in some control of what's going on and has input into things, the more likely it is that the end result will be one that they are motivated to work in: that is they will be committed rather than simply compliant*" (p. 48),
- "*designs that effectively deliver desired business results do not just happen. They are outcome of deliberate attention involving [among the many others] assessing the contexts, problems and opportunities confronting the organisations and its need for design change; […] burn in mind the constant organisational flux and change*." (p. 106):
    - Strategic regulation possibly
- Project phase: assess:
    - "*internal and external scans are frequently conducted by way of an acronym: PESTLE […]. The letters stand for political, economic, social, technological, legal, environmental/ethical. The internal and external scans look at each of*

these and assess what impact any findings might have on the proposed design" (p. 118)

- Project phase: design:
    - "*focuses on the proposed future state of the organisation. This means the purpose, strategy an operating model and the design that will best deliver this as far as is possible from what is known or imagined today*" (p. 121),
    - Possible regulation by design,
    - By walking through, scenarios, piloting, digital twinning and large-group intervention (125-127),
- Project phase: optimise:
    - Possible operational regulation
- Continuous approach skills:
    - "*Signal detection, pattern recognition, and meaning-making are critical skills needed for continuous organisation design. These free skills essentially relate to the ability to identify early warning signs that change is needed (signal detection); the ability to detect broader examples of similar behaviour within the organisation (pattern recognition); and the ability to analyse that So what of a particular change (meaning-making)*" (p. 153)
    - Strategic regulation,
    - Signal detection:
        - "*Means reflecting carefully on these trends, identifying which to pay attention to in the context of the specific organisation and its business strategy. The skill in looking at these trends is not losing sight of the fact that they are interrelated*" (p, 156),
        - Importance of weak signals, socio-technical inputs: software changes, human groups, etc.,
    - Pattern recognition:
        - "*Recognising patterns in the signals and the data they are embedded in, is a way to understand, organise and classify information, and it is an innate cognitive process in humans*" (p. 157),
        - "*it is best to involve multidisciplinary teams with diverse perspectives and the ability to challenge assumptions, think critically and offer different interpretations*" (p. 158)
    - Meaning-making:

        - "*articulating an giving expression to what that pattern stands for, well it means for the individuals in an organisation, and what it means for the operation of the organisation as a whole"* (p. 161),
        - "*meaning-making can come from anyone in the group, though usually the meaning is voiced by someone who listens well, is close to the rhythm of the group and is expressive*" (p. 161):
            - Not only managers!!!
- External and internal context factors:
    - External: new technologies and business models, responsibility for the future and market changes,
    - Internal: governance, psychological contracts, workforce demographics,
- "*measurement is also for control: to check, for example, whether accountabilities are being correctly assigned, or whether targets are being met, or where progress or performance is not as expected*" (p. 192),
- Importance of stakeholders trust, goodwill and advocacy for support of company:
    - not only institutional trust but also personal one,
    - "*in conditions of change and uncertainty there is a greater need for trust because people feel vulnerable*" (p. 253),
    - To control is not command and control but to lead, and people need to have trust in management

Engaging workforce in organizational design (strategic regulation):

- "*1st, involving a good cross section of the organisation in carrying out the design work -either as reviewers of the work as it progresses, or project team members, or as advocates with a real role to engage colleagues in their thinking or any combination of these*" (p. 23),
- "*the second way to address the tension of formal organisation and social dynamics is to involve the work force in ongoing discussions and reviews on the organisation design. It is the ground-level/frontline workers who understand on a day-to-day basis where design could be improved*" (p. 23),
- "*A key variable in the selection [of appropriate organizational structure] is the operating context -both internal and external -which changes over time […], The organisational structure needs to be able to adjust to situations of different scope and*

scale and be able to incorporate other organisations and stakeholders that may have an important role we have all day to them hereto play in the circumstances" (p. 72):

  - Regulation by design → creating such as organizational structure which expresses coordination and relationships that can deal with disturbances in internal and external environment!

- Structure needs to be: flexible in scale, flexible in scope, capable of distinguishing roles, cup able of re-establishing situational awareness in the context of novelty and significant uncertainty; capable of improvisational design; capable of fault tolerant execution (p. 72-73),
- Establishing design authority (almost like a task force or team): "*the membership of the design of authority would comprise A diverse representation of levels, functions, professions in the organisation, and meet every month or so, to consider 3 questions [connected to continuous design skills]*" (p. 180)
  - "*preventing a design authority from becoming a bureaucratic, talk shop rather than a reflective, quick witted, innovative centre for continuous organisational alignment and design effectiveness is, however, a challenge for most organisations*" (p. 184),
- "*one of the principles of organisation design is that it involves social interactions and conversations. Inviting a diversity of views to help define success helps determine appropriate measures that reflect how the new design contributes to the overall organisational purpose and strategy. This is important if the design work is within, say, 1 business unit, because it helps people remember that their piece of work is one element in a whole system. People often forget that what they do in their part of the organisation is interdependent with other parts*":
  - Coordination and control consideration
- "*only when metrics are defined by teams and individuals can people pushed forward with their own unique perspective and expertise*" (p. 213),
- Case study of High Mark Finance:
  - "*he went on field trips to see what was happening with customers and staff day-to-day. It is easy for managers to lose touch with the frontline operation and turf or not to experience it as customers and staff do. Recognising this, some organisations have introduced programmes that encourage contact with parts of the business from which managers are normally remote. The programmes take different forms: shadowing staff, becoming a staff member for a short period,*

Buying the companies good through the channels that the customers use and variations on these themes. The idea is to help managers identify an understand what the blockage is and what needs to happen to encourage staff and customers to trust the organisation, develop an active goodwill to it and speak highly of it to others" (p. 263),

- "*organisation design success hinged on the complex interactions of four broad leadership groups*" (p. 270),
    - *internal former leaders: "those appointed to a leadership role within an organisation*" (p. 270):
        - *" it is usually formal leaders who trigger design work by setting an spur heading a new direction or vision for a group, either through a set of principles or attributes which frame organisational direction, or through a clear directional target"* (p. 271):
            - Strategic control role
        - *"one of the roles for senior leadership is making sure the designs are co-ordinated and the interdependencies between them run smoothly"* (p. 272)
        - Different form of powers:
            - Power over: enabling leaders to: "*wield authority or commands people to do things, take decisions on behalf of others, guard resources they considered theirs, and determine messaging to other*s" (p. 274)
            - "*in this flatter, more self-managing organisation, the role of leaders is to support the creation of the conditions for success without specifying exactly what success look like. This requires leaders to have the individual power within to cope with uncertainty; the ability to use power wealth to develop interpersonal alliances, networks and the informal organisation; and the power to use symbolism and the management of meaning to encourage continuous organisation design*" (p. 275)
    - *external formal leaders: "those in government, regulatory or expert advisory roles*" (p. 270):
        - *"governments and regulators can direct organisations to do something"* (p. 279)

    - *internal informal leaders: "those who take on a leadership role within an organisation but have no formal appointment to i*t" (p. 270):
        - *"people without appointed formal power in the hierarchy but who have a level of informal power that enables them to influence organisational members. Often, they have a strong network and a credible voice amongst peers"* (p. 281),
    - *external informal leaders: "those by virtue of visibility and/or credibility had movements or sway option*" (p. 279):
        - *"also known as influencers, opinion leaders, or taught leaders. […] typically, they are individuals who have stature and credibility -they may be experts within an industry or sector, or they may simply have views that are both widely known and trusted" (p. 287)*
    - broader picture control in form of impact on organisation

Structures:

- Functional: "highly traditional, deriving from the Taylorist view, and is often found in strong command and control organisation" (p. 79):
    - because it focuses on maximising margins and leveraging economies of scale and functional expertise it is quite easy to control because there are some common standards and expertise,
- divisional/product structure: "Each division runs as an independent business unit" (p. 79):
    - more coordination than control because there are perceived low synergies between products and there are differences in processes models distribution channels, requirements, environments etc.,,
    - if we are OK with divisional product structure, it is quite popular in big international and and diversified organisations then why not to use it on a macro scale within the units or within the organisation within the teams!
    - The difference is that here we try to or we need to create a lot of coordination mechanisms because there are so many differences between divisions
- Matrix structure: "*can work well in dealing with increasingly complex challenges that modern organisation face but they can increase ambiguity, slow decision making and blur accountabilities*" (p. 81):

    - It is in fact the most complex form of organizations with multiple coordination nodes!!
- Project structures: "*temporary structures set up to deliver a one time piece of work with beginning and end dates*" (p. 82),
- Newer structures:
    - 3 trends which make traditional structures less suitable:
        - *"the rapid pace of change and dynamic contexts shift requiring employees to respond more quickly than managerial controls and reporting relationships allow*" (p. 83):
            - That's why IOD proposes to give control back to workers,
        - *"the growth and knowledge based work meaning that managers rarely have the full expertise needed to solve organisational problems. Rather, individuals at all organisational levels must contribute information and ideas for their organisations to succeed* (p. 83):
            - Again, separation does not allow for successful operation of organization
        - "*the trend towards doing work and organisation as places for personal meaning, where employees have control over their work and are not subjugated to managerial power*" (p. 83),
    - "*many organisations are moving towards more flexible, self-managing structures, based on collaboration and networks of shifting patterns/alliances. In these structures, here are fickle authorities are less obvious and control is more diffused - leadership and management may be tide not to hierarchy but expertise or experience or specific attributes*" (p. 83)
    - Agile structure, network structure,, holacratic structures,
- Consideration for structures:
    - Speed,
    - Integration (size and shape),
    - Flexibility/role clarity,
    - Innovation,
    - Control,
    - Layers and spans

APPENDIX 4B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	**Questions**	**Quotes**
Coordination perspective	How coordination is understood and seen in a given perspective?	"*to explain in the differences between design and structure, consider the analogy of a vehicle. Like an organisation, vehicle comprises multiple interdependent elements aligned to deliver high performance*"
		"*what all these [organizational design] definitions have in common is that they view an organisation as much more than an organisation chart. They describe a system, comprising interdependent elements that collectively work to deliver a purpose*"
		Organizational design: "*intentionally arranging people, work and formal organisational elements to effectively and efficiently achieve a business purpose and strategy*"
		"*organisation design requires system thinking: about the many elements of the organisation and the connection between them*"
		"*a practical starting point is to accept the organisations are systems -that is, they are composed of interrelated and interdependent elements, "linked together by dynamics that produce an effect, create a whole new system or influence its elements*"
		"*in organisation design, getting the units align organised coherently works to the benefit of the whole organisation"*
		Analogy to human body
		Importance of stakeholders, governments, civil societies, workers, etc.; coordination expanded to coordinating efforts and interest of multiple stakeholders

Theme/dimension	Questions	Quotes
		"*design can be primarily focused on one of the orders (for example, designing a new product) but designers must recognise that there will likely be an impact on, or interdependence with, the other orders [symbols, products, interactions and systems"*
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	"*Designing effective coordination and linkage between these various structures is a critical design activity"*
		Social media for collaboration and sharing idea
Control perspective	How control is understood and seen from a given perspective?	"*most [organizational design] models forced a clear declaration of the organisation's purpose*
		"*Agreeing a strategy needs to occur before an operating model can be drawn up. The operating model describes the elements needed in order for the business to create value for customers and capture some of the value for itself. Organisation design turns the operating model into the reality of day-to-day business"*
		"*It is beyond our ability to know what the future will bring. We cannot plan without errors, because we do not actually know anything about the future before it's already reality"*
		"The form organisations take also make them more, or less, capable of meeting uncertainty"
		designs that effectively deliver desired business results do not just happen. They are outcome of

Theme/dimension	Questions	Quotes
		deliberate attention involving [among the many others] assessing the contexts, problems and opportunities confronting the organisations and its need for design change; […] burn in mind the constant organisational flux and change
		Importance of external and internal context factors,
		"*measurement is also for control: to check, for example, whether accountabilities are being correctly assigned, or whether targets are being met, or where progress or performance is not as expected"*
		Engaging workforce in organizational design,
		"*1st, involving a good cross section of the organisation in carrying out the design work -either as reviewers of the work as it progresses, or project team members, or as advocates with a real role to engage colleagues in their thinking or any combination of these*"
		"*the second way to address the tension of formal organisation and social dynamics is to involve the work force in ongoing discussions and reviews on the organisation design. It is the ground-level/frontline workers who understand on a day-to-day basis where design could be improved"*
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Organizational design works requires to: • put desired outcomes 1st instead of institutional interest and resource control • promote value based decisions (instead of simply regulating) to allow individual organisational units to set their own processes to achieve shared goals

Theme/dimension	Questions	Quotes
		• design functions and organisational units around users • involve senior management • inviting the participation of a critical mass of a cross representing different positions and roles,
		Social media use for solving problems and supporting decision making
		Assess phase of organizational design: "*internal and external scans are frequently conducted by way of an acronym: PESTLE […]. The letters stand for political, economic, social, technological, legal, environmental/ethical. The internal and external scans look at each of these and assess what impact any findings might have on the proposed design:*
		Design phase of project tools: walking through, scenarios, piloting, digital twinning and large-group intervention
		Continuous approach skills: • signal detection, • pattern recognition, • meaning-making
		"*the membership of the design of authority would comprise A diverse representation of levels, functions, professions in the organisation, and meet every month or so, to consider 3 questions [connected to continuous design skills]*"
		"*only when metrics are defined by teams and individuals can people pushed forward with their own unique perspective and expertise"*
		High Mark Finance case study
		4 broad leadership groups:

Theme/dimension	Questions	Quotes
		• internal formal leaders • external formal leaders, • external informal leaders, • internal informal leaders
		Power over or power with,
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	*"although organisational structure is discussed in this book, it is not the main focus. Organisational structure -the arrangement of the different departments/units of an organisation and the different teams and roles working in each department/unit, in an ordered way -is only one of several elements in organisation design"*
		"*Even in traditional organisation there is rarely a single structure; most comprised several structures. This is because each structure has different attributes and business units need a structure that most efficiently and effectively delivered a products or services"*
		"*the models prompt conversations about the interactions, interdependencies, and relationships between the organisational elements. This moves the discussion away from a focus on one element -usually the structure -towards a discussion that is more likely to recognise the organisation as a system"*
		"*structure is the network of relationships that creates behaviour. The essence of structure is not in the things themselves but in the relationships of things"*
		• Project phase: transition: o *"key to successful transition is knowledge that all the contributing*

Theme/dimension	Questions	Quotes
		elements –systems, processes, technology, structures and capabilities - are operating In Sync to deliver the intended outcomes of the new design. This involves careful monitoring"
		A key variable in the selection [of appropriate organizational structure] is the operating context - both internal and external -which changes over time […], The organisational structure needs to be able to adjust to situations of different scope and scale and be able to incorporate other organisations and stakeholders that may have an important role we have all day to them hereto play in the circumstances
		3 trends which contribute to new structures:
		many organisations are moving towards more flexible, self-managing structures, based on collaboration and networks of shifting patterns/alliances. In these structures, here are fickle authorities are less obvious and control is more diffused - leadership and management may be tide not to hierarchy but expertise or experience or specific attributes"
		Consideration for structures: • Speed, • Integration (size and shape), • Flexibility/role clarity, • Innovation, • Control, • Layers and spans

Theme/dimension	Questions	Quotes
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Organizational design phase model: • Project phase: plan to transition: o "*the important thing to remember is that changes in one area have repercussions, intended or not, in another area"* • Transition • Assess: • Design: o "*focuses on the proposed future state of the organisation. This means the purpose, strategy an operating model and the design that will best deliver this as far as is possible from what is known or imagined today*" • Optimize:
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	In latest work of Stanford, there is visible greater unification of terms coordination and control.
		"*Organisation design is driven by the business purpose and strategy, the operating model and operating context"*
		"*the design process starts with an assumption that leaders know and are agreed on the organisation's purpose, strategy and operating model"*
		"*organisation design is a series of activities aimed at aligning all the elements of an enterprise in order to increase performance and deliver the business purpose and strategy"*
		"*organisations are social arrangements for achieving controlled performance in pursuit of an agreed purpose"*

Theme/dimension	Questions	Quotes
		"*Because most organisation design is taking place in a complex context it requires systems approaches to help map the dynamics of the surrounding system, explore the ways in which the relationships between system components [elements] affect its functioning, and ascertain which interventions can lead to better results"*
		Transition phase of project connects both coordination and control requirements into one.
		"*companies also use social media channels to contact employees on various matters including policy changes and announcements. The rise of social messaging platforms and the mixed personal/business use of them by employees has design consequences, including changing networks of interaction and influence, behaviours and knowledge and information flows"*
		Social media as a tool for both coordination and control; without clear distinction
		Measurements: "*use data sources and approaches that reflect the interdependencies of the organisational elements and their impact on human performance and well-being"*
		"*Inviting a diversity of views to help define success helps determine appropriate measures that reflect how the new design contributes to the overall organisational purpose and strategy. This is important if the design work is within, say, 1 business unit, because it helps people remember that their piece of work is one element in a whole system. People often forget that what they do in their part of the organisation is interdependent with other parts"*

APPENDIX 4C: SYNTHESIS TABLE:

Theme/dimension	**Questions**	**Conclusions**	**IOD comparison and contrast**
Coordination perspective	How coordination is understood and seen in a given perspective?	Coordination here have broader perspective, including also the interconnections and relationships with external environment. Coordination now is more about alignment of processes, models, people etc., and not just teams and diverse units. Also, coordination now specifically includes external stakeholders.	Coordination as a task of organizational design to ensure connection between internal, external environments and various elements of organizations, including processes, models and people. Greater focus on groups of stakeholders and their impact and interest rather than just the focus on team mutual adjustment.
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	Acknowledging structural linkages needed for coordination which are one of the focus of organizational design. Now greater inclusion of social media as collaborative platforms.	Acknowledges importance of connection between various units within organization but also the connection with diverse stakeholders. Now, it takes less hierarchical or structural approach on linking mechanisms rather

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
			than focuses on networked connections and social media possibilities.
Control perspective	How control is understood and seen from a given perspective?	Control is about alignment and agility with uncertain and complex environment. It has strategic orientation and has more dynamic and shared characteristics. It is exercised by engagement of people but also data-driven insights and inclusion of different perspectives from diagonal pie of organization. Organization design now as a tool for alignment and agility	Focus is more on business purpose and strategy which drives control needs. Because of uncertainty in environment organization needs to be agile and easily adaptable. To control is not to command and control but to lead. Control also seen from broader view as a form of impact on organization
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	No clear division between levels, yet control has mainly strategic oversight. It includes formal and informal mechanisms like social media or different leadership groups. Possible tools which	Technology allows to combine different controls level of IOD into one space in Stanford view (e.g. social media). Operating model is based on strategy and it describes the

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		enable controlling internal and external environments are: • PESTLE scanning, • Participatory design, • Scenario planning, • Patter recognition, • Signal detection, • Meaning-making, • Team-defined metrics	elements needed for business to create value → that could be connected to regulation by design. Uncertainty as a disturbance which does not require totally giving control to workers, rather it requires strategic orientation and organizational design focus. Different project phases can be seen as elements of different regulatory activites.
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with	Structure is not the focus but a component of larger system. Nowadays it has tendency to be network-based with diffused control and fluid authority. Specific business needs and purpose are drivers of structural solutions. Structure needs to allow for speed in decision making, flexibility,	Focus on organizational structure is not enough since it is only a small part of organizational design. Organizational design needs to be about the restructuring which allows to deal with complexity and

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
	coordination and/or control	innovation and role clarity. Thus, structure must be more adaptable to uncertain events	interconnections of elements. Structure as a tool for dealing with complexity of the environment
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Design can be treated as continuous activity or phase project.	No generic rules. The phase project model now is only shortly elaborated in one chapter. Organization design rules is only to ensure that design allows for alignment and dealing with uncertainty
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	More unified view of coordination and control. Often, goal or the means of coordination and control are in fact the same. Thet are intertwined facets of organizational design rather than separate units which reinforce each other. Now greater focus on control seen as agility and alignment. Coordination is in fact for the sake of control to be able to deal with external	Coordination now is connected to strategic regulation since you deal with multiple actors and actions to ensure that purpose and goal of organization can be achieved. Since approach to organization design is much different, it can be argued that organization design is a form of strategic regulation itself as it

Theme/dimension	Questions	Conclusions	IOD comparison and contrast
		and internal environment. Interconnections create control needs and posily that is why control and coordination are not separated	ensures that the goal of organization are constantly updated to the environment. System thinking now look at coordination to control the complexity better.

APPENDIX 5: GALBRAITH (1973) DATA COLLECTION AND ANALYSIS

APPENDIX 5A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

Introduction:

- "*no longer [organizational design/development] is it a field in search of clear self-definition. We now find a large number of books and articles on OD and many competing models of what OD is and should be*" (Schein et al., 1973),

Coordination:

- "*the implicit assumption underlying the use of matrix designs is that we cannot find authority structures in the form of product divisions, regional departments, programmes, functions, etc., which will encompass all the activities which require coordination*" (p. vii):
    - it suggests it would be better if we could find other forms, perhaps easier forms to coordinate,
- work highly influenced by Thompson as also mentioned in preface of book – main focus coordinating activities,
- 2 considerations in organization design problem based on Lawrence and Lorsch:
    - Differentiation: "*the first is to organise each subtask in a manner which facilitates the effective performance of that subtask*" (p. 3):
        - Division of labour,
    - Integration: : "*the other aspect of the design problem is to provide for the integration of the differentiated subtask so as to achieve successful completion of the whole task*" (p. 3):
        - Coordination of division of labour
    - "*the greater the differences between the two sub tasks the more difficult is to achieve effective collaboration*" (p. 3):
        - The greater the differentiation, the more difficult the integration,
- "*the design problem arises because the behaviour that occurs in one of these sub task cannot be judged as good or bad except in relation to the behaviours occurring in other subtasks. The behaviours must be coordinated, but in organisation of any size, each employee cannot possibly communicate with all the others with whom he is interdependent"* (p. 109),

- "*specialisation results in interdependence between roles. High technology causes enough uncertainty that areas of jurisdiction cannot be defined ahead of time. in some organisations, such as the multinational one, there is always something wrong with any structure it chooses – […]. Since ambiguity and conflict exist between rather than within roles more attention has been given to the process of resolving conflict between roles"* (p. 145),

Control:

- mostly visible by influence of Simon work about decision process: limited capacity of individuals to make decisions,
- uncertainty and information:
    - "*uncertainty is defined as the difference between the amount of information required to perform the task and the amount of information already possessed by the organisation*" (p. 5):
        - "*the amount of information needed to perform a task is a function of (1) the diversity of the outputs provided as measured by the number of different products, services or clients, (2) the number of different input resources utilised as measured by the number of different technical specialties on a project. Number of different machines centres in a factory. Etc., and (3) the level of goal difficulty or performance as measured by some efficiency creation such as percentage of machine utilisation*" (p. 5)
    - "*the greater the uncertainty of the task, the greater the amount of information that has to be processed between decision makers during its execution*" (p. 4),
    - "*it is not uncertainty per se that is of interest. It is information processing, and specifically information processing during actual task execution, that is the key concept*" (p.5):
        - Control as a processing information already possessed by workers.
    - In IOD: "the greater the uncertainty the greater control needs for lower levels workers,
    - "*if the task is well understood prior to performing it, much of the activity can be pre planned*" (p. 4):
        - Also, in the IOD e.g. in the form of regulation by design,

    - "*the greater the task uncertainty, the greater the amount of information that must be proceed among decision makers during task execution in order to achieve a given level of performance*" (p. 4),
    - To control you need to "*change required information processing during task performance*" (p. 4),
    - "*it is hypothesised that the observed variations in organisational forms are actually variations in the strategies of organisations to (1) increase their ability to pre plan, (2) increase their flexibility to adapt their inability to pre-plan, (3) to decrease the level of performance required for continued viability*" (p. 4),
- "*as the volume of information becomes substantial, the organisation either finds ways to process the information or discovers ways to avoid having to do so*" (p. 6):
    - the goal of IOD is to actually avoid processing that much information,
- "*the organisation must adopt a strategy to either reduce the information necessary to coordinate its activities or increase its capacity to process more information*" (p. 14),
- Control as possibility of dealing with task uncertainty,
- Creation of slack resources and self-contained teams more connected to control,
- "*at least a substantial minority of the team or task force must consist of managers who will subsequently be held responsible for the implementation of the joint decision"*:
    - Control as a responsibility hold,
- To make lateral processes effective:
    - There must be perceived importance and rewards,
    - Line mangers need to be assigned,
    - *"Participants must have information relevant to the decision" (p. 56):*
        - "*more subtle aspect of this point is the choice of the level of the organisation from which a participant must come. The level will vary with each department, depending on the pattern of interdependence and task uncertainty within each department*" (p. 57),
        - "*one response to the lack of detailed knowledge is to bring subordinates in with the manager. […] appropriate solution is to have lower level personal represented department. These people are usually first and second level technical people. They are the ones who are in day-to-day contact with the technology,*
    - *"participants must have the authority to commit their department"* (p. 57):

        - *"But if information overloads are to be the relieved by lateral relations, the group must arrive at and carry out decisions that would normally have been made higher levels. This means that line managers must participate, be willing to participate, and come from that level of the organisation which has both the relevant information and the authority to commit resources" (p. 57),*
    - Influence based on knowledge and information:
        - *"the task forces should represent diagonal cut across the organisation*" (p. 58),
    - Lateral processes must be integrated into the vertical processes:
        - "*the team decision processes are not intended to undermine but to complement the normal budgeting and resource allocation decisions. Lateral processes are used in addition to vertical processes. They are not replacements. The lateral processes are necessary by the need for more decision making at lower levels*" (p. 58),
    - Part time and full time composition,
    - Conflict resolution practices:
    - Group and interpersonal skills,
    - Leadership.
- "*There is a continuum of relative power in the decision process; it varies from a predominantly resource-based structure, like the container firm, all the way to a self-contained, programme based structure*" (p. 113),
- "*increases in uncertainty, diversity, and performance exert pressures to move the organisation to the [product-authority structure]. Increases in specialisation and economies of scale exert forces to move the organisation to [functional-authority structure]. Where the organisation should be depends on the sum of these factors. When opposing forces are equally strong, the matrix design results*" (p. 116-117)
- "*the organisation cannot get rid of ambiguity. It is inherent in every task*" (p. 146)

structures:

- mechanistic model:
    - "*the result is a division of labour which involves considerable interdependence and tear for coordination among the groups*" (p. 8-9),

- "*the organisation is simply too large to permit face-to-face communication to be the mechanism for coordination*" (p. 9):
  - similar to Mintzberg, face-to-face or mutual adjustment is the purest form of coordination which cannot always be applied,
- because organization is that large, and amount of information processing increases with uncertainty, organization needs to find a new way to coordinate the actions, by control:
  - rules, programmes, procedures:
    - "*the simplest method of coordinating interdependent subtasks is to specify the necessary behaviours in advance of their execution in the form of rules of programmes*" (p. 10):
    - "*the primary virtue of rules is that they eliminate the need for federal communication among the subunits*" (p. 10).,
    - "*the use of rules and programmes as coordination devices is limited, however. It is limited to those job related situations which can be anticipated in advance and to which an appropriate response can be identified*" (p. 10-11):
      - could be possibly the regulation by design made by the workflow as they find ways for improvement,
  - hierarchy:
    - "*the information collection and problem solving activities may be substantial. To handle this task new roles are created, called managerial roles, and arranged in a hierarchy. The occupants of these roles handle the information collection and decision making tasks necessitated by uncertainty*" (p. 11):
      - Control which overview the process,
    - "*it is important to point out that the hierarchy is employed in addition to, not instead of, the use of rules*" (p. 12
    - Control for the sake of coordination
    - "*the weakness of hierarchical communication systems is that each link has finite capacity for handling information*" (p. 12),
  - Targeting or goal setting:

- "*as task uncertainty increases, the volume of information from the points of action to points of decision making overload the hierarchy. In this situation it becomes more efficient to bring the points of decisions down to the points of action where the information originates*" (p. 12):
    - IOD does this!!
- "*However, as the amount of discretion exercised at lower levels of the organisation is increased, the organisation faces a potential behaviour control problem*" (p. 12).
- "*Shift from control based on supervision and surveillance to control based on selection of responsible workers. Workers who have the appropriate skills and attitudes are selected*" (p. 13):
    - Importance of choosing right people for working in environment where workers have substantial decision-making power
- "*goal setting helps coordinate interdependent subclass and still allows discretion at the local sub task level. Instead of specifying specific behaviours through rules and programmes, the organisation specifies targets to be achieved and allows the employees to select behaviours appropriate to the target*" (p. 13-14),
- "*the violation of plant targets usually requires additional decision making and hence additional information processing. The additional information processes takes place for the hierarchy in the same way that rules exceptions were handled. […] However, as the organisation performs more uncertain tasks, […] the hierarchical channels become overloaded once again*" (p. 14).

- "*The upward referral process, which was needed to generate decisions when exceptional events occurred, became overloaded as highly uncertain task generated large numbers of exceptions*" (p. 109)

- "*Observed variation in organisation form represent variations in the strategies of organisations to adapt to information processing requirements*" (p. 108),

- "*thus as patterns of interdependence, task uncertainty, diversity and external conditions change, the organisation must change its decision making structure in order to remain effective*" (p. 119)

Design Strategies:

- *"as task uncertainty increases, the number of exceptions increases until the hierarchy is overloaded. Then the organisation must employ new design strategies. Either it can act in two ways to reduce the amount of information that is processed, or it can add in two ways to increase its capacity to handle more information. […] the effect of all these actions is to reduce the number of exceptional cases referred upward into the organisations for hierarchical channels*" (p. 15)
    - both of them leads to simplifying at least the use of hierarchical structure
- creation of slack resources: "*reducing the required level of performance*" (p. 15):
    - *"slack resources are an additional cost to the organisation or the customer"* (p. 15)
- Creation of self-contained tasks:
    - "*change from the functional task design to one in which each group has all the resources it needs to perform its tasks*" (p. 16)
    - IOD does this exactly!!!
    - "*It reduces the amount of output diversity faced by a single collection of resources*" (p. 16)
        - Less task uncertainty
    - "*the second source of information reduction occurs through a reduced division of labour. […] since the division of labour is determined by the extent of the market, the division of labour must decrease as demand decreases*" (p 16),
- *"[creation of slack resources and self-contained task] reduce overloads on the hierarchy by reducing the number of exceptions that occur*"(p. 17),
- *"[investment in vertical information systems and creation of lateral relations] take the required level of information as given, and create processes and mechanisms to acquire and process information during task execution" (p. 17):*
    - if we are applying creation of slack resources and self-contained task already then why not to use two other strategies to deal with the remained coordination needs
- Investment in vertical information systems:

    - "*mechanisms which allow it to process information acquired during task performance without overloading the hierarchical communication channels"* (p. 17),
    - "*investment may be required to increase the capacity of the decision maker by employing computers, various man machine combinations, assistants-to, etc. The cost of this strategy is the cost of information processing resources*" (p. 17),
    - "*the investment strategy is to collect information at the point of origin and direct it, at appropriate times, to the appropriate places in the hierarchy*" (p. 17-18),
- Creation of lateral relations:
    - "*selectively employ lateral decision processes which cut across line of authority. This strategy moves the level of decision making down to where the information exists rather than bringing that up to the point of decision. A decentralises decisions but without creating self-contained groups*" (p. 18),
    - "*as more decisions and more decision of consequences are made at lower levels of the organisation through interdepartmental groups, problem of leadership arise. the response is the creation of a new role, an integrating role*" (p. 18):
        - Increased coordination needs create control issue for leadership,
    - "*Lateral relations permit the moving of decisions to lower levels of the organisation and yet guarantee that all information is included in the process*" (p. 19)
- Organization needs to choose at least of the strategies:
    - "*Not to decide is to decide, and it is to decide upon slack resources as the only strategy for removing hierarchical overload*" (p. 19).

Information reduction strategies:

- "*the amount of information is reduced by reducing the level of performance, division of labour, or diversity of output*" (p. 22),
- Slack resources and self-contained teams,
- Slack resources:
    - "*the organisation responds by increasing the resources available rather than by utilising existing resources more efficiently. It does this not because of poor management but because it does not have the information processing and computational capacity to deal with the coordination requirements of*

interdependence. Instead, it creates additional resources by reducing performance standards." (p. 24-25),

- "*the greater the uncertainty, the greater the cost. Whether slack is chosen as the policy with which to absorb increase uncertainty depends on the relative cost of the other three strategies*" (p. 26),

- Creation of self-contained tasks:
  - "*by creating self-contained products divisions many of the overload problems disappeared*" (p. 26),
  - "*the output diversity faced by a single collection of resources is reduced. Reduce diversity reduces the information processing needed to schedule an reschedule the demands for shared resources. The problem is eliminated by eliminating the sharing. Second, there is usually a reduction in the division of labour and therefore fewer distinctively different resources whose work needs to be coordinated and scheduled. Both of these effects mean that less information is required to coordinate work across interdependent, specialised resources and to set priorities across demands for scarce, shared resources. 1/3 effect of self-contained groups is that the point of decision is moved closer to the source of information*" (p. 26-27):
    - <u>at the same time, as IOD shows, sometimes it is impossible to eliminate sharing.</u>
  - "*No group is completely self-contained, or else it would not be a part of the same organisation*" (p. 27)
  - "*the greater the diversity of the outputs and the greater the task uncertainty, the greater the self-containment*" (p. 27),
  - "*Thus for a given level of diversity an uncertainty, the greater the economies of scale, the lesser degree of self-containment. Serious problems develop if a function is critical to providing the output, and therefore should be a part of the self-contained group, but also possesses economies of scale, and therefore should be centralised this case is best handled with lateral relations*" (p. 28).
  - "*Traditionally, most organisations have responded to information overload by setting up self-contained units. This strategy allowed them to utilise competitive, free market cultural values inside the organisation. However, individual responsibility and competition were effective motivating forces only if there was little need for cooperation between roles. To the degree that interdependence*

could be self-contained, then all the ambiguity, uncertainty, and the conflict were contained within a single role" (p. 145)

- "*The effect of the design action is to reduce the interdependence between subunits, those reducing the amount of information that must be proceed during execution of the task. […] decisions are moved closer to the origin of information*." (p. 29)

Increasing information processing strategies:

- Vertical information systems:
    - "*This strategy increases the capacity of existing channels of communication, creates new channels, and introduces new decision mechanisms*" (p. 30),
    - "*The effect of investing in a vertical information system is the same as creating slack resources and self-contained tasks -there are fewer exceptions referred up the hierarchy. […]. While the result is the same, the nature of the design choices and their costs are quite different"* (p. 30)
    - Dimensions of vertical information system; variables:
        - "*Decision frequency or timing of information flows to and from the decision mechanism*" (p. 31):
            - "*The shorter the interval between plans, the fewer the number of exceptions*" (p. 32),
            - "*the reduction in exceptions is gained at the cost of more processing of information at planning time*" (p. 32)
        - "*the scope of the database available to the decision mechanism" (p. 31):*
            - Local vs global data,
            - "*The scope of the database available to the decision mechanisms affect its ability to coordinate activities in one part of the organisation with those in other part of the organisation*" (p. 32),
            - "*the greater the interdependence between subunits, the greater the need for a global database*" (p. 32),
            - "one of the ways in which a global database is implemented is by creating new direct information channels to a position in the hierarchy which has the global goal orientation required to reach high quality decisions. This kind of global system avoids that sequential processing of the hierarchical channels and reduces

filtering and delays. The cost is the resources utilised to maintain additional information channels" (p. 32),

- "*bringing information up to points of decision has as its primary virtue the avoidance of the problem of behaviour control*" (p. 33),
- "*Global goal orientation can be created by using strategy 2 employ self-contained, autonomous groups at low levels of the organisation. Another way is to design global incentive and reward system. And the third method is to employ lateral relation*s" (p. 33)
- *"too often the expedient of avoiding the behaviour control problem is chosen, and the decision mechanism is placed high in the hierarchy. […] Once computer are employed, many of the cognitive limiting factors disappear or no longer limit effectiveness. Organisations become limited by motivation, corporation, and the conflict-resolving technologies*" (p. 33):
    - Visible in current organizational design approaches, too much focus on behaviour control rather than choosing the right people and right processes and technologies!

- *"the degree of formalisation of the information flows to and n from the decision mechanism*: (p. 31):
    - Of language, categories for collecting and reporting information, etc.,,
- "*The capacity of the decision mechanism to process information and select the appropriate alternative*" (p. 31):
    - "*the capacity of the decision mechanism must be expanded with respect to its timing, scope, and formalisation*" (p. 34),
    - Either manager, group decision-making, machines, etc.

- Prototype information systems:
    - "*a more costly system is required when an organisation is faced with greater task uncertainty and greater task interdependence*" 9p. 36),
        - Cost!!!
    - Local-periodic system:

- "*so while the system is simple and inexpensive, it ignores interdependence and is not responsive to uncertain environments*" (p. 36),

- Local-real time system:
  - "*largely informal data collection on a continuous basis at the local level and men-dominated decision making*" (p. 36),
  - "*the system has the effect, however, over local database*" (p. 36)"
    - Does not take into account the interdependence between units!
  - "*the virtue of the system is that it is an expensive to sustain. […] the interdependencies were handled by reducing their impact for the use of slack resources and self-contained authority structures which eliminated the need for global data*" (p. 37),
- Global-periodic system:
  - "*formalised information collection and machine-aided decision making*" (p. 37),
  - "*it takes full account of the interdependencies between departments*" (p. 38),
  - Whisler studies data:
    - Reduced personnel: "*computers have had their greatest impact at the routine, operating level of organisations*" (p. 39),
    - Integration and consolidation of subtasks: "*integration of sub-tasks or increasing interdependence*" (p. 39)
      - "*the companies in this study reported that computer applications have consolidated or will soon consolidate decision making areas that were previously separated. […] computer systems reverse the effect of organisational growth and development, restoring fragmented decision systems to the state of integration that would have been logically and economically desirable had it*

not been for acute problems of information overload" (Whisler, 1970, p. 60),

- Reorganization from self-contained departments into functional departments: "*integrating sub task usually was accompanied but organisational consolidation of the department responsible for the sub task. The use of computer in the decision process reduce the information overload and allow the functional organisational structure to operate efficiently*" (p. 40),
    - "*the computer permits the coordination of the specialised units*" 9p. 40),
    - "*the organisations dealing with greater uncertainty maintained self-contained structures or, as we shall see shortly, achieved global decision structures without changing the formal authority structure*" (p. 40),
- Centralization of decision making: "*choices were made at higher levels of the organisations. These changes are consistent with the change to the functional organisation an increase in subtasks interdependence*" (p. 40).
- More group decision making: "*one of the greatest benefits of computer automation, in my opinion, has been the development of group decision making as a staff function rather than hierarchical decision making for line relationship"* (Whisler, 1970, p. 74),
    - "*these findings support the theory being developed in this book. The use of computers in the modification of the vertical information system is an alternative to the creation of self-contained structures in handling information overload*" (p. 41):
        - Why does it have to be alternative; maybe it can be a step more to make organizations simpler not complex!!

        - "*The increase in Group decision making suggests that computers need not lead to centralised, functional structures*" (p. 41)
    - On-line, real time: "*continuous flow of formalised global data and man machine involvement in decision making*" (p. 42):
        - "*on-line real time structures have two problems. First, the remote access and timeshare computers are very expensive to acquire and maintain. The second problem is our inability to create new organisation structures to fully utilise the computers*" (p. 42),

- Lateral relations:
    - "*the final organisation design strategy is to employ lateral forms of communication and joint decision making processes. That is, instead of referring a problem upward in the hierarchy, the managers solve the problem at their own level, contacting and cooperating with peers in those apartments affected by new information*" (p. 46),
        - <u>In IOD not only managers but workers themselves!</u>
    - " *Lateral processes should also be contrasted with the creation of self-contained groups. This strategy also increased discretion at lower levels of the organisation. Discretion was possible at a low level because there was little sharing of resources across groups. A group did not need information about another group when solving a problem. However, if discretion is to be increased at lower levels without reducing resources sharing, lateral relations are required. They are necessary in order to acquire all the information relevant to the shared resources and the possible uses of shared resources*" (p. 47),
    - Forms of lateral relations:
        - Direct contact:
            - <u>Mutual adjustment in Mintzberg,</u>
            - "*Direct contact relieves overload by moving decisions from high in the hierarchy to lower levels*" (p. 49),
            - "*to insure good decisions, the organisation should have a reward system which rewards cooperative behaviours, managers who are interpersonally competent, norms which make such*

collaboration legitimate, and clearly visible departmental targets" (p. 49),

- "*managers having interdepartmental experience communicate Laterally to a larger number of colleague managers than managers not having interdepartmental experience*" (p. 49),
- "*the lateral transfer apparently improves lateral relations by reducing the in personality of the contact*" (p. 50)

- Liaison roles:
  - "*typical examples of specialised roles designed to facilitate communication between two interdependent departments and to bypass the long lines of communication involved in upward referral*" (p. 50),
  - "*link two functional department at low levels of the organisation*" (p. 50)
  - They can be part of any organizational structure as presented in case study of Boeing, which used liaison role sin mainly functional structure
- task forces:
  - "*form of horizontal contact designed for problems of multiple departments. […] the task force is a temporary group. It exists only as long as the problem remains. When the solution is reached each participant returns to his normal tasks*" (p. 51),
- Teams:
  - *"typically formed around frequently occurring problems. Such teams can meet daily or weekly to discuss problems affecting the group. They solve all the problems which require commitments that they are capable of making*" (p. 53)
- new integrating role:
  - new roles in organization structure,
  - "*the managers who occupy them do not supervise any of the actual work. Instead they assist those who do, so that the work is coordinated in the best interest of the organisation*" (p. 93),

- "*the integrator becomes a little general manager with responsibility for a particular decision process*" (p. 93),
- "*the task of the integrator is not to do the work but to coordinate the decision process*" (p. 93):
    - Maybe coordination for the sake of control?,
- Integrator exercising influence without formal authority:
    - Having contacts: "*he exercises influence based on access to information*" (p. 95),
    - Establishing trust: "*the integrator equalises power differences and increases trust in the joint decision process*" (p. 95); "*the mere presence of the integrator eliminates the possible distortion of inferences to the parochial interest of the uncertainty absorbing department*" (p. 96),
    - Managing decision making: "*the integrator's role is not to make the best decision but to see that the best decision gets made*" (p. 97),
        - "*the use of integrators achieves coordination without eliminating the differences -languages, attitudes, etc. -that promote good sub task performance* (p. 99)

- linking managerial role:
    - "*influence can be increased by increasing formal position power through a number of changes*" (p. 100)
        - Approval power in decision process,
        - earlier entrance indecision and planning process
        - "*the effectiveness of and integrator's (1) having approval authority and (2) entering the planning process depends on his (3) having another quote information system to support the decision process. These three factors are not alternative ways to supply power to the role. They are complementary and cumulative*" (p. 102)

        - In highly uncertain sub task, where the expertise and knowledge are not the basis upon which one can become expert (p. 100),
    - matrix design:
        - establishment of dual reporting relationship,
        - "*create a power balance between the roles of department manager an integrator, each of whom champions a different set of goals*" (p. 105),
        - "*when viewed objectively the so-called matrix designs are really patchwork on what is still the basic bureaucratic structure with hierarchically distributed power*" (p. 149)
    - "*the use of lateral relations may solve problems of information overload, but they can create others*" (p. 142):
        - <u>More coordination needs unfortunately!</u>
        - *Ambiguity of authority and responsibility: "the use of integrating roles and other lateral relations violates the unity-of-command principle of the classical management tourist and creates role conflict and stress for the individual"* (p. 142)
- "*mechanism by which the organisation can move decisions down into the organisation toward the points were information originates*" (p. 64-65),
- "*this process reduces the information overload by moving decisions to lower levels, free higher levels for only consequential and long range decisions*" (p. 65):
    - <u>Allowing for operational regulation and regulation by design to workers, while strategic regulation still at the top</u>
- "*the use of lateral relations -direct contact, liaison roles, task forces and teams - permitted organisation to make more decisions and process more information without overloading hierarchical communication channels. This channels are reserved for the unique consequential problems which increase in number as uncertainty and diversity of the task increase*" (p. 89),
- "*the increase in the number of decisions and the number of decision of consequences made at lower levels of the organisation increases the dependence of the organisation on the quality of the decisions reached through such joint processes. On the one hand, the process itself increases the quality of the decisions. […]. But since each participant necessarily has only partial information, a high quality decision will result if, and only*

if, the partial information is shared, build upon, and used to search for and create new alternatives" (p. 89):

  - Again importance of people chosen for the work!,

- Two new problems are generated by increasing differences in subtask uncertainty:
  - "*differences in subtask uncertainty create differences in the individual power of participants in joint decisions*" (p. 90),
  - "*differences in subtask uncertainty create differences in the attitudes of the participants in the joint decisions*" (p. 91),
  - Differentiation:
    - In time orientation,
    - Formality of the structures,
    - Cognitive and emotional orientation etc.,
    - Languages,
  - "*the better the fit between the subtask, the formality of structure, the orientation toward time, and the language, the more effective is subtask performance*" (p. 92),
  - "*while differentiation is associated with effective sub task performance, it is also associated with difficulty in establishing collaboration between differentiated departments. It makes it more difficult to employ lateral relations to coordinate interdependent tasks*" (p. 92),
  - "*the problem facing the differentiated organisation is how to obtain overall task integration among departments without reducing the differences that lead to effective sub task performance*" (p. 92),

APPENDIX 5B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	**Questions**	**Quotes**
Coordination perspective	How coordination is understood and seen in a given perspective?	*"the implicit assumption underlying the use of matrix designs is that we cannot find authority structures in the form of product divisions, regional departments, programmes, functions, etc., which will encompass all the activities which require coordination"*
		Work highly influenced by Thompson – main focus arranging coordinated activities
		2 consideration in organization design are differentiation and integration (division of labour and coordination of activities)
		"the greater the differences between the two sub tasks the more difficult is to achieve effective collaboration"
		the design problem arises because the behaviour that occurs in one of these sub task cannot be judged as good or bad except in relation to the behaviours occurring in other subtasks. The behaviours must be coordinated, but in organisation of any size, each employee cannot possibly communicate with all the others with whom he is interdependent
		"*specialisation results in interdependence between roles. High technology causes enough uncertainty that areas of jurisdiction cannot be defined ahead of time. in some organisations, such as the multinational one, there is always something wrong with any structure it chooses – […]. Since ambiguity and conflict exist between rather than within roles more attention has been given to the process of resolving conflict between roles"*

Theme/dimension	Questions	Quotes
		First 2 design strategies aims at reducing interdependence between units, while 2 others focuses in increasing information processing strategies by better linking different units and levels
		while differentiation is associated with effective sub task performance, it is also associated with difficulty in establishing collaboration between differentiated departments. It makes it more difficult to employ lateral relations to coordinate interdependent tasks"
		the problem facing the differentiated organisation is how to obtain overall task integration among departments without reducing the differences that lead to effective sub task performance
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	Coordination by control: • Rules, programmes, procedures, • Hierarchy, Targeting or goal setting
		Lateral relations: *selectively employ lateral decision processes which cut across line of authority. This strategy moves the level of decision making down to where the information exists rather than bringing that up to the point of decision. A decentralises decisions but without creating self-contained groups"*
		Vertical information system investments: "*mechanisms which allow it to process information acquired during task performance without overloading the hierarchical communication channels"*
		Different types of vertical systems

Theme/dimension	Questions	Quotes
		"instead of referring a problem upward in the hierarchy, the managers solve the problem at their own level, contacting and cooperating with peers in those apartments affected by new information"
		Lateral processes should also be contrasted with the creation of self-contained groups. This strategy also increased discretion at lower levels of the organisation. Discretion was possible at a low level because there was little sharing of resources across groups. A group did not need information about another group when solving a problem. However, if discretion is to be increased at lower levels without reducing resources sharing, lateral relations are required. They are necessary in order to acquire all the information relevant to the shared resources and the possible uses of shared resources"
		Forms of lateral relations: • Direct contact, • Liaison roles, • Task forces, • Teams, • New integrating role, • Linking managerial role, • Matrix design
		"*the use of lateral relations may solve problems of information overload, but they can create others"*
		mechanism by which the organisation can move decisions down into the organisation toward the points were information originates" "*this process reduces the information overload by moving decisions to lower levels, free higher levels for only consequential and long range decisions*

Theme/dimension	Questions	Quotes
Control perspective	How control is understood and seen from a given perspective?	Mostly visible by influence of Simon about decision process: limited capacity of individuals to make decisions
		Uncertainty and information importance: • *"uncertainty is defined as the difference between the amount of information required to perform the task and the amount of information already possessed by the organisation"*
		"*the amount of information needed to perform a task is a function of (1) the diversity of the outputs provided as measured by the number of different products, services or clients, (2) the number of different input resources utilised as measured by the number of different technical specialties on a project. Number of different machines centres in a factory. Etc., and (3) the level of goal difficulty or performance as measured by some efficiency creation such as percentage of machine utilisation"*
		"the greater the uncertainty of the task, the greater the amount of information that has to be processed between decision makers during its execution"
		it is not uncertainty per se that is of interest. It is information processing, and specifically information processing during actual task execution, that is the key concept"
		Control as processing information already possessed by organizing
		"*if the task is well understood prior to performing it, much of the activity can be pre planned"*
		"*the greater the task uncertainty, the greater the amount of information that must be proceed among*

Theme/dimension	Questions	Quotes
		decision makers during task execution in order to achieve a given level of performance"
		"it is hypothesised that the observed variations in organisational forms are actually variations in the strategies of organisations to (1) increase their ability to pre plan, (2) increase their flexibility to adapt their inability to pre-plan, (3) to decrease the level of performance required for continued viability"
		"as the volume of information becomes substantial, the organisation either finds ways to process the information or discovers ways to avoid having to do so"
		the organisation must adopt a strategy to either reduce the information necessary to coordinate its activities or increase its capacity to process more information"
		Control as possibility of dealing with task uncertainty
		Creation of slack resources and self-contained teams more connected to increased control capacity
		"at least a substantial minority of the team or task force must consist of managers who will subsequently be held responsible for the implementation of the joint decision"
		"*the organisation cannot get rid of ambiguity. It is inherent in every task*"
		"thus as patterns of interdependence, task uncertainty, diversity and external conditions change, the organisation must change its decision making structure in order to remain effective"

Theme/dimension	Questions	Quotes
		"permitted organisation to make more decisions and process more information without overloading hierarchical communication channels. This channels are reserved for the unique consequential problems which increase in number as uncertainty and diversity of the task increase"
		"*the greater the diversity of the outputs and the greater the task uncertainty, the greater the self-containment*" (p. 27), *Traditionally, most organisations have responded to information overload by setting up self-contained units. This strategy allowed them to utilise competitive, free market cultural values inside the organisation. However, individual responsibility and competition were effective motivating forces only if there was little need for cooperation between roles. To the degree that interdependence could be self-contained, then all the ambiguity, uncertainty, and the conflict were contained within a single role*"
		First 2 strategies aims at bringing decisions closer to the origin of information
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	*Shift from control based on supervision and surveillance to control based on selection of responsible workers. Workers who have the appropriate skills and attitudes are selected*
		Self-contained tasks: "*change from the functional task design to one in which each group has all the resources it needs to perform its tasks*"
		Slack resources: ""*reducing the required level of performance"*
		the increase in the number of decisions and the number of decision of consequences made at lower

Theme/dimension	Questions	Quotes
		levels of the organisation increases the dependence of the organisation on the quality of the decisions reached through such joint processes. On the one hand, the process itself increases the quality of the decisions. […]. But since each participant necessarily has only partial information, a high quality decision will result if, and only if, the partial information is shared, build upon, and used to search for and create new alternatives"
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	"*increases in uncertainty, diversity, and performance exert pressures to move the organisation to the [product-authority structure]. Increases in specialisation and economies of scale exert forces to move the organisation to [functional-authority structure]. Where the organisation should be depends on the sum of these factors. When opposing forces are equally strong, the matrix design results*"
		When organizations become large and the amount of information processing increases with uncertainty, organizations needs to find a new way to coordination the actions
		"*Observed variation in organisation form represent variations in the strategies of organisations to adapt to information processing requirements"*
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to	design strategies: "*as task uncertainty increases, the number of exceptions increases until the hierarchy is overloaded. Then the organisation must employ new design strategies. Either it can act in two ways to reduce the amount of information that is processed, or it can add in two ways to increase its capacity to handle more information. […] the effect of all these actions is to reduce the number of exceptional cases*

Theme/dimension	Questions	Quotes
	coordination and/or control	*referred upward into the organisations for hierarchical channels"*
		Design strategies: • Slack resources, • Creation of self-contained tasks, • Investment in vertical information systems, • Creation of lateral relations
		"*"[creation of slack resources and self-contained task] reduce overloads on the hierarchy by reducing the number of exceptions that occur"* increased control capacity
		"*"[investment in vertical information systems and creation of lateral relations] take the required level of information as given, and create processes and mechanisms to acquire and process information during task execution"* (increased coordination requirements)
		Organization needs to choose at least of the strategies: "*Not to decide is to decide, and it is to decide upon slack resources as the only strategy for removing hierarchical overload*
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	To make lateral processes effective (coordination mechanisms) some control need to be assigned: • Participants must have information relevant to the decisions, • Line managers assigned, • Participants have authority assigned to commit their department, • Knowledge and information as basis for control,

Theme/dimension	Questions	Quotes
		• Lateral processes integrated into vertical processes
		Whisler studies
		Lateral relations, although coordination mechanisms, are designed to move decisions down into organization,

APPENDIX 5C: SYNTHESIS TABLE (INCLUDING ALSO GALBRAITH, 1974):

Theme/dimension	**Questions**	**Conclusions**	**Comparison and Contrast with the IOD**
Coordination perspective	How coordination is understood and seen in a given perspective?	Coordination is essential due to specialization and interdependence between tasks. Although differentiation improves subtasks performance, it creates barriers to collaboration. Organizations face coordination challenges because no single structure can fully manage all interdependent active. Coordination is not just alignment of activities but ongoing information process which aims at managing interdependencies.	Coordination essential due to division of labour and integration of activities. No structure known now can handle fully all interdependencies, even though Galbraith would prefer to have a form which is perhaps easier in coordination
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms	Coordination can be managed by the means of control, including rules, hierarchy and targeting or goal-	Coordination can be handles by means of control not just autonomous

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
	enabling coordination?	setting but they all have shortcomings of stretching the processing capacity at the top level when uncertainty and complexity increases. Therefore, organization can reduce coordination needs by creating self-contained teams, using slack resources or can increase capacity by investing in vertical information systems or creating lateral relations mechanisms which move decision-making closer to the source of information	teams. But coordination by means of control can be connected to e.g. regulation by design. Strategic regulation and operational regulation. However, it is limited by the capacity of information processing on top. Thus, organizations can use slack resources, but they can lead to inefficiency, adapt self-contained teams as also suggested in the IOD, invest in vertical systems (e.g. use of technology), and create lateral positions which

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
			links managers at lower levels.
Control perspective	How control is understood and seen from a given perspective?	Control is about managing task uncertainty and information overload, and not just about oversight and authority. Control is having information processing capacity which can deal with task uncertainty. Effective control is achieved by reducing uncertainty in information processing or by increasing processing capacity.	Control is connected to managing uncertainty and information overload. Organization either finds ways to process the information or discovers ways to avoid them and the IOD tries to avoid processing that much interconnected information. The same as in the IOD, Galbraith suggests that well understood tasks can be pre planned - maybe in the form of regulation by design. Uncertainty can be connected to disturbances in the

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
			IOD. Organizations have better information when they output and input does not vary substantially, and the level of performance or goal measured by some efficiency creation is attainable.
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Galbraith shifts control perspective from just supervision to empowerment of workers through careful section of responsible workers who have information and knowledge to make decisions. There is hierarchy with top management but their decisions should be limited to only exceptional and highly uncertain circumstances. Self-	In this lens, the greater focus is put on choosing right people who have information and knowledge required to make decisions. There are no specific levels of control, although top-level of hierarchy is reserved for most uncertain and complex exceptions. Self-contained tasks

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		contained tasks and slack resources are possible strategies which absorb variability and minimizing the need for coordination. High decisions are only possible at lower levels when information and shared and integrated. Organizations can prepare for uncertainty by pre-planning, increasing flexibility or lowering performance expectations	and slack resources as main possibilities to absorb variability and minimizing the need for coordination. Galbraith focuses more on allowing operational regulation and regulation by design to workers, while leaving strategic regulation still at the top.
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	The main design problem is integration of tasks and that leads to coordination requirements. However, Organizational form is also a strategic response to uncertainty and complexity, thus linking it more to control. Thus,	No division between regulatory and operational structure. The main design problem is integration of tasks but the form of organization is a strategic response to

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		structural variations reflects organization's approach to information processing challenges	uncertain and complex environment. Structure as a response to organization's approach form information processing challenges.
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Organizations have a choice between 4 design strategies, and they need to adopt at least one to manage information processing (not choosing equals slack resources). The strategies either reduce information processing needs (by giving greater control over tasks) or by increasing information processing capacity (by creating additional coordination needs which can handle the information processing requirements).	No parameters, just design strategies which need to be chosen. Strategies either give greater control over tasks executions to workers and reduce the interdependencies or they increase coordination requirements to match the information processing capacity needs/

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	Coordination and control are interdependent. Their basis differ, however they can be separated from each other. Effective lateral coordination requires also control elements. Coordination can also be done by the means of control. Moreover, additional coordination can be a means for empowering workers down in organization. Thus, both control and coordination have almost reciprocal relationship.	Not separated concepts, rather almost reciprocal. Coordination requires control means and control requirements needs to be increased in order to match greater interdependencies.

APPENDIX 6: GALBRAITH (1974) DATA COLLECTION AND ANALYSIS

APPENDIX 6A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

Control:

- "*The greater the uncertainty of the task, the greater the amount of information that has to be processed between decision makers during the execution of the task*" (p. 28),
- "*if the task is well understood prior to performing it, much of the activity can be preplanned*" (p. 28):
    - Regulation by design
- "*if it not understood, then during the actual task execution more knowledge is acquired which leads to changes in resource allocations, schedules, and priorities*" (p. 28):
    - Strategic regulation and regulation by design!
- "*The basic effect of uncertainty is to limit the ability of the organisation to pre plan or to make decisions about activities in advance of their execution*" (p. 28),
    - Effect of uncertainty is decreased control over task by higher levels
- Galbraith does not talk about control in either of his books; but from IOD frames it seems that being able to deal with uncertainty is the main control task
- "*Thus, the greater the uncertainty the lower the level of decision making and the integration is maintained by lateral relations*" (p. 35):
    - The greatest the uncertainty, the grater control for workers and the greater coordination needs!

1. "*Thus, the greater the use of lateral relations the greater the managerial intensity"* (p. 35):
    - Why tho?? Potentially the behaviour control problem?

Coordination:

- Mechanistic model:
    - Large with number of specialist groups and resources,
    - "*the problem is to integrate the sub task around the completion of the global task. This is the problem of organisation design. The behaviours that occur in one sub task cannot be judged as good or bad per se. The behaviours are more effective or ineffective depending upon the behaviours of the other subtask performers. There is a design problem because the executors of the behaviours cannot communicate with all of the roles with whom they are interdependent.*

Therefore the design problem is to create mechanisms that permit coordinated action across large numbers of interdependent roles" (p. 28):

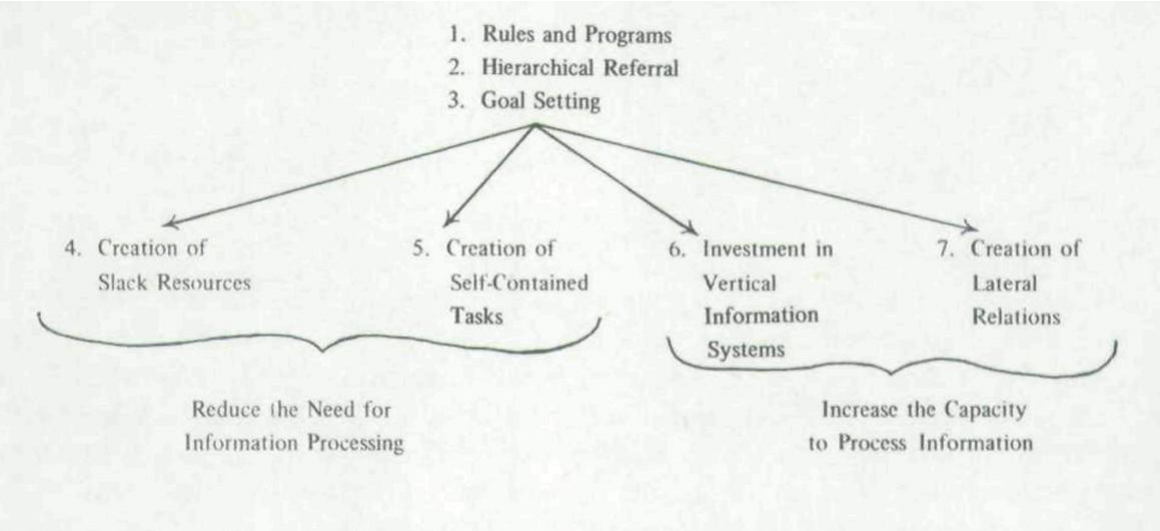
- Design problem is mainly about the coordination, but connecting it with uncertainty the even greater problem arises,

  - "*as the amount of uncertainty increases, and therefore information processing increases, the organisation must adapt integrating mechanisms which increase its information processing capabilities*" (p. 28-29),

- Coordination mechanisms:
  - Rules or programs: "*to the extent that job related situations can be predicted in advance, and behaviour specified for these situations, programmes allow an interdependent set of activities to be performed without the need for inter unit communication*" (p. 29),
  - Hierarchy: "*the recurring job situations are programmed with rules while infrequent situations are referred to that level in the hierarchy where a global perspective exists for all affected subunits*" (p. 29):
    - Control levels for the sake of coordination; control is not for control per se. It is because one needs to ensure that the work is done
  - Targets or goals: "*instead of specifying specific behaviours to be enacted, the organisation undertakes process is to set goals to be achieved and their employees select the behaviours which lead to go accomplishment*" (p. 29),
- "*The assumption is that the critical limiting factor of an organisational form is its ability to handle the non-routine, consequential events that cannot be anticipated and planned for in advance. The non programmed events place the greatest communication load on the organisation*" (p. 30):
  - Also the greater coordination needs

Design strategies:

- "*the effect of all [design strategies] actions is to reduce the number of exceptional cases referred upward into the organisation through hierarchical channels*" (p.29-30)



- In IOD we would like to not put many rules and programmes, reduce hierarchical, referral, we could deal with goal setting, so that is the difference.
- Slack resources: "increase the planning targets so that fewer exceptions occur" (p. 30):
    - Design choices:
        - Which factors to change (lead time, overtime, machine utilization, etc.),
        - By What amount should the factor be changed,
- Self-contained tasks: "*change the sub task groupings from resource (input) based the output based categories and give each group the resources it needs to supply the output*" (p. 31):
    - *"it reduces the amount of output diversity faced by a single collection of resources"* (p. 31),
    - it reduced the division of labour
    - design choices:
        - basis for self-contained structure,
        - number of resources to be contained in the groups,
    - "*no groups are completely self-contained or they would not be part of the same organization*" (p. 31),
    - "*the greater the degree of uncertainty, other things equal, the greater the degree of self-containment*" (p. 31)
        - Also compatible with the IOD; the greater the uncertainty the greater the needs for control for workers, the more likely the self-containment
- Vertical information system: "*invest in mechanisms which allow it to process information acquired during task performance without overloading the hierarchical communication channels*" (p. 32):

- "*The cost of information processing resources can be minimized if the language is formalized*" (p. 32),
- Design choices:
  - Decision frequency,
  - Degree of formalization of language,
  - Type of decision mechanism which will make the choice,
- "*this strategy is usually operationalized by creating redundant information channels which transmit data from the point of origination up ward in the hierarchy where the point of decision rests. If data is formalized and quantifiable, this strategy is effective. If the relevant data are qualitative and ambiguous, then it may prove easier to bring the decisions down to where the information exists*" (p. 32)
  - Not really IOD cause it does not allow workers to make decisions, they only gather information; also it could be connected to surveillance

- Lateral relationships: "*employ selectively joint decision processes which cut across lines of authority. This strategy moves the level of decision making down in the organization to where the information exists but does so without reorganizing around self-contained groups*" (p. 32):
  - "*There are several types of lateral decision processes. Some processes are usually referred to as the informal organization. However, these informal processes do not always arise spontaneously out of the needs of the task*" (p. 32)
  - *"the lateral processes evolve as follows with increases in uncertainty"* (p. 33):
    - Direct contact between managers who share a problem,
    - Liaison roles: "*when the volume of contacts between any two departments grows, it becomes economical to set up a specialized role to handle this communication*" (p. 33):
      - *"liaison roles arise at lower and middle levels of management*" (p. 33):
        - But in IOD they could arise around the workers themselves!
    - Task forces: "*Task forces are a form of horizontal contact which is designed for problems of multiple departments*" (p. 33):
      - "*The task force is made up of representatives from each of the affected departments. Some are full-time members, others may be*

part-time. The task force is a temporary group. It exists only as long as the problem remains" (p. 33),

- Teams: "*incorporate the group decision process into the permanent decision processes. That is, as certain decisions consistently arise, the task forces become permanent*" (p. 33):
  - Importance of leadership,
  - "*quite often obvious leaders cannot be found. Another mechanism must be introduced*." (p. 33),
- Integrating roles: resolving leadership issue by creating a new role:
  - "*After the role is created, the design problem is to create enough power in the role to influence the decision process. These roles have power even when no one reports directly to them*" (p. 33-34),
  - "*power equalization occurs only if the integrating role is staffed with someone who can exercise expert power in the form of persuasion and informal influences rather than exert the power of rank or authority*" (p. 34),
- Managerial linking role: "*As tasks become more uncertain, it is more difficult to exercise expert power. The role must get more power of the formal authority type in order to be effective at coordinating the joint decisions which occur at lower levels of the organization*" (p. 34)
  - Power or control added by:
    - Receiving approval power of budgets,
    - Planning and budgeting process initiating,
    - Receiving budget for the area of responsibility and buying resources,
- Matrix organization:

- *"the organization can follow one or some combination of several if it chooses. It will choose that strategy which has the least cost in its environmental context*" (p. 36),
- *"There is probably a fifth strategy which is not articulated here. Instead of changing the organization in response to task uncertainty, the organization can operate on its environment to reduce uncertainty. The organization through strategic decisions, long term contracts, coalitions, etc., can control its environment"* (p. 36).

APPENDIX 6B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	**Questions**	**Quotes**
Coordination perspective	How coordination is understood and seen in a given perspective?	"*the problem is to integrate the sub task around the completion of the global task. This is the problem of organisation design. The behaviours that occur in one sub task cannot be judged as good or bad per se. The behaviours are more effective or ineffective depending upon the behaviours of the other subtask performers. There is a design problem because the executors of the behaviours cannot communicate with all of the roles with whom they are interdependent. Therefore the design problem is to create mechanisms that permit coordinated action across large numbers of interdependent roles*"
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	Coordination mechanisms: • Rules or programs, • Hierarchy, • Targets or goals
		Lateral relations: • Direct contact between managers, • Liaison roles, • Task forces, • Teams, • Integrating roles, • Managerial linking role, • Matrix organization
		Vertical information system

Theme/dimension	Questions	Quotes
Control perspective	How control is understood and seen from a given perspective?	*"The greater the uncertainty of the task, the greater the amount of information that has to be processed between decision makers during the execution of the task*"
		"if the task is well understood prior to performing it, much of the activity can be preplanned"
		"*if it not understood, then during the actual task execution more knowledge is acquired which leads to changes in resource allocations, schedules, and priorities*
		"The basic effect of uncertainty is to limit the ability of the organisation to pre plan or to make decisions about activities in advance of their execution"
		Thus, the greater the uncertainty the lower the level of decision making and the integration is maintained by lateral relations"
		"Thus, the greater the use of lateral relations the greater the managerial intensity"
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Possibly self-contained groups creation as mechanisms for control.
		Slack resources as giving up control in order to manage.
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?;	

Theme/dimension	Questions	Quotes
	how does organizational structure deal with coordination and/or control	
Design rules/parameters	What are the practical rules and parameters for designing organizational structure?; how do they relate to coordination and/or control	Design strategies: • Creation of slack resources, • Creation of self-contained tasks, • Investment in vertical information systems, • Creation of lateral relations.
		the organization can follow one or some combination of several if it chooses. It will choose that strategy which has the least cost in its environmental context
		There is probably a fifth strategy which is not articulated here. Instead of changing the organization in response to task uncertainty, the organization can operate on its environment to reduce uncertainty. The organization through strategic decisions, long term contracts, coalitions, etc., can control its environment
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	*"The assumption is that the critical limiting factor of an organisational form is its ability to handle the non-routine, consequential events that cannot be anticipated and planned for in advance. The non programmed events place the greatest communication load on the organisation*"

APPENDIX 7: GALBRAITH (2014) DATA COLLECTION AND ANALYSIS

APPENDIX 7A: PRIMARY TEXT EXTRACTS AND COMMENTARY:

Approach to organizational design:

- "*Sociotechnical systems' thinking and tools are best at designing organizations at the bottom levels of the structure. The strategic design thinking and tools are best used for designing organizations' top levels. The strategic organization design approach is the one that I follow in this book*." (chapter 1, p. 1),
- *""Doing what comes naturally" is not a sufficient guide to organizing today's institutions*" (chapter 1, p. 1),
- Reconfigurable design: "organizational design in a product differentiation strategy where product and other advantages do not last very long; also called dynamic capabilities (chapter 6, p. 151); "*reconfigurable organization is the means for executing this continuous strategy shifting*" (p. 133)
- "*Every company needs an organization that changes as quickly as its business does*" (p. 131).
- "*the challenge is to design organizations to execute strategies when there are no sustainable competitive advantages*" (p. 133),
- "*the task of the organizational designer is once again to match the types and amounts of coordination with the appropriate types and amounts of external lateral relationships*":
    - Task is not to reduce coordination needs and increase control opportunities; but simply to match the coordination mechanisms to complexity of relationships,
    - "*The designer should proceed only until the point where the coordination required by the partnering strategy is reached*" (p. 162)
- "*generalization that different strategies lead to different organizations. And finally, organization is conceived as a combination of structure, HR policies, and processes*" (p. 188)

Drivers of organization designs:

- "*The first is the one that we have been discussing: the diversity and variety of units that must be coordinated for the company to execute its mission. The second is the degree of interdependence between these diverse units. Usually the units in a company are not independent but require coordination, and the amount depends on the degree of*

interdependence. This interdependence results from the initial division of labor into functional specialties that are needed to execute the business's activities. The third factor is the dynamics of change associated with a business" (chapter 1, p. 4),

  - The drivers are the same as a factors influencing the likeliness of disturbances

- "*So variety, as measured by the number of products in this case, increases the volume of information processing and decision making that a single functional organization must execute. And every functional organization has a limited capacity for communicating and deciding*" (chapter 1, p. 4):
  - To ensure that the organization can control disturbances, the coordination needs need to be lowered,
- "*Interdependence is the degree to which activities in one organizational unit affect the activities and goal accomplishments of other units. Interdependence has been a driver of coordination since the work of Thompson (1967)*" (chapter 1, p. 5),
- "*Interdependence is a variable that can be changed and can lead to different amounts of coordination*" (chapter 1, p. 5):
  - Interdependence is something controllable and thus can be reduced to reduce the coordination needs,
- *"One of the reasons that interdependence drives organization designs is that a principle of design is to create structural units based on the degree of interdependence. A designer should maximize the amount of interdependence and coordination that takes place within an organizational unit and minimize interdependence and coordination across units"* (chapter 1, p. 5):
  - Exactly what the IOD tries to do,
- "*Today the most competitive management practices—lean processes, speed to market, and real-time decision making enabled by big data—increase the interdependence among functions. […]. The competitive practices referred to above are creating tightly coupled systems that remove the buffers that uncoupled sequential flow across functions. And in their place, we need to create communication links across the interfaces between functions. We need to break down the silos*." (chapter 1, p. 5-6).

Coordination:

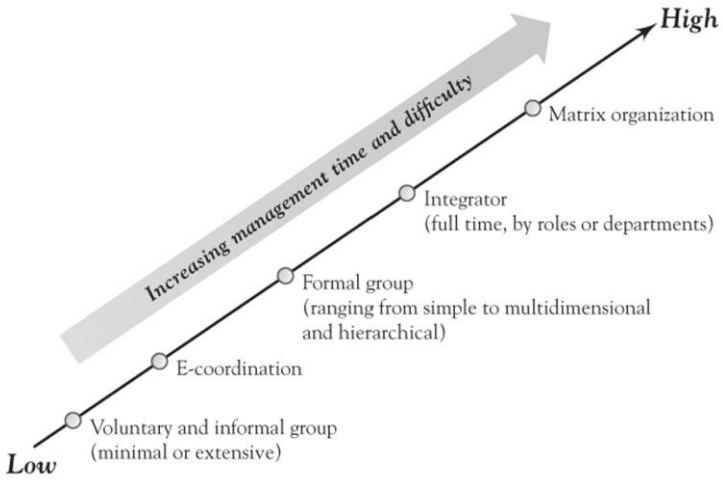
- Goal of coordination visible in organizational design definition:
  - "*Organization design is therefore focused on creating organizations through which these goals and objectives can be accomplished*" (chapter 1, p. 1),

- "*In order to get anything done, companies have to work across functions to deliver customer orders, new products, and projects. These processes are executed through lateral forms of cross-functional coordination*" (chapter 1, p. 2):
    - Coordination between units is mandatory and cannot be ignored in organizational design,
- Importance of linking different units/ departments :
    - "*That is, engineers have difficulty communicating with marketing or salespeople; each has its own special language. Unless efforts are made to reduce these barriers, poor communication can often become a major impediment to continued growth*" (chapter 3, p. 3),
- Lateral organization:
    - "*As continuous change becomes the natural state in most industries, lateral processes become the principal means of coordinating activities*" (chapter 3, p. 10),
    - "*Lateral processes are information and decision processes that coordinate activities spread out across different organizational units, providing mechanisms for decentralizing general management decisions. They accomplish the decentralization by recreating the organization in microcosm for the issue at hand*" (chapter 3, p. 10),
    - "*All the dimensions not handled by the structure require coordination through lateral management processes*" (chapter 3, p. 11),
    - "*Lateral processes are designed to provide the company with the networks and capability for addressing all of these concerns. Today a company must create a multidimensional organization built around its basic structure. A company must be flexible in addressing whatever unpredictable issue arises, whether it presents a threat or an opportunity*" (chapter 3, p. 11):
        - Enabling coordination that allows for controlling disturbances!
        - Coordination for the sake of control!!!
    - "*Another alternative is to enlist lateral processes, which may be thought of as "general manager equivalents." These processes offer a more subtle approach to decentralizing decisions and increasing decision-making capacity*" (chapter 3, p. 11)
    - Benefits and costs:

- "*The benefits of lateral processes involve permitting the company to make more decisions, different kinds of decisions, and better and faster decisions. Because these processes decentralize general management decisions, they free up top management for other decisions. Thus they increase the capacity of the organization to make more decisions more often, and the organization is more adaptable to constant change*" (chapter 3, p. 12)
    - Giving operational regulation and regulation by design more to workers, thus living strategic regulation more to the top level!
- "*Lateral processes can also create costs. The decentralized decisions may not be better than those of top management […]. These costs can be minimized, however, by making the organization's total database available, training people, and providing the correct incentives*" (chapter 3, p. 12):
    - We need to regulate be design by crating database and training people and providing incentives to ensure that lateral processes work!!!!,
- "*Another cost is the time of the people involved*" (chapter 3, p. 12),
- "*The third cost comes in increased level of conflict*" (chapter 3, p. 12),
- "*Thus, the designer needs to find the point of balance between the benefits and costs of lateral processes. This balance can be struck by matching coordination needs with the different types and amounts of lateral processes*" (chapter 3, p. 12),

- 5 types of lateral processes:

Figure 3.4 Types of Lateral Processes



- "*The voluntary processes [..[arise spontaneously; they are a form of organization from the bottom up. With formal lateral processes, the leader is more directly involved in the creation, staffing, funding, and setting of goals*" (chapter 4, p. 1)
- Informal/voluntary lateral processes: "*occur spontaneously. They are the least expensive and easiest form to use. Although they occur naturally, organization designers can greatly improve the frequency and effectiveness of these voluntary processes*" (chapter 3, p. 13):
    - Fostering voluntary process:
        - "*great weakness occurs when the voluntary acts do not happen. In many cases, these acts do not occur because of cross-functional barriers*" (chapter 3, p. 14),
        - "*Today there is great interest in removing barriers and encouraging voluntary cooperation. Leaders can employ a number of actions to elicit voluntary cooperation: interdepartmental rotation, interdepartmental events, colocation, mirror-image departments, consistent reward and measurement systems*" (chapter 3, p. 14-15):
            - <u>IOD can do it by autonomous teams, but it could be enhanced by implementing actions to remove the barriers between workers!!!</u>
            - Interdepartmental rotations: "*interdepartmental assignment of key people*" (chapter 3, p. 15):
                - "*Rotations create generalists and the general management capability that is at the heart of lateral processes. Individuals become more flexible, and if we are to create flexible organizations, we need flexible people. These people also develop relationships in the various departments, which then can be used later in lateral coordination attempts*" (chapter 3, p. 15)

        - They could also be a part of strategic regulation because they are informal integrators!!!
    - Interdepartmental events: training courses and conferences,
    - Colocation: "*Proximity of employees is an important factor in fostering productive relationships. There is good evidence that reducing distance and physical barriers between people increases the amount of communication between them*" (chapter 3, p, 15),
    - Mirror-image departments: "*to reduce the time to communicate with and gain support from each function*" (chapter 3, p. 16):
        - "*The mirror-image structure creates a clear line of sight across the entire organization. It can facilitate the establishment of relationships by simplifying the interfaces across which lateral processes take place*" (chapter 3, p. 16).
        - "*However, there is a cost to this structure. It is tantamount to organizing by product or process at the level below the functional manager. It creates the costs that are associated with those structures, such as loss of scale, duplication, and so on*" (chapter 3, p. 16)
- E-coordination: "*involves using Internet and social technology to communicate and coordinate across departments*" (chapter 3, p. 13):
    - Social technologies, mobile devices, and a service contract on the web,

- "*social platforms can become powerful enablers of the informal organization. Organization design can help forge networks with network analysis tools and the building of relationships among network participants*" (chapter 3, p. 19),

- Formal group: "*Teams or task forces are formally created, members appointed, charters defined, and goals set for the cross-functional effort. […] they are the creation of management and do not occur naturally*". (chapter 3, p. 13):
  - "*groups augment the efforts of voluntary processes. When there is a need for more decision making, a team, task force, or council is created to focus on a set of issues*" (chapter 4, p. 1)
    - Groups are given not only the operational regulation but maybe also a small amount of strategic regulation as well!!
  - "*rather than being a substitute for voluntary processes, formal groups are used in addition to them and, indeed, build on the same capabilities*" (chapter 4, p. 1)
- Integrators: "*lead the formal groups. At some point, full-time leaders may be required. […]. They are all "little general managers*"" (chapter 3, p. 13):
  - Most costly lateral process,
  - "*The organization design issues for integrating roles revolve around the power base from which the integrator will influence decisions. Managers in the hierarchical structure have authority and control of resources, but what is the power base of the integrator*?" (chapter 4, p. 7):
    - Integrator is there for control, and for control some form of power or authority is needed,
  - "*The best way to find these individuals is to develop them internally. People who experience rotational assignments early in their careers, create their own personal networks, participate in lateral groups, and then chair a lateral group are usually*

ready to play a process integrator or project manager role" (chapter 4, p. 9)

- Matrix organization: "*To create a matrix, the integrator role becomes a line organizational position*" (chapter 3, p. 14),

- "*The formal lateral processes of groups, integrators, and matrix are powerful methods to use when management must take a strong role in the lateral organization. Through these processes, a multidimensional organization is created, intended to increase the company's flexibility in responding to vendors, markets, technologies, governments, and so on. The organization is more likely to be capable of extensive communication and cooperation, as well as rapid escalation and resolution of conflicts*" (chapter 4, p. 12),
    - but this all create coordination needs and more complex structures; so in terms of IOD we need to ensure that structures are as simple as possible and only if so adding a lateral linkages
- "*But the unit cannot be completely separate because it is interdependent with the other functions. It must participate in the new product development process and pass ideas and information to consumer insights and brand advertising*" (chapter 5, p. 9)

Control:

- In Galbraith perspective, control is mostly about strategic choices and it focuses on macro level and decisions impacting the organization as a whole
- Is traditional form is more connected to scientific management and classical management principles (chapter 1, page 1):
    - "*Those early thinkers created many of the principles, like span of control, and much of the useful language, like centralization, that we still use today*" (chapter 1, p. 1),
- "*these [elements in star model] factors are directly controllable by leadership teams*" (chapter 2, p. 3),
- Look at the hierarchy of authority in star model section,
- In initial organization an important step is to "*transition from a system of personal and informal control to a system of more formal, impersonal control*" (chapter 3, p. 3):
    - Creating a tools for formal control, like scheduling, budgeting, etc. (some form of strategic regulation),

- "*The second step is the conversion from a centralized hub-and-spoke system of decision making to a more decentralized, cross functional team approach to making decisions*" (chapter 3, p. 3):
    - Giving control back to teams and employees in general,
    - "*Size forces the company to decentralize some decisions because of the increased interdependence among specialists and the increase in the variety of existing and new types of products*" (chapter 3, p. 3),
- "*There are several reasons for a more active role by the leader in the design of the lateral processes. If an issue arises and no voluntary process forms in response, management must create a group to deal with the issue. Management, from its perspective, may in fact become aware of an issue before it even appears to be an issue at the lower levels of the organization. Or management may want to augment or modify a voluntary process already in existence*" (chapter 4, p. 1):
    - Strategic regulation and maybe even regulation by design!!!
- "*From a more global perspective, management shapes a lateral process to make it more compatible with other efforts, resources and priorities, and the overall strategy*" (chapter 4, p. 1),
- "*Finally, management must set priorities about the types and amount of lateral processes it wishes to undertake*. […]. *These priorities should set the strategic direction and focus the organization*" (chapter 4, p. 1)
    - Strategic regulation and regulation by design!!
- Design of formal groups:
    - Bases,
    - Charter: "*Management should define the groups' charters so that they are compatible with the charter of the hierarchical structure and supplement*" (chapter 4, p. 2),
    - Staffing: "*The people who participate in a group are central to its efficient functioning. A representative should be chosen from each affected unit. All should have a position within their unit that gives them access to the information relevant to the issues they will address and the authority to commit their unit*" (chapter 4, p. 2),
    - Conflict,
    - Rewards,

    - Leader role: "*There is an emerging view that teams may not need a formal leader. And indeed, for groups with a reasonable number of members and some self-management experience, a designated leader may not be required. Instead, a different leader will emerge depending on the issue at hand and those in the group most capable to handle it. Most organizations, however, designate a leader to plan agendas, convene the group, lead discussions, and communicate the group's decisions*" (chapter 4, p. 3):
        - Leader as strategic regulator on operating level!
- Look on simple group structure!!
- "*The teams require leaders when coordination is challenging, the performance targets are difficult, and the team efforts are high priority*" (chapter 4, p. 6)
- "*Management's role is to select the successful participants in the company's lateral processes because these people become the best integrator*" (chapter 4, p. 9),
- "*we need a new, aligned organizational design with structures and processes that are easily reconfigured and realigned with a constantly changing strategy*" (p. 133),
- In Multibusiness strategy and organization Galbraith highlighted 3 types of control:
    - Operational, strategic and financial,
    - See portfolio strategy and organization
    - Strategic and financial and even operational in eyes of Galbraith are the strategic control in IOD!!1
- Control as adding value:
    - *"potential sources of value added are not automatic. The leadership of the company needs to be able to actually make these sources become real*" (p. 220),
    - Capital and financial acumen for effective investments
    - *"The businesses of a company can profit from having access to superior managerial talent. Some companies are highly skilled at recruiting, developing, retaining, and allocating managers. The corporate center with these skills adds value to the business by providing them with talented people"* (p. 221),
    - Technology access,
    - Leverage: "*Another way of creating value for the businesses is to leverage the scale of the corporation. The principle is to act big when it is good to be big and to act small when it is good to be small*" (p. 228).
    - Brand,
    - Banking capability

    - Governments relationships,
    - Sharing intangibles, expertise and knowledge,
    - Tangible resource sharing

Star model:

- "*gives a holistic way of thinking about an organization as consisting of a structure, information decision processes, reward systems, and people*" (chapter 2, p. 2)
- "*different strategies lead to different structures for implementing them*" (chapter 2, p. 2),
- "*The lesson is that you start with the strategy and design the organization to implement the chosen direction*" (chapter 2, p. 3),
- "*organization is more than just structure, yet frequently, leaders make changes that are structure only*" (chapter 2, p.3)
- "*the third feature of the Star Model is that an effective organization is one that has all of these factors in alignment*" (chapter 2, p. 3),
- Strategy: "*direction in which the company is going to grow*" (chapter 2, p. 3),
- Structure: "*is about the distribution of power and authority across a hierarchy*":
    - Definition of structure more connected to control and power which arises due to division of labour,
    - *"There is a division of labor of a large number of people whose behavior needs to be integrated"* (chapter 2, p. 5)
    - Hierarchy of authority:
        - "*This large number of people cannot continually communicate among themselves and decide on what they're going to do. Instead, we select a few people and place them in a hierarchy of authority. They decide what directions other groups will take, what the prices should be, what the schedules should be, and so forth. A hierarchy arises because organizations do not have the information-processing and decision-making capabilities to get a consensus among a large group of people*." (chapter 2, p. 5):
        - Because there is no information-processing capacity allowing for mutual adjustment as the purest form of coordination, a control is needed to ensure that actions are doable and done.

- "*The function of a hierarchy is thus twofold. First, decisions are made in a hierarchy in order to coordinate the behavior of a large number of people who cannot otherwise make timely decisions among themselves. Second, it is a path of escalation in order to resolve disputes among people about the direction of the enterprise*" (chapter 2, p. 5):
    - Control for the coordination,
    - Control as strategic control in the IOD,
- *"The decision process itself takes place within a hierarchy so that a decision can be made and action can take place within reasonable time frames"* (chapter 2, p. 6),

o Distribution of power across hierarchy:

- "*The distribution of power across the hierarchy has two dimensions to it: vertical and horizontal. The vertical dimension is the one with which we're the more familiar. The design issues are questions of centralization and decentralization*" (chapter 2, p. 11),

o Division of labour: "*degree of specialization of the roles that are executing the work*" (chapter 2, p. 11):

- "*But the greater the degree of specialization, the greater the degree of interdependence required between particular units. Specialization is thus a two-edged sword*" (chapter 2, p. 11),

o Shape of the organization: "*determined by the number of levels and the spans of supervision that are used in the company's levels and departments. A span refers to the number of people a manager has reporting to her or him*" (chapter 2, p. 12),

- "*The trend today is toward much wider spans and flatter structures (fewer levels). As we move away from command-and control styles of leadership, managers can lead larger numbers of people. Thus, the hierarchy becomes flatter because fewer people are needed to supervise others. The flatter hierarchies lead to faster decisions, leaders who are in touch with organizational members, and lower overhead costs"*
    - managers more like a leaders and not a controllers anymore; so even though they have regulatory role; the operational regulation is still within the workers,

        - *"The plant manager advises the teams and spends most of the workday communicating with people outside the plant. Thus, the more that managerial work is delegated to work teams, the less need there is for direct supervision. These kinds of teams lead to the elimination of levels of supervision and the complete elimination of command-and-control styles"* (chapter 2, p. 13)*:*
            - this is what IOD allows to do; so the more control the team has, the less need for direct supervision as a form of control or coordination. thus, we eliminate also the interaction nodes,
- information and decision processes: "*the ways in which work gets done in organizations. It's often useful to think of the structure of the organization as the anatomy and the processes as the physiology*" (chapter 2, p. 13),
    - "*There are three kinds of information and decision processes that I will highlight. The first are the informal, or voluntary, kinds of processes—the old grapevine or water cooler talk that we used to refer to and now takes place over social networks. The second are business processes—the generic business processes that almost all companies have. And the third are management processes for allocating the scarce resources that are applied to the various opportunities facing the company*" (chapter 2, p. 13),
    - Informal process:
        - "*Software providers predict a great future in being able to exploit these opportunities for the communication, coordination, and decentralization of work*" (chapter 2, p. 14),
        - "*there's a great deal of opportunity to use self-organizing processes for managing the increasing complexity of organizations*" (chapter 2, p. 14),
    - Business process: "*are often programmed and therefore automated because they are predictable, understandable, and replicable and take place quite frequently*" (chapter 2, p. 14),
        - "*All of this required a lot of human interaction. In today's system, after the salesperson and field application engineer work with the customer, the order takes place without any human intervention. The only people who actually touch the order and participate in its transmission are workers at the contract manufacturers*" (chapter 2, p. 14)

        - "*Some of them link together a couple of functions like the sales and operations planning process. For the most part, these are cross-functional processes. They are the means of coordinating the interdependent functions within a business. They are increasingly sophisticated, expressed in software and automated*" (chapter 2, p. 14),
        - "These business processes are an important means by which companies can now manage increasing complexity. Much of the interdependence that comes with work flows can be anticipated and programmed and then placed into software" (chapter 2, p. 14)
            - Traditional way of working was based on coordinating big number of human interactions,
            - Nowadays, a lot of coordination can be done with business process so that the interaction nodes can be reduced,
    - Management process: "*Management processes are for allocating the scarce resources to the opportunities that the organization faces*" (chapter 2, p. 15):
        - Maybe could be connected to strategic regulation?!
        - "*the more complex the structure is, the more important are the management processes. These processes accomplish a couple of things. First, they achieve an alignment of goals within the company and across its different dimensions. […]. The second important reason that these management processes have been implemented is to achieve alignment on the setting of priorities*" (chapter 2, p. 15):
            - Management processes coordinate and strategically regulate the work,
            - However, what if the structure is simple and then the alignment of goals can be done much easier, thus the only task could be just strategic regulation,
- Reward system: "*designed to align the goals of these individuals with the goals of the organization*" (chapter 2, p. 16):
    - Control in traditional way as an alignment of interest between organizations and employees,
    - Reward system can be a management process to align the goals within the company and across dimensions ??,

- People: "*The people dimension of organization design focuses on choosing the skill sets and mind-sets that align with the company's strategy*" (chapter 2, p. 20)

Structures:

- Functional organization:
    - "*It has often been suggested that we should do away with the functional organization. […]. They claimed that this would eliminate the functional silos that impeded coordination across functions. And while they were correct that a shift to a process organization would eliminate the functional silos, they also found that it would create process silos, which goes against the way society itself is organized."* (chapter 2, p. 7),
    - "*The functional organization has two weaknesses that frequently lead to the adoption of alternative structures. The first becomes apparent if a company has a variety of products, services, channels, and customers. […] This kind of variety overwhelms the decision-making capacity of the general manager and the functional leadership team*" (chapter 3, p. 5)
    - "*The functional organization is best at managing a single product or service line. When strategies involve product or service diversification and market segmentation, the functional organization is either changed by organizing departments around products and markets or enhanced by introducing lateral processes*" (chapter 3, p. 5),
    - "*The other weakness of the functional structure is the barriers created between different functions, inhibiting cross-functional processes such as new product development*" (chapter 3, p. 5):
        - Problems of coordination
- Product organization/business units: "*That is, when growth slows in their core business, they diversify by adding a new business in which they can continue their growth*" (chapter 2, p. 7),
- Customer business unit: "*Service businesses, as they expand out of their original core business, typically move into other customer segments*" (chapter 2, p. 8),
- Channels: "*how people want to purchase their products"* (chapter 2, p. 9),
- Geographical structure,
- Hybrid structures,

- Matrix organization: "*A final kind of combination of structures is a matrix organization. In this case, the unit or company is simultaneously organized around two dimensions*" (chapter 2, p. 10),
- Simple group structures: "*In all simple structures, the designer tries to create an end-to-end task so that the team has a complete piece of work. In this manner, the team controls most of the factors that influence its performance outcomes. The team can then be independently measured on its performance and held accountable for it. Management can give considerable decision-making power to such a group*" (chapter 4, p. 3),
- Complex group structures:
    - Reasons for complexity:
        - "*The first is the complexity of the task being managed*" (chapter 4, p. 4),
        - "*A second reason for complexes of teams and subteams is the number of people participating on the teams*" (chapter 4, p. 4),
        - "*Teams also become complex when the business has multiple dimensions*" (chapter 4, p. 4),
    - "*Complex structures become necessary when teams are interdependent and possibly in conflict. With complex team structures, the organization designer must solve two problems. First, the designer must create processes to coordinate and communicate across teams. Second, the designer must create a process to resolve interteam conflicts*" (chapter 4, p. 4),
    - You can make complex structures easier by using new product development and e-coordination of teams,
- Reconfigurable organization:
    - 3 capabilities:
        - "*the organization is reconfigured by forming cross-functional teams and networks across organizational departments. These lateral structures require an extensive internal networking capability*" (p. 133),
        - "*the organization uses flexible accounting, IT systems, and planning and resource allocation processes to coordinate the complexity of multiple teams*" (p. 133),
        - "*the organization forms partnerships to secure capabilities that it does not have*" (p. 133),

        - "*The final element is a top management team that sees its value added as designing and supporting the organization's reconfigurability*" (p. 148):
            - Strategic regulation by regulation by design; yet it does not include workers in this perspective
    - Reconfigurable organization is highly coordinated oriented!!!
    - Structure: "*The structure of the reconfigurable organization consists of a stable part and a changing part*" (p. 140)
    - Processes:
        - "*The reconfigurable organization needs accounting systems, data structures, and planning processes that allow it to operate as a collection of miniature business units. All the data must be available to all the parties. In complex organizations, transparency is your friend. As mentioned earlier, the costs and revenues must be assignable to products, segments, channels, and so on so that profitability can be identified*" (p. 142)
        - "*The complexity of coordinating all these miniature business units is aided by the use of flexible information and decision processes*" (p. 142),
    - Rewards:
        - "*The appraisal process is also moving away from a boss's appraisal to a team-based appraisal or 360-degree feedback model*" (p. 144),
    - People:
        - "*The participants need to be cross-functionally skilled, have cross-unit interpersonal networks, identify with the company as a whole, and be part of a reconfigurable culture*" (p. 144),
        - "*HR policies start with hiring practices that recruit and attract people who fit the organization, not just the job. Jobs will change and new skills will be learned. But individual personalities and company values and culture are much less likely to change*" (p. 145),
    - "*Collectively these people and reward practices build cross unit skills, cross-unit interpersonal networks, and ultimately a reconfigurable culture. Such practices build the skills and mind sets to link functions, both inside and outside the company, into a miniature business unit*" (p. 146),
    - "*it is a communications-intense form of organization*" (p. 147):

        - it is also coordination intense organization; how this can be seen within the IOD?
- Network organization:
    - "*The network organization arose when a company began performing and owning only those activities at which it was superior. It would partner with other companies to acquire the other activities at which these outsiders were superior*" (p. 149):
        - Again, hight coordination needs!!!
    - "*First, although the company has outsourced a function or two, these functions are still interdependent with the functions that the company owns and operates. So how do we design structures and processes to coordinate the cross-functional work flows involving multiple companies that we do not control?*" (p. 149),
    - "*The company needs to acquire the capability to partner with other companies and understand the mechanisms of power and influence to coordinate its business along the entire value chain. Second, partnership can leak intellectual property from one company to another*" (p. 149-150),
    - "leadership teams are continuously deciding where to play and how to win: which capabilities to build and keep and which to outsource and discard and, at the same time, recognizing which are the capabilities that capture the most value and dominate the value chain."
        - Strategic regulation at the highest level; it is more about creating and maintaining competitive advantage with partnerships
    - Designing network organization:
        - External relationships:
            - "*it needs to design processes to coordinate the activities performed by others. Communication and joint decision processes are needed to manage the interdependence between the companies in the network*" (p. 160),
            - "*external relationships are similar in many ways to the internal lateral processes of a firm, and the types and amounts of coordination among them similarly vary*" (p. 160),
            - "*The amount of coordination varies with the amount of interdependence between the partners and the amount of variety and unpredictable change. Dependence has two dimensions to it.*

First, how critical is the partner's contribution, and how many others could provide it? […] Second, how vulnerable is the company to leakage of intellectual property?" (p. 161),

Figure 7.2 Types of External Relationships and Coordination Requirements

Relationships	Relative Strength	Coordination	Dependence	Value Capture
Ownership	**Strong**	Very substantial	Very high	**High**
Equity		Very substantial	High	
Sourcing and alliance		Substantial	Moderate	
Contract		Occasional or some	Minimum	
Market	**Weak**	None	Zero	**Low**

- Supporting policies: "*Many of the same skills that facilitate internal lateral pro cesses also facilitate processes between companies. Particularly key are an ability to influence without authority and a facility for working with people from different cultures*" (p. 173),

- Example of engineering and construction firm:
  - "*Combined, the rate of change and extreme interdependence require a large volume of information and decision-making ability, along with state-of the-art coordination mechanisms to deliver the concurrent design model*" (p. 178),
  - Several strategic factors reduce the magnitude of the coordination tasks:
    - Not diverse company specialization only in given types of products/services,
    - Small size,
    - State-of-the-art design and project management information systems and technology ("*automate as much of the design process as possible*" (p. 178),

        - "*The concept is that the human brain is the best device for integrating all of the systems in a plant; in other words, intrapersonal coordination beats interpersonal coordination. Using talented generalists reduces the need for interdisciplinary conversations*" (p. 179):
            - Importance of qualified people!!!!,
        - "*this engineering and construction company demonstrates many of the best practices that network captains use to manage networks. It shows how trust rather than authority can be used to hold networks together. By using transparency of information, all parties can be open and trusting. The result is that a lot of cost and time can be taken out of the project execution*" (p. 183),

- Portfolio strategy and organization:

Table 8.2 Corporate Strategy and Organizational Processes

Portfolio Strategy	*Control process*	*Types of Control*
Single business	Cost center	Operational Strategic Financial
Related business	Profit center	Strategic Financial
Unrelated businesses	Investment center	Financial

    - Single-business functional organization = cost centre process:
        - "*Operational control applies to the detailed decisions about scheduling, inventories, and pricing. Strategic control entails the designation of products, markets, technologies, and charters to be pursued by the various organizational units. […] Financial control is the straightforward budget allocation, measurement, and accountability to meet the financial targets*" (p. 197)
    - Divisional model = profit centre control process:
        - "*Each division is usually a profit center, and it conducts its own system of operational control. The corporation exercises strategic and financial control over the divisions*" (p. 197),
    - Holding company = investment center:

        - "*the holding company decentralizes both operational and strategic control to the businesses. It measures the businesses as an investment center*" (p. 197),
    - "*In both the functional and divisional models, the corporate functions take the responsibility for choosing, implementing, and improving the company's processes. The corporate functions become known as the process owners. In the holding company, the responsibility for business pro cesses, except for finance, is decentralized to the businesses*" (p. 198):
        - Strategic control either centralized at the top of the organization or delegated to other units down in hierarchy!!
- Mixed model:
    - Structure: "*The structure of the mixed-portfolio model is based on the collection of similar divisions into a group, a cluster, or a sector*" (p. 209),
    - "*distinguishing feature is an organization structure based on a group of divisions. Each group contains some divisions that have a common business model or industry, so processes are common within a group and different between groups*" (p. 216),
- Conglomerates:
    - Interesting, because in the newest book Mintzberg argues that maybe that form of organizational design is per se problematic it gives too much power too few, while Galbraith shows the possibility of value adding conglomerates,
    - "*Today the financial analysts begin shouting, "Break up!" at the first indication that a conglomerate is underperforming or misses its numbers*" (p. 235),
    - "*Conglomerates remain controversial. Even for the high performing outliers, there are skeptics. All of them depend on acquisitions for growth, so there is always the question of whether there is an adequate supply of underperforming firms. The burden of proof always falls on conglomerates to show that they add value*" (p. 254)

Big data and organizational design:

- "*the challenges are, first, that there must be a power shift in the organization's structure and, second, there must be an increase in the speed of decision making. The opportunity is that there is potential to build a whole new business around big data that could become a new dimension of organizational structure*" (p. 285):

    - If we need to create highly complex and coordinated oriented organization that maybe big data and technology can be helpful in organizing it,

- "*the first challenge is a complete power shift in the decision process to allow the new digital experts to become part of the power structure. if there is no shift in power, a company will make only limited and isolated local progress*" (p. 299),
- "*the second challenge is to increase the clock speed of the organisation's decision processes. These processes are cross functional collaboration in real time. It is a shift win newsroom or control tower type of interaction that takes place in specially designed rooms*" (p. 299)
- *"the opportunity is that a company's data can be a new source of revenue and growth. In addition to improving existing businesses big data have the potential to create entirely new businesses as well as a new organisational dimension to our companies*" (p. 300)

APPENDIX 7B: THEORETICAL MODEL WITH SUPPORTING QOTES; CODE TABLE:

Theme/dimension	**Questions**	**Quotes**
Coordination perspective	How coordination is understood and seen in a given perspective?	*In order to get anything done, companies have to work across functions to deliver customer orders, new products, and projects. These processes are executed through lateral forms of cross-functional coordination"*
		Coordination between units is mandatory, impossible to be ignored in organizational design,
		"*That is, engineers have difficulty communicating with marketing or salespeople; each has its own special language. Unless efforts are made to reduce these barriers, poor communication can often become a major impediment to continued growth"*
		"Lateral processes are designed to provide the company with the networks and capability for addressing all of these concerns. Today a company must create a multidimensional organization built around its basic structure. A company must be flexible in addressing whatever unpredictable issue arises, whether it presents a threat or an opportunity"
		"*But the unit cannot be completely separate because it is interdependent with the other functions. It must participate in the new product development process and pass ideas and information to consumer insights and brand advertising"*
		"But the greater the degree of specialization, the greater the degree of interdependence required between particular units. Specialization is thus a two-edged sword"

Theme/dimension	Questions	Quotes
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms enabling coordination?	*"Today the most competitive management practices—lean processes, speed to market, and real-time decision making enabled by big data—increase the interdependence among functions. […]. The competitive practices referred to above are creating tightly coupled systems that remove the buffers that uncoupled sequential flow across functions. And in their place, we need to create communication links across the interfaces between functions. We need to break down the silos"*
		"As continuous change becomes the natural state in most industries, lateral processes become the principal means of coordinating activities"
		"*Lateral processes are information and decision processes that coordinate activities spread out across different organizational units, providing mechanisms for decentralizing general management decisions. They accomplish the decentralization by recreating the organization in microcosm for the issue at hand"*
		"All the dimensions not handled by the structure require coordination through lateral management processes"
		"Lateral processes can also create costs. The decentralized decisions may not be better than those of top management […]. These costs can be minimized, however, by making the organization's total database available, training people, and providing the correct incentives"
		Matching coordination needs with different types and amounts of lateral processes
		5 types of lateral processes:

Theme/dimension	Questions	Quotes
		• Voluntary and informal group, • E-coordination • Formal group, • Integrator, • Matrix organization
		"*The formal lateral processes of groups, integrators, and matrix are powerful methods to use when management must take a strong role in the lateral organization. Through these processes, a multidimensional organization is created, intended to increase the company's flexibility in responding to vendors, markets, technologies, governments, and so on. The organization is more likely to be capable of extensive communication and cooperation, as well as rapid escalation and resolution of conflicts"*
		information and decision processes: "*the ways in which work gets done in organizations. It's often useful to think of the structure of the organization as the anatomy and the processes as the physiology:* • Informal/voluntary processes, • Business processes, • Management processes
		Informal processes includes software which can be exploit for communication, coordination and decentralization; using self-organizing processes for managing increasing complexity of organization,
		business process: "*Some of them link together a couple of functions like the sales and operations planning process. For the most part, these are*

Theme/dimension	Questions	Quotes
		cross-functional processes. They are the means of coordinating the interdependent functions within a business. They are increasingly sophisticated, expressed in software and automated" and "*These business processes are an important means by which companies can now manage increasing complexity. Much of the interdependence that comes with work flows can be anticipated and programmed and then placed into software"*
		Several strategic factors reduce the magnitude of the coordination tasks: • Not diverse company specialization only in given types of products/services, • Small size, • State-of-the-art design and project management information systems and technology ("*automate as much of the design process as possible*
		"The concept is that the human brain is the best device for integrating all of the systems in a plant; in other words, intrapersonal coordination beats interpersonal coordination. Using talented generalists reduces the need for interdisciplinary conversations"
Control perspective	How control is understood and seen from a given perspective?	Drivers of organizational designs: • Diversity and variety of units, • Degree of interdependence between diverse units, • Dynamics of change associated with a business
		"So variety, as measured by the number of products in this case, increases the volume of information

Theme/dimension	Questions	Quotes
		processing and decision making that a single functional organization must execute. And every functional organization has a limited capacity for communicating and deciding"
		Control mostly about strategic choices and it focuses on macro-level and decisions impacting the organization as a whole
		Elements in star model are factors directly controllable by leadership teams,
		Control as value adding: *potential sources of value added are not automatic. The leadership of the company needs to be able to actually make these sources become real*
		Strategy: "*direction in which the company is going to grow"*
		In star model reward system represent the traditional way of understanding control as alignment if interest between organization and employees,
		People: "*The people dimension of organization design focuses on choosing the skill sets and mind-sets that align with the company's strategy*
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Scheduling, budgeting, etc.,
		The second step is the conversion from a centralized hub-and-spoke system of decision making to a more decentralized, cross functional team approach to making decisions
		"*There are several reasons for a more active role by the leader in the design of the lateral processes. If an issue arises and no voluntary process forms in response, management must create a group to deal with the issue. Management, from its perspective,*

Theme/dimension	Questions	Quotes
		may in fact become aware of an issue before it even appears to be an issue at the lower levels of the organization. Or management may want to augment or modify a voluntary process already in existence"
		"*From a more global perspective, management shapes a lateral process to make it more compatible with other efforts, resources and priorities, and the overall strategy"*
		"Finally, management must set priorities about the types and amount of lateral processes it wishes to undertake. […]. *These priorities should set the strategic direction and focus the organization"*
		Leader as strategic regulator on operating level
		In Multibusiness strategy Galbraith types 3 controls: • Operational: "*detailed decisions about scheduling, inventories, and pricing"* • Strategic: *„designation of products, markets, technologies, and charters to be pursued by the various organizational units"* • Financial: *straightforward budget allocation, measurement, and accountability to meet the financial targets*
		This large number of people cannot continually communicate among themselves and decide on what they're going to do. Instead, we select a few people and place them in a hierarchy of authority. They decide what directions other groups will take, what the prices should be, what the schedules should be, and so forth. A hierarchy arises because

Theme/dimension	Questions	Quotes
		organizations do not have the information-processing and decision-making capabilities to get a consensus among a large group of people"
		"*The function of a hierarchy is thus twofold. First, decisions are made in a hierarchy in order to coordinate the behaviour of a large number of people who cannot otherwise make timely decisions among themselves. Second, it is a path of escalation in order to resolve disputes among people about the direction of the enterprise"*
		The distribution of power across the hierarchy has two dimensions to it: vertical and horizontal. The vertical dimension is the one with which we're the more familiar. The design issues are questions of centralization and decentralization"
		*"*Shape of the organization: "*determined by the number of levels and the spans of supervision that are used in the company's levels and departments. A span refers to the number of people a manager has reporting to her or him"*
		"The plant manager advises the teams and spends most of the workday communicating with people outside the plant. Thus, the more that managerial work is delegated to work teams, the less need there is for direct supervision. These kinds of teams lead to the elimination of levels of supervision and the complete elimination of command-and-control styles"
		information and decision processes: "*the ways in which work gets done in organizations. It's often useful to think of the structure of the organization*

Theme/dimension	Questions	Quotes
		as the anatomy and the processes as the physiology: • Informal/voluntary processes, • Business processes, • Management processes,
		Business processes: *are often programmed and therefore automated because they are predictable, understandable, and replicable and take place quite frequently*
		Management process: "*Management processes are for allocating the scarce resources to the opportunities that the organization faces"* And "*the more complex the structure is, the more important are the management processes. These processes accomplish a couple of things. First, they achieve an alignment of goals within the company and across its different dimensions. […]. The second important reason that these management processes have been implemented is to achieve alignment on the setting of priorities"*
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal	"*Every company needs an organization that changes as quickly as its business does*"
		"the challenge is to design organizations to execute strategies when there are no sustainable competitive advantages"
		"the task of the organizational designer is once again to match the types and amounts of coordination with the appropriate types and amounts of external lateral relationships"
		"One of the reasons that interdependence drives organization designs is that a principle of design is

Theme/dimension	Questions	Quotes
	with coordination and/or control	*to create structural units based on the degree of interdependence. A designer should maximize the amount of interdependence and coordination that takes place within an organizational unit and minimize interdependence and coordination across units"*
		"we need a new, aligned organizational design with structures and processes that are easily reconfigured and realigned with a constantly changing strategy"
		"different strategies lead to different structures for implementing them"
		Structure: "*is about the distribution of power and authority across a hierarchy*
		"*The trend today is toward much wider spans and flatter structures (fewer levels). As we move away from command-and control styles of leadership, managers can lead larger numbers of people. Thus, the hierarchy becomes flatter because fewer people are needed to supervise others. The flatter hierarchies lead to faster decisions, leaders who are in touch with organizational members, and lower overhead costs"*
		Structure connects to: • Hierarchy of authority (control related) • Distribution of power across hierarchy (control related) • Division of labour (coordination related) • Shape of the organization,
		It has often been suggested that we should do away with the functional organization. […]. They claimed that this would eliminate the functional

Theme/dimension	Questions	Quotes
		silos that impeded coordination across functions. And while they were correct that a shift to a process organization would eliminate the functional silos, they also found that it would create process silos, which goes against the way society itself is organized"
		The functional organization is best at managing a single product or service line. When strategies involve product or service diversification and market segmentation, the functional organization is either changed by organizing departments around products and markets or enhanced by introducing lateral processes"
		Simple group structures: "*In all simple structures, the designer tries to create an end-to-end task so that the team has a complete piece of work. In this manner, the team controls most of the factors that influence its performance outcomes. The team can then be independently measured on its performance and held accountable for it. Management can give considerable decision-making power to such a group"*
		Complex group structures because: • Complexity of task being managed, • Number of people participating in the teams, • Multiple dimensions of business, "*Complex structures become necessary when teams are interdependent and possibly in conflict. With complex team structures, the organization designer must solve two problems. First, the designer must create processes to coordinate and communicate*

Theme/dimension	Questions	Quotes
		across teams. Second, the designer must create a process to resolve interteam conflicts"
		Advocate for reconfigurable organization which have 3 capabilities: • *cross-functional teams and networks across organizational departments. These lateral structures require an extensive internal networking capability",* • "*organization uses flexible accounting, IT systems, and planning and resource allocation processes to coordinate the complexity",* • "*organization forms partnerships to secure capabilities that it does not have"* • "*top management team that sees its value added as designing and supporting the organization's reconfigurability"* Reconfigurable organization is highly coordination oriented,
		Reconfigurable organization or network organization are both highly coordination oriented and requires a lot of interactions, top-management have strategic oversight
		the challenges are, first, that there must be a power shift in the organization's structure and, second, there must be an increase in the speed of decision making. The opportunity is that there is potential to build a whole new business around big data that could become a new dimension of organizational structure"
Design rules/parameters	What are the practical rules	Star model: "*gives a holistic way of thinking about an organization as consisting of a structure,*

Theme/dimension	Questions	Quotes
	and parameters for designing organizational structure?; how do they relate to coordination and/or control	*information decision processes, reward systems, and people*"
		Elements of star model: • Strategy, • Structure, • Information and decision processes, • Rewards, • people
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	Interdependencies (coordination) affects the controls possibilities
		Interdependence is a variable that can be changed and can lead to different amounts of coordination
		Interdependence as something itself controllable
		"The benefits of lateral processes involve permitting the company to make more decisions, different kinds of decisions, and better and faster decisions. Because these processes decentralize general management decisions, they free up top management for other decisions. Thus they increase the capacity of the organization to make more decisions more often, and the organization is more adaptable to constant change"
		Coordination often is connected with decentralization
		Information and decision processes can be connected to regulation but they are focusing on coordination

APPENDIX 7C: SYNTHESIS TABLE:

Theme/dimension	**Questions**	**Conclusions**	**Comparison and Contrast with the IOD**
Coordination perspective	How coordination is understood and seen in a given perspective?	Coordination is central to modern organizational design. It is mandatory response to interdependencies between specialized units, which cannot be completely separated due to interdependencies.. Also, nowadays organizations must handle cross-functional processes in fluid, lateral forms moving away from traditional hierarchical structures.	Coordination is not focused on simplifying relationships rather to match coordination mechanisms to complexity of environment and relationships. It acknowledges that interdependencies is something controllable. Yet, it propose to increase coordination requirements rather than reducing them. Galbraith sees coordination as responding to complexity, while IOD views coordination as reducing complexity
Coordination mechanisms	How coordination is managed between different units?; What are the mechanisms	Coordination mechanisms range from informal voluntary processes to highly structured forms. Coordination	Lateral processes can be connected to operational regulation and regulation by design, by giving more control to

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
	enabling coordination?	mechanisms are necessary due to increased interdependence and real-time decision making. Current practices, including big-data, allows to remove the buffers between units, making coordination easier. The goal of the coordination mechanisms is to break down the silos and deal with continuous change in environment. The type and amount of coordination should match organizational complexity and interdependence.	workers and living strategic regulation more on the top level. Additionally, e.g. formal groups can be seen not only as operational regulation but also small amount of strategic regulation given away to workers. Lateral processes as additional response for the autonomous teams separations.
Control perspective	How control is understood and seen from a given perspective?	Control is a strategic function mostly focusing on guiding macro-level decisions and shaping organizational goals. However, it can also include the decision authority on lower	In Galbraith control has more strategic orientation while the IOD gives greater focus on operational and micro autonomous team regulation. While the IOD is more about

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		levels by decentralizing decision-making. Leadership plays important role in initiating and adjusting decisions, often connected to lateral coordination mechanisms. It is not about micromanagement but about shaping organization's strategic goals.	dealing with disturbances, Galbraith is more about strategic alignment between units while decentralizing more operational regulation.
Control levels and mechanisms	What are, if any, control levels?; What are the different tasks for a given control levels?	Control operates at multiple levels with distinct tasks. Galbraith distinguish operational, strategic and financial control, This lens assumes that managing complexity can be done by transitioning from centralized-decision making to cross-functional teams. Hierarchies are more tools for decision-making efficiency and conflict resolution.	Although, Galbraith distinguish operational, strategic and financial control, all of them have the characteristics of strategic regulation in the IOD. However, lateral mechanisms can be seen as operational regulation and regulation by design.

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
		Control also includes shaping lateral process and adjusting distribution of power as well as choosing right people for work./	
Role of organizational structure	What is the relationship between coordination and/or control and organizational structure?; how does organizational structure deal with coordination and/or control	Organizational structure represents the strategic direction and market dynamics. It must address the issue of authority distribution, division of labour, etc., thus linking it both to coordination and control. In current trends of new forms of organizing reconfigurable and network organizations are gaining popularity which focuses on highly coordinated actions and many interconnections.	Structure is about handling multiple interdependencies between units and environment and dealing with complexity by creating lateral relationships. It is about creating structural complexity witch can deal with complexity of interactions needed.
Design rules/parameters	What are the practical rules and parameters for designing organizational	Star model provides comprehensive design framework which focuses on alignment of elements. Design must	Galbraith rules are much more holistic, directed more on organizational design alignment of different

Theme/dimension	Questions	Conclusions	Comparison and Contrast with the IOD
	structure?; how do they relate to coordination and/or control	account for interdependencies, technology used and decentralization.	elements, while the IOD takes more structural approach.
Relationship between coordination and control?	What is the relationship between coordination and control?; To what extent they are separate or united concepts?	Coordination and control are interdependent but, now also distinct. Although coordination mechanisms enhance decentralization and increase the organization's decision-making capacity, control in this perspective is more focused on strategic oversight, while other regulatory activities are more seen in coordination mechanisms.	Coordination is for the sake of control. Lateral relationships mechanisms are tools for decentralizing decision-making and giving greater decision authority to workers. This, in turn, allow to regulate the unpredictable issue arisen in complex environment. It is the reversed logic than in IOD – increased coordination mechanisms to control the "disturbances".

APPENDIX 8: DESIGN RULES AND PARAMETERS OF DE SITTER ET AL., (1997)

Design parameters are defined by De Sitter et al. (1997) as the primary architectural characteristics of the two substructures: the operational structure and the control substructure. According to Achterbergh and Vriens (2019), they are "*specific instantiations of decomposition in parts and aspects*" (p. 54). The design parameters can be divided into three groups: (1) parameters describing the production substructure, (2) parameters describing the control substructure, and (3) one parameter describing the separation between regulatory and operational tasks (Achterbergh & Vriens, 2010). The overview of the parameters with their definitions is presented in Table 4. The design rule is to ensure that the parameters have as low a value as possible (Achterbergh & Vriens, 2019).

Parameter Types	Design Parameters	
Parameters to describe the production structure	Functional Concentration	The degree to which operational tasks are (potentially) related to all order types.
	Performance Differentiation	The separation of the functions to prepare, to support and to make into specialised sub-systems.
	Performance Specialization	Splitting up a performance function into several performance sub-functions and allocating them to separate sub-systems.
Parameters to describe the control structure	Control Specialization	Splitting up a control function into several control sub-functions and allocating them to separate sub-systems.
	Control Differentiation (Differentiation into aspects)	Splitting domains of control into separate control levels (strategic, control by design and operational regulation).
	Division of Control Functions (Differentiation into parts)	The separation of the functions to sense, to judge and to act into specialised sub-systems
Separation parameter	Separation of Control and Performance Functions	Allocation of a performance and corresponding control function to different elements or subsystems

Furthermore, the design rules are conducted in a specific order, first limiting the number of disturbances by (attenuating) and only after implementing the required regulatory potential (amplifying) (Achterbergh & Vriens, 2010). Thus, design should focus on production structure (De Sitter et al., 1997) to reduce as much as possible the probable disturbances. The preferred principle is parallelisation of production flows, which identifies independent flow-oriented units (Achterbergh & Vriens, 2019) and reduces external variety in relations (De Sitter et al., 1997). Transformations on the macro level should be decomposed based on aspects as much as

possible. When the full parallelisation is not possible, the segmentation-clustering functions into segments with minimum interfaces and with the basis of maximum mutual interdependence in direct production (De Sitter et al., 1997) is introduced. Lastly, microfocus is where group tasks and teams are selected to realise flow or segment outputs (Achterbergh & Vriens, 2019). The group is the building block of the organisation in the IOD perspective (Kuipers et al., 2020), with traditionally semi-autonomous groups as basic units of work (De Sitter et al.,1997). Preferably, "*teams should have as few interfaces with other teams as possible*" (Achterbergh & Vriens, 2019, p. 192) and high coherence within a team internally (De Sitter et al., 1997). After operational substructure creation, the control mechanisms should be designed (De Sitter et al., 1997). Achterbergh and Vriens (2019) treat step three in the operational substructure and step one in the regulatory substructure as a combined effort, both focusing on autonomous team design, which can independently realise output. Furthermore, the regulatory potential should be stretched between segments, when existing, and the macro control structure should be designed to ensure that issues between flows are regulated (Achterbergh & Vriens, 2019).

APPENDIX 9: MINZTBERG'S (2023) DESIGN RULES AND PARAMETERS,

Design rules and parameters:		
Forms/Configurations:		Personal Enterprise
		Programmed Machine
		Professional Assembly
		Project Pioneer
		Divisional Form
		Community Ship
		Political Arena
Design parameters	Design of positions	Scope of position
		Degree of formalisation
		Training and indoctrination
	Design of superstructure	Groupings of units
		Size of unit
		(De)centralisation
	Fleshing out the superstructure	Systems of planning and control
		Lateral linkages
Forces	For personal enterprise	Consolidation
	For programming machine	efficiency
	For professional assembly	Proficiency
	For project pioneer	collaboration
	For all forms	Infusion of culture
		Overlay of separation
		Intrusion of conflict

More detailed information in Appendix 2A

APPENDIX 10: STANFORD (2013, 2022) DESIGN RULES AND PARAMETERS:

	Phases:	Rules
Organizational design phase model:	Enter and contract	Clarifying desired outcomes
	Assess	Context, drivers, triggers; assigning and assessing leadership
	Design	High level design with design criteria and possible design options
	Plan to transition	Create detailed operational design: appropriate transition team with plan and resources.
	Transition	Learning and developing; addressing transition issues and celebrating success,
	Optimize	Review and adjust design; prepare for new design

More detailed explanations in Appendix 4A

APPENDIX 11: GALBRAITH (1973, 1974, 2014) DESIGN RULES AND PARAMETERS:

Design strategies:	Reduces information processing capacity	Slack resources
		Self-contained teams
	Increase information processing capacity	Vertical information systems
		Lateral roles
Star model		Strategy: direction in which the company is going to grow.
		Structure: distribution of power and authority across hierarchy.
		Information and decision processes: the ways in which work gets done in organization.
		Rewards: designed to align the goals of individuals with the goals of the organization
		People: choosing the skill sets and mind-sets that align with the company's strategy

More detailed explanations in Appendix 7A