Exploration of a theory of internal audit: a study on the theoretical foundations of internal audit in relation to the nature and the control systems of Dutch public listed firms

Swinkels, W.H.A.

Citation for published version (APA):
4. The theory of control revisited

4.1 Introduction

When is a firm in-control? Many business people, regulators, investors, practitioners in the field of law, audit and consulting, as well as many others, are concerned with this question. Increased (regulatory) demands for accountability have made firm’s control system part of the public policy debates regarding auditing and corporate governance (Maijoor, 2000). The use of the word ‘control’ requires a study of what control is, especially within the context of the internal organization of the firm. A common concept regarding the control system of a firm is still lacking at this moment; different concepts for control are assumed in various researches, depending on the choice of academic field. This chapter will discuss different views of (in-)control as well as an underlying theory of control as this seems to be relevant for a theory with respect to internal audit. The theory of control will play a role in the determination of the scope of work of internal audit.

4.2 Internal audits’ view on control

The Institute of Internal Auditors (IIA) defined the scope of a control system in their International Standards for the Professional Practice of Internal Auditing (Standards). They relate an effective system of control to risk management, control, and governance processes (IIA, 2010a). Furthermore, according to the Standards, adequate control is assumed to be present if management has planned and organized (designed) in a manner that provides reasonable assurance in relation to the effective management of the organization’s risks and if the organization’s goals and objectives are achieved efficiently and economically.

Section 2100 of the International Standards for the Professional Practice of Internal Auditing (Standards) explains the nature of work of internal audit and describes the elements of governance, risk management and control in more detail (IIA, 2010a: p. 9-11):

50 Control of the firm can be seen as a firm being in control. The unit of analysis considers the internal control system of the firm from an organizational perspective and on how it is established by its management. The question of who controls the firm, as part of corporate governance, is not the primary focus.
**Governance:**

The internal audit activity must assess and make appropriate recommendations for improving the (IT) governance process in its accomplishment of the following objectives:

- Promoting appropriate ethics and values within the organization;
- Ensuring effective organizational performance management and accountability;
- Communicating risk and control information to appropriate areas of the organization; and
- Coordinating the activities of and communicating information among the Board, external and internal auditors, and management.

**Risk management:**

The internal audit activity must evaluate risk exposures (including fraud) relating to the organization’s governance, operations, and information systems regarding the:

- Reliability and integrity of financial and operational information;
- Effectiveness and efficiency of operations and programs;
- Safeguarding of assets; and
- Compliance with laws, regulations, policies, procedures and contracts.

**Control:**

The internal audit activity must evaluate the adequacy and effectiveness of a control system in responding to risks within the organization’s governance, operations and information systems regarding the:

- Reliability and integrity of financial and operational information;
- Effectiveness and efficiency of operations and programmes;
- Safeguarding of assets; and
- Compliance with laws, regulations, policies, procedures and contracts

The definitions strongly relate to each other, especially risk management and control. Both definitions are broader than transactions (e.g. policies, systems, procedures, checklists, standards and chart of accounts). However, the above descriptions fail to include the firm’s scope of control. For example, does it include the external environment (corporate governance, industrial organization, regulatory
environment) or only the internal organization (internal governance)? Furthermore, the description does not include specifics on assumptions and criteria with respect to control.

Sawyer states that internal audit’s scope covers all control activities, as long as internal audit can relate them to the objective of the firm (Sawyer, 1996). Section 2120.A4 of the Standards (IIA, 2004) mentions that adequate criteria are needed to evaluate control activities. Internal auditors should ascertain the extent to which management has established adequate criteria to determine whether objectives and goals have been accomplished. If they are adequate, internal auditors should use such criteria in their evaluation. If they are inadequate, internal auditors should work with management to develop appropriate evaluation criteria (IIA, 2006). However, the standards do not include specific criteria for evaluating control activities. A position paper of the IIA (IIA, 2006) identifies organizational governance principles which could be seen as high-level criteria for evaluating organizational governance. These principles are also covered in the COSO framework and are accounting-related.

From an (internal) audit perspective another classification is important; the division between accounting control and administrative control (Heier, Dugan, & Sayers, 2005; Mautz et al., 1981). The safeguarding of assets and the accuracy and reliability of accounting data is described as part of accounting control, while the promotion of operational efficiency and the encouragement of adherence to prescribed managerial policies is seen as part of administrative control. This differentiation ensured that the scope of the auditor remained focused on accounting data and excluded the need to be primarily concerned with administrative control as well. The difficulty is to link administrative control directly to line items in the financial statement and to financial statement risks because it is related to the general management of a firm. The administrative control is partly, but not completely or accurately, covered in for example COSO.

4.3 Other views of control

There are various connotations of control (Flamholtz, 1985: p. 37), ranging from "choosing operating rules and enforcement of rules to maximize the organization's objective function" (Arrow, 1964), “devices or systems managers use to guide the behaviours and decisions of employees” (Merchant, 1998), and "verifying the conformity of actions to plans and directions" (Fayol, 1916) to "power" (Hofstede, 1968) and interpersonal influence activities" (Tannenbaum, 1962) and as the “verification of judgements and activities to a standard” (Starreveld, 1994). The
connotations include elements of the subject control, but there is no integrative view. In other words, control seems to denote just about anything an author wants it to be.

In general, the classification of the meaning of control falls into two categories: a broad and a narrow view on control (Luneski, 1964). In a broad function of control, Luneski (1964) states it as being the function of constraining and regulating action in accordance with plans and set objectives. Furthermore, control is seen as a means to instruct, direct, motivate, inspect and correct subordinates. This approach can be labelled as meta control (Simons, 2005), because it covers the whole management process from mission, vision, planning and organization design to monitoring and correcting, including the behavioural component regarding motivating and leading.

The narrow approach on control limits itself to the monitoring, analyzing and correcting of actual performance versus plans. This approach is only one aspect of the broad view on control. Luneski (1964) differentiates the two approaches as the view that makes sure that operations conform to plans (broad) versus the determination if operations are conforming to plans (narrow). Control is seen by a wide range of management writers as one of the principles of management. These writers include Emerson around 1912, Fayol around 1914 and later writers such as Koontz and O’Donnel around 1972 (Fayol, 1916; Giglioni & Bedeian, 1974; Weihrich & Koontz, 1993).

Understanding the scope of control is a challenge, because of all the different connotations as indicated by a short summary below (not limitative):

- Accounting versus administrative control (Heier et al., 2005; Mautz et al., 1981).
- Internal and external control (Fligstein, 1990; Pfeffer et al., 1978)
- Strategic control, management control and operational control (Anthony, 1995)
- Formal en informal control (Anthony, 1995; Barnard, 1938)
- Output and behavioural control (Ouchi, 1977)
- Market, bureaucracy and clan control (Ouchi, 1979)
- Administrative and social control (Hopwood, 1976)
- Results, action and personnel control (Merchant, 1998)
- Levers of control (Simons, 1995)
- Internal governance and internal control (Strikwerda, 1997)
Another point of attention concerns the difference in meaning of control in different languages. In French, control refers to inspection; this same meaning is used in the Netherlands. However, in the U.S., control refers to the broader concept as indicated in the discussion in the above paragraphs. It may cause misunderstanding when the same kinds of words are used with different meanings.

The range of views and interpretations on control will be discussed in the following paragraphs and will be linked to each other as far as possible. This should create a clear view on the difference between the institutionalized definition of control embedded in governance committees, laws, audit study books and in business reality versus an integrative view on knowledge basis regarding the subject of control — varying from management, legal, governance, behavioural organization, psychology and organization learning to audit literature, etc.

4.4 Assumptions underlying control

From an organizational level there is a need for control to deal with uncertainty and differential amounts of information in different parts of a firm (Arrow, 1964). Control helps management to create order, direction and conformity of distinctive, idiosyncratic behaviours.

Control problems occur due to lack of information and/or understanding of the goals to be reached. Merchant refers to a number of control problems; lack of direction, lack of motivation and lack of capabilities (Merchant, 1998). These three elements create a need for management to set up control structures and the right contextual arrangements, to ensure that the firm’s objectives are met. Control, as opposed to contrôle, requires ex ante and ex post control mechanisms, such as goal setting, organization and (explicit en implicit) coordination mechanisms. Combined, these ex ante and ex post control mechanisms are the basic elements of general management, as indicated by Fayol in the 19th century. This indicates that control is based on the whole firm and its organization, and is not just one of the elements of management.

Furthermore, the need for different types of control is also influenced by the view on people or the so-called organizational man (McGregor & Cutcher-Gershenfeld, 2006). In the 1960s, McGregor started the discussion by asking whether people create value or are merely a cost to be cut whenever possible (McGregor et al., 2006). On the other hand, he counter posed the previous idea with the statement that people are an asset that should be valued and developed. The reality consists of a variety of choices between these extremes. The importance of social systems had
been investigated and evidenced earlier, as part of the Hawthorne studies in the 1930s.

The economic point of view also indicated certain assumptions of human behaviour and its imperfections. The assumptions bounded rationality (Simon, 1976) and opportunism (Williamson, 1996) have been described already in the previous chapter. Jensen notes that individuals are willing to substitute or, in other words, are willing to make trade-offs, as long as this is in line with their demands (Jensen, 1998). Working in a firm and being controlled can be seen as a trade-off that is accepted by members of a firm. It provides comfort and social cohesion (Sennett, 1988). Control problems can occur when the responsibility for creating and sustaining order tends to be distributed unevenly within organizations (Tannenbaum, 1962). There are only a few in the organization (management) who decide about the kind of order and the organizational norms.

A firm is not a closed system, but is part of an operational context (market) and an institutional context, together with other firms and organizations which will influence its existence. To ensure its continuity in the long term, access to the right resources is needed (Fligstein, 1990; Pfeffer et al., 1978), or its existing resources need to be developed or transformed (Teece, 2007). The previous discussion in this chapter on the views and assumptions in relation to the subject of control lacks a coherent, coordinating theoretical framework. As it turns out, the field of cybernetics provides a theory of control. This theory of control will be expanded in the following paragraph.

4.5 Cybernetics is the formal study of control

Some claim that cybernetics is a theory of ‘everything’ (Skyttner, 2005). Cybernetics covers the control of living systems, varying from biological cells, biological systems to socio-economic systems like firms. Cybernetics explains how living systems, biological, the individual, social systems, different from inorganic physical systems, are organized. The function of this organization is to generate, acquire, store, process and to communicate information: to control the flows of matter (input-output economics) and energy (ecology) in order that the living system remains alive and whenever necessary adapts itself to changes in its environment to survive (Beniger, 1986). Today it is understood that control is not only related to matter and energy, but applies also to data and information itself. Cybernetics is not restricted to economics, a theory of the firm or accounting, and is neutral with respect to the role of institutions; cybernetics can therefore be used as a theory of control for the practitioners in internal audit.
Cybernetics is defined as the science of communication and control in both machines and living beings (Ashby, 1956; Wiener, 1950). Wiener’s objects of interest were teleological mechanisms (meaning mechanisms with a purpose or goal), that were self-regulated through circular feedback mechanisms. The word cybernetics is Greek for steersman. The equivalent Latin word is governor, meaning a person in control. These meanings may be closely related to the function of management. Similar to a biological system, a firm is goal-orientated. Firms exist or are set up with a specific purpose and to obtain a stage of equilibrium. A firm that demonstrates evolution in order to survive in a changing environment appears to have a complex organization (Simon, 1962). As implied by Ashby’s Law of Requisite Variety (1956), the organization of a firm needs a minimum level of complexity in order to survive and thus to be in-control. Simon (1962) defines complexity of a system (an organization) to consist of three characteristics: First of all, the system (organization) is composed of interrelated subsystems, each being subordinated by an authority relation to a larger system it is part of (e.g. a firm consisting of a number of divisions, a division consisting of a number of business units, etc.), thus forming a hierarchy. Secondly, between a system and its sub-systems there are information processes in the sense of programming. This concept of programming is the same as programming in the definition of organization culture: the collective programming of the mind. This programming consists of communicating the mission of the firm (identification with), its values (internalization of), the understanding of the business, work methods, targets, budgets, corporate policies, etc. Thirdly, this programming is not total or absolute, but has the nature of loosely coupled, thus allowing localized instances to be adaptive in response to new situations.

Important elements of cybernetics are steering or governing, using programming, standards and feedback loops to ensure that specific goals are met. Wiener used the example of a steersman who wants to cross a river during strong winds and a strong tide. The steersman can remain in control by following a given course and take action in case the boat goes off course. The steersman will monitor the flow of information, detect possible differences from expected values and adjust the differences to ensure a stage of equilibrium. Yet, a goal must be programmed prior to the behaviour that influences the action (crossing a river during strong winds and a strong tide). Control, therefore, is also linked to programming. This programming should be interlinked with the context of an organization to create an effective control system (also see Bower, 2005). Employees and managers are less task-driven, as described by management control authors such as Anthony (1995), but more objective or even value-driven (Strikwerda, 2012).
Another element of cybernetics is that systems interact with their environment. A firm is an open system that can never be in a true steady state, because it is continually adapting to its environment, if it wants to survive. It is always a challenge to cope with sufficient variety of sophistication within the firm in relation to the environment and thus be able to remain in equilibrium, regardless of a changing environment (Ashby, 1956). This is also called homeostatis. It always deals with a variety of possibilities within an organization. Others call this the adaptability of the organization, or the flexibility of the organization to cope with changes in the environment (Barnard, 1938; Volberda, 1998). The awareness of complexity and the importance of considering the whole picture instead of the parts of a system is the added value of this view.

According to Beniger (1986), there are three dimensions of control: A first dimension is the maintenance of an organization, even when there are no external changes (existence or being). The second dimension is the adaptation of goal-oriented organizations to variation and change in external conditions (experience or behaving), to prevent increase of entropy of the system. The third dimension relates to reprogramming less successful goals and processes while preserving successful ones (evolution or becoming). These dimensions need to be applied to survive in the environment.

Furthermore, there are four levels at which control is being programmed (Beniger, 1986). The first level of programming is at the level of genetics (molecular programming) – it is programming codified in the DNA and the nervous system of living systems. Some speak of the DNA of a firm and therefore it can be compared to an entrepreneur who is setting up a firm, defining its culture. The second level of programming is cultural programming (in society) as this takes place through learning by imitation, by teaching, and institutional programming on culture-based social structures. The third level of programming is labeled bureaucracy and includes programming in the form of trade rules, commercial techniques, professional standards and routines. The fourth level of programming is about technology. This relates to specifically designed functions and programs, such as information systems and processors.

Cybernetics and system approaches are well-known in the day-to-day way of thinking in business and professions with concepts such as purpose, relationship, boundary, input, transformation, output, environment, feedback, open system, homeostasis, communication, control, identity, hierarchy and adaptation (Jackson,
We can, therefore, conclude that cybernetics provide a meta level from which the subject of control can be studied.

### 4.6 Information theory as part of cybernetics

As mentioned in the cybernetic view, a fundamental aspect to maintain control is the processing of information. Information is a means to create social order and mutually making sense of information (Garfinkel, 2008). Therefore, it is understandable that Simon indicated as early as 1973 that a major problem for a firm relates to organizing information, storage and information processing to enable effective decision making (Simon, 1973). In addition, Simons defines control systems as the formal, *information*-based routines and procedures managers use to maintain or alter patterns in organizational activities (Simons, 1995: p. 5).

The assumptions behind this definition can be linked to cybernetics and the information theory; elements as objective setting, value hierarchy of different patterns and preferences, measuring facts, interpreting and making sense of information, the cause-effect analysis and creating information out of data. Therefore, a description of the different levels of information (Garfinkel, 2008; Strikwerda, 2010; van Peursen, Bertels, & Nauta, 1968) will be discussed and linked to the current management literature.
<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
<th>Link to management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal information</td>
<td>Setting the objective or a final state to be reached as the basis of the system and/or firm.</td>
<td>Mission statement, objective function</td>
</tr>
<tr>
<td>Axiological information</td>
<td>Management decides to a value hierarchy, which determines the patterns and preferences of selection towards information (taken into mind history, context, culture)</td>
<td>Values of a firm</td>
</tr>
</tbody>
</table>
| Environmental information | Material information = objective, factual data about changes in the external environment  
Eidetic information =the interpretation and making sense of external information leading to new insights or confirmation of existing view. | Strategy (Market research, strategic surveys), Fayol’s prévoyance, Leadership, Learning |
| Effect information    | Information on cause-and-effect relations (the If>Then>Else relationship).                                                                    | Process management, business models, Learning                                         |
| Pragmatic information | Transaction and performance data that is transferred into relevant information for making decisions.                                           | Management information, Performance and other operational management                |

Table 4.1: Different types of information (Garfinkel, 2008; Strikwerda, 2010; Peursen, Bertels and Nauta, 1968)

This cybernetic type of information provides insight into the special properties of information as an economic good and its implications for the role, meaning and effectiveness of the firm (Arrow, 1996; Strikwerda, 2011a). This type of information and translation into management controls is a way to codify and/or program the different types of information within the firm.
The above overview demonstrates that pragmatic information is only one of the relevant information types as part of a cybernetic system. Transaction and performance data should therefore not be the sole area of attention as part of the question if a firm has an appropriate control system. An assumption behind the growing need for these different types of information is the changing social structure and conventions in society, together with a growing importance of the creative knowledge workers within firms (Strikwerda, 2011a, 2011b).

The above table presents a rational, systematic view on information. However, human beings are not always rational and use fragmented data, a selection of facts, and adapt reality to its own liking. There are cognitive and psychological causes for this creation of noise and filtering of information, such as budget gaming (Hofstede, 1968), anchoring (Tversky & Kahneman, 1974), belief conservatism (March, 1994) and dominant logic (Prahalad et al., 1986). This psychological noise and filtering may cause a firm to become out-of-control and will, therefore, be taken into account in this thesis.

### 4.7 Organizational studies’ view on control

The preceding discussion on the assumptions set in cybernetic and information theory provides a frame of reference for a solid control system of a firm. The next step is the translation of these views in the current organization and management literature (economic literature is already discussed in chapter 3), broader than the internal audit related literature such as the implicit ‘theory’ in COSO, which lacks essential elements.

A question to be discussed in the chapter is the extent to which the broader organization and management literature provides sufficient clarity and answers the requirements of a solid control system of a firm. The broader views organization and management are part of the umbrella term social science (Ghoshal, 2005). A selection is made of the social sciences that are applicable to the study of the control system of a firm (Kuper, 2003; Rollinson, 2005). As will be demonstrated, no single organization theory exists that encompasses all the relevant elements concerning the control of a firm. However, the field of organizations is covered as part of organizational studies. Pfeffer (1997: p. 4) describes the field of organizational studies as an interdisciplinary focus on (a) the

51 This study will exclude demography, education, geography, gender studies, etc, which are not directly linked to the control system of a firm.
effect of social organizations on the behaviour and attitudes of individuals within them, (b) the effects of individual characteristics and actions on organizations with a particular emphasis on the efficacy and (...) individual influence (e.g. through leadership) in organizational systems, (c) the performance, success, and survival of organizations, (d) the mutual effects of environments, including resource and task, political and cultural environments on organizations and vice versa, and(e) concerns with both the epistemology and methodology that undergird research on each of these topics. Organization studies include interdisciplinary views such as industrial relations, organizational psychology, organizational sociology, management, administrative theory, and organizational behaviour” (Heugens, 2008: p. 14)52. As also mentioned by Heugens (2008), it remains a challenge to make a selection of many different theories53 and underlying principles, even with the limitation of applied social sciences and organizational studies. In addition, there is a mass-production of theories that have no link to reality and/or fail to provide tangible and suitable solutions to management and control problems.

The following table incorporates an initial exploration of views of organizational studies that provide input for integrative comprehensive control system of the firm.

<table>
<thead>
<tr>
<th>View</th>
<th>Major elements</th>
<th>Key authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management control view</td>
<td>Management control is viewed as top management’s task; management must establish a link between strategy, strategic planning and operational control. Management control should increase the probability that the objectives can be achieved. In addition to formal arrangements regarding budgeting and reporting, its scope has evolved and now includes behavioural control as well.</td>
<td>(Anthony, 1995); (Merchant, 1998; Simons, 1995; Strikwerda, 2008)</td>
</tr>
</tbody>
</table>

52 The organization studies do not seem to include explicitly economic organization in their area of attention, while it is one of the points of view that is expected to be taken into account.

53 The *Academy of Management Journal’s* Subject Index offers authors a choice of 63 different theories to choose from, see: http://www.aom.pace.edu/amj/forms.htm.
Management view  | Management deals with planning, organizing, leadership, coordination and controlling. It deals with principles such as managing objectives, delegation of authorities and structure, which can lead to an efficient and effective organization.  | (Drucker, 1974; Fayol, 1916; Mintzberg, 1973) |
--- | --- | --- |
Psychological view  | Appropriate psychological checks and balances and attention to psychological factors such as cognitive biases (e.g. anchoring, competitor neglect), reinforcement of unrealistic views, belief conservatism, dominant logic and narcissism, which leads to a Board being in or out of control  | (Kets de Vries, 2001; Lovallo & Kahneman, 2005; March, 1994; Prahalad et al., 1986) |
Organizational Culture view  | Culture consists of basic assumptions, values and beliefs, and artefacts that provide direction for people. It is important that management influence and control people in both thinking and acting. Leading by example and vision are tools that management uses to create the appropriate culture  | (Hofstede, 1980; Hofstede, 1968; O'Toole, 1995; Schein, 1992) |
Organizational learning & adaptation  | For effective control there should be awareness and consistency of the espoused theory and theory-in-use. The espoused theory is what we say we do or would like to do, while the theory-in-use shows the real behaviour. Furthermore, learning should also be translated (if required) in adaptation of the firm  | (Argyris, 1999; Levitt & March, 1988) |
Organizational Politics view  | Within organizations, power is used to acquire, develop and use influence and resources to obtain preferred results in situations involving uncertainty. To be in control means being aware of the level of politics, its rightful application and preventing conflicts among individuals or groups that can hinder the achievement of the firm’s goals.  | (Mintzberg, 1983; Pfeffer, 1992) |
Resource dependence view  | A firm is in control when it succeeds to acquire those resources needed for its continuity in the long term.  | (Pfeffer et al., 1978) |

Table 4.2: Different points of view regarding control
As demonstrated above, on the one hand control relates to the most efficient organization of resources within and outside a firm. On the other hand, control relates to controlling the hearts and minds of the organization’s people (Rollinson, 2005). These alternative views, have some commonalities, but also differ considerably from the view, models and theories assumed in the current corporate governance codes (see also Strikwerda, 2012) and COSO.

Let us start with the theory that has evolved since the beginning of the 19\textsuperscript{th} century. The general view regarding control of the firm starts with the management and the management control perspective. Recent studies (Ferreira, 2005; Merchant, 1998; Simons, 1995) show the symbiosis of these two views. The management view deals with \textit{the process of designing and maintaining an environment in which individuals, working together in groups, efficiently accomplish selected aims} (Weihrich et al., 1993). This definition is strongly linked to the definition of management control, which is defined as \textit{the process by which managers influence other members of the organization to implement the organization’s strategies} (Anthony, 1995`; p. 8).

However, Anthony originally applied this broad definition of management control narrowly. His view on management control is closely related to management accounting (Simons, 1994). The field of management control further evolved and extended its scope by including behavioural control, such as culture, management style and communication (see Merchant, 1998 en Simons, 1994). Control provides the context for accomplishing the goals or a firm (Ouchi, 1984). A broader scope has evolved due to the growing awareness of the importance of ‘people’ within a firm. This broader view on control can be closely linked to the management perspective. Based on many years of experience and testing, Weihrich and Koontz (1993) break management down into five functions (planning, organizing, staffing, leading and controlling). These principles go back to the times of Alfred Sloan and Henri Fayol. Sloan (1990) identified management principles (such as decentralization, organizing, command and control structures) to solve management problems already around 1916.
During the same time Fayol defined his functions of general management (Fayol, 1916):

- **Prevoir:** c’est-à-dire scruter l’avenir et dresser le programme d’action
- **Organization:** c’est-à-dire constituer le double organisme, matériel et social, de l’entreprise
- **Commander:** c’est-à-dire faire fonctionner le personnel
- **Coordiner:** c’est-à-dire relier, unir, harmoniser tous les actes et tous les efforts
- **Contrôle:** c’est-à-dire veiller à ce que tout se passe conformément aux établies et aux ordres donnés.

Furthermore, Fayol divided the functions of management into 14 principles – division of work, authority, discipline, unity of command, unity of direction, subordination of individual interest to the common interest, remuneration, centralization, chain of authority, order, equity, stability of tenure of employees, initiative and esprit de corps. He noted that his identified principles were flexible and capable of adaptation if required. Furthermore, intelligence and experience is required to use the principles in a proper manner.

The above management principles involve a balance between formal and informal control. The importance of this balance is also emphasized by Barnard (1938), Tönnies’s (1957) and Simons (Simons, 1995). Extended research in management and management control shows that an integrative view on control is a mix of more traditional accounting control (such as budgets and financial measures), administrative control (such as organization structure and governance systems) and socially based control (such as values and culture) (Malmi, 2008). The integrative view can be summarized in the following relevant elements of control, based on research in the area of comprehensive control systems of a firm (Ferreira, 2005; Flamholtz, 1985; Malmi, 2008; Merchant, 1998; Paape, 2008; Simons, 1995):

- Mission
- Values
- Vision
- Strategy
- Organizational Structure
- Leadership
- Learning & Adaptation
- Performance Management & Monitoring
- Information & Communication
The challenge is, to investigate assumptions per element, as currently, there are no empirical studies focusing on the whole. The available studies relate to a part of the control system’s design and use (Chenhall, 2003; Ferreira, 2005). Although some academics are of the opinion that different theories should be kept apart as they offer different insights (Chenhall, 2003), I am of the opinion that searching for underlying assumptions should never be hindered, but encouraged.

4.8 Assumptions behind the elements of control

In the previous paragraph, the elements of control were introduced. However, the assumptions behind these high-level elements were not discussed. This will be done in the following paragraphs, to provide guidance on the content of the different elements.

4.8.1 Mission

The purpose of a mission is to capture the fundamental reason why a firm exists (Pearce II & David, 1987). The result of a mission is first of all to inspire and motivate members of the firm to exceptional performance and secondly to guide the resource allocation and objective setting process (Bart, 1997).

The mission is a means to (de)select employees to ensure their identification with the mission. In addition, the mission provides focus and a purpose which limits the risk of information (data) overload for the members of a firm (Lash, 2002). It should not describe how the firm expects to compete and deliver value to customers and society, when and with which assumptions (Drucker, 1946; Kaplan & Norton, 2004) as this is part of the strategy process.

4.8.2 Values

Based on recurred literature, Schwartz and Bilsky define values as the concepts or beliefs that relate to desirable end states or behaviours, independent of specific situations, which serve as guiding principles for behaviour and are organized in a hierarchy of importance (Schwartz & Bilsky, 1987). Values are considered to be essential to the experience of meaning (Cha & Edmondson, 2006). Within a firm, it is the internal compass that drives the behaviour of the people within the firm.

54 A mission may relate to the identity of the firm, and changes therein are in the Dutch jurisdiction BW2 107a first paragraph, subject to approval of the general meeting.
Successful firms show that the values are chosen by management itself, largely independent from the environment, competitive requirements and management fads (Collins & Porras, 2002). The origins behind the values of a firm can be found in business and moral principles as described by the founding fathers or inspiring leaders of firms. Collins and Porras highlight some lines on the role of core values by some leaders of successful firms (Collins et al., 2002). Thomas J. Watson Jr. of IBM confirms the importance of a set of beliefs on which it premises all its policies, actions and faithful adherence to those beliefs. He wrote the credo to preserve the beliefs as being kept as the rules of life. The same is applicable for other long lasting firms like Johnson & Johnson, Merck, HP, etc. They, according to Collins and Porras, are strongly cultivating their values within the firm, to the extent that might seem like brainwashing at times (Collins et al., 2002). Values seem to be misused to manipulate members of the firm, instead of used to govern a firm with the support of information, the values of the firm form a type of information (axiological information). There are examples where it went wrong – for example at Toyota. Toyota was always strongly focused on quality, reliability, and continuous improvement in manufacturing methods. The big business disease syndrome lead to focus on growth as main priority above quality. The consequence of this focus was to open new factories in new countries, stronger focus on cutting costs, etc. (Stalpers, 2010) which strongly diminished the core values of quality and reliability in the routines and minds of people.

Auditors generally focus on integrity rather than values. Integrity is important for the control environment of a firm and is indirectly linked to a reliable financial statement and safeguarding of assets. This focus is due to the attention auditors pay to the prevention of fraud. Integrity is mostly seen as a virtue and is linked to being consistent in applying values (such as being honest, incorruptible, complete and sincere) despite the presence of circumstances which might threaten those principles (Kaptein & Wempe, 2002). Integrity can be related to the levels of moral development from Kohlberg (1st level - self-interest, 2nd level - conformity to society, 3rd level - using universal ethical principles). In the end, integrity is not a value in itself, but can be interpreted as a capability to be mindful and consistent about its own moral development (in word and deed). For this reason, no explicit attention will be paid to integrity as an item as such; it will be part of the broader view on values and leadership.

There are also different cultural models, such as the double S Cube from Goffie and Jones, the competing values framework from Quinn and the Organizational Culture Assessment Instrument of Cameron and Quinn. These models provide insight and awareness in different kind of cultures, but they do not resolve the answer of how these models enhance control of the firm. For this reason there will be no explicit attention for these kinds of models.
Values can also be seen as moral principles as described in the Ten Commandments, or moral principles that have been extensively studied by philosophers, besides the business principles. Moral principles are the guidelines people use to make moral judgments, and are made explicit in the values of a firm (Kaptein & Wempe, 2002). Attention given to these values can be explained by the following developments (Strikwerda, 2011a; Wempe, 1998). Until the 20th century, the institutional authorities and environment, such as the state, politics, churches and labour relations, ensured strong and clear cultural programming. Changes in society (such as globalization, changes from an industrial society to an information society and individualization) force firms to take over the role of socialization and cultural programming. Another development is the increased attention of public opinion through organized action groups and media paying attention to the behaviour of (the people within) a firm. Also, liability claims on firms led to more attention for prevention of legal issues caused by dysfunctional behaviour within and outside a firm. Organization values are a subset of social values and differences in value sets need to be taken into account (Hofstede, 1980). This cultural variety requires clear positions on what is acceptable and what is not, taking into account the specific customs and habits in different countries. For example, what is called bribery in a Western country is accepted in other countries. Multinational firms work in an open system/different countries with different institutional habits and customs. However, global regulation requires a firm to develop specific values, independent of institutional habits and customs. Specific values provide guidance for the boundaries within which firm members should operate, and provide focus, as mentioned in the section regarding the mission of a firm.

4.8.3 Vision

A vision highlights the future aim (3-10 years) and direction and helps individuals to understand why and how they can support obtaining that vision (Kaplan et al., 2004). A vision is not to be seen as ambition, but is the result of the interpretation and making sense of external information and developments (eidetic information).

57 The US Foreign Corrupt Practices Act (FCPA) is an example of a law against bribery. That law prohibits United States persons and corporations from making corrupt payments to foreign government and political party officials. Also, other countries and firms outside the US are prosecution corrupt payments under the flag of FCPA, with Siemens as an example. In this environment, firms have a strong interest in establishing business practices that detect and prevent corrupt payments and enforcement actions.
This is a process that takes substantial and sustained intellectual energy as it deals with a firm’s future and focusing on short-term restructuring and reengineering is a trap (Hamel & Prahalad, 1994). The vision is the step towards, setting the strategy. The vision is not a static statement, but needs to be monitored in relation to internal and external developments, to ensure that the assumptions behind the vision still apply.

**4.8.4 Strategy**

The above-mentioned mission, values and vision provide the foundation for the strategy of a firm. As they are too high level and generic, there is a need to define a clear strategy to translate them into operational, tactical and strategic objectives and to make resource allocation choices (Kaplan et al., 2004).

According to Porter, the essence of strategy is coping with competition, meaning current competitors, new entrants, substitute products or services and bargaining power of suppliers and buyers (Porter, 1998). A strategy is about creating a defendable position in the market (Porter, 1998). This also means to make trade-offs in what not to do, to maintain a competitive advantage. In the end, strategy is a means to create a clear scope and choice of the business, product, services, customers and markets that a firm wants to work in (Strikwerda, 2005a). Strategy is also an important element of the corporate governance system, as investors invest on basis of future cash flows.

There are different kinds of strategy. First of all, there is the grand strategy, that covers the ability to control the environment and the resources outside a firm (Pfeffer et al., 1978). The grand strategy has a strong power and (geo) political focus, which can be linked to diplomacy and military literature and goes beyond the core competence and operating excellence of a firm (Strikwerda, 2002). It focuses on the power of a firm towards competitors, suppliers and customers which is required for the continuity and profitability of a firm (Strikwerda, 2005a). There are different types of power to be distinguished (Strikwerda, 2005a: p. 61-62); the capability power (e.g. technology), specific market power (e.g. patents, licenses, etc), persuasive market power (e.g. brands, reputation), competitive pressure (e.g. attacking cash flow of rival firm), non-competitive power (e.g. deep pockets and entry barriers through court cases), positional market power (position, negotiating power), control over infrastructure (e.g. networks), ownership of standards (e.g. Windows) and the power towards governments. This grand strategy is mostly not made explicit, but is kept implicit.
Secondly, there is the corporate strategy. The corporate strategy should provide clarity on the markets, products and customers it should focus on, its financing and how the business units are managed and synergies are identified and organized (Porter, 1998; Strikwerda, 2008). This strategy should ensure added value above the strategy and value of separate divisions and business units. This is also called ‘parenting value’ (Goold & Campbell, 1987) and ‘enterprise value proposition’ (Kaplan & Norton, 2006).

The third level of strategy relates to business unit strategy. The difference between the business unit strategy and corporate strategy (Porter, 1998) concerns the focus to create a competitive advantage in the business unit operations instead of across business. Corporate and business unit strategies converge more and more due to synergies between the economic models of firms.

The fourth level of strategy relates to functional strategies which has a close link to the business strategy. This concerns the different value chain activities determining in which markets, with which products, which customers are supported together with support of marketing, distribution, financing strategies and possible sourcing and outsourcing strategies (Slywotzky, 1996).

Strategy is operationalized in plans with respect to resource allocation and actions to achieve objectives. The translation from strategic ideas into a strategic plan is a dynamic process covering a mix of top-down and bottom-up initiatives (Bower & Gilbert, 2005). However, it is argued that bottom-up allocation fails due to (among other) information asymmetry, dominant logic, belief conservatism and budget gaming (Bower et al., 2005; Hofstede, 1968; March, 1994; Prahalad et al., 1986). A more top-down, rational planning tool such as the Balanced Score card could support the strategy process. An attention area is that strategic issues emerge within the firm without a conscious process behind it (Bower et al., 2005; Mintzberg, 1978). This latter view shows the importance of the interactive communication within the organization to capture this kind of emergent strategies. The allocation process should bring the rational and emergent strategies together.

The challenge is to keep a competitive advantage by identifying new trends, products etc., which leads to innovation. There are two important elements from a strategy perspective; a firm needs to adapt to environmental changes, but more importantly, a real competitive advantage is realized when a firm is capable to shape the environment by building new markets that meet ‘untapped’ customer demand (Teece, 2007).
Flaws in the strategy process directly have an impact on the meta control of a firm. From a control perspective there is a challenge of underperformance due to poor strategic thinking, poor strategic planning and/or poor strategic execution leading to an endangered continuity of the firm or pursuing a strategy in favor of personal interest instead of a firm’s interest.

4.8.5 Organization structure

Unlike many tangible, physical forms, an organization is a sociological, economic and legal abstraction whose boundaries represent an intangible construct (Bhidé, 2000). A firm has first of all an economic, institutional meaning which determines specific structural choices (Strikwerda, 2000). A firm’s organization structure is not only an internal arrangement of resources but also has an external orientation by looking at their role in a network of players (Miles & Snow, 1994). A firm’s structure depends on choices in relation to coordination via the market mechanism, coordination through hierarchy, authority or coordination by using a hybrid form which relies on networking and trust (Adler, 2001; Williamson, 1975). This institutional view on structure is a first level of analysis based on the assumption that structure follows strategy, but the market is the common denominator (Chandler, 1990: p. 383-4; Strikwerda, 2000).

The internal organization structure can be divided into (mainly) two views, the formal and the sociological view. According to the formal, economic definition, an organization structure is an instrument of a firm to accomplish cooperation and coordination that is conscious, deliberate and purposeful (Barnard, 1938; Strikwerda, 1994). A key element is conscious coordination, because this is different from the market that is disorganized and not conscious. Furthermore, it provides management with a framework for operating activities and channelling information. In the economic view there are some key elements of an organization structure (Strikwerda, 2008). The first element concerns the task structure and the attribution of decision rights. The second element is delegation of physical and financial resources (budget). The third element relates to the system of rewarding individuals (material and immaterial). The fourth element is the system for measuring and evaluation of performance (individuals as entities). The economic view highlights the responsibility for profit & loss and related decision rights, resources, reporting and remuneration. It brings the market mechanism within the domain of internal organization.

The sociological definition of organization structure relates to the internal patterns of organization relationships (Thompson, 1967). It reflects the governance, roles,
authorities for making decisions and the formal lines of reporting (Chenhall, 2003; Greenberg, 2002; Thompson, 1967). The sociological view emphasizes the composition, the positions, levels of influence, cooperation, identification and relations of persons within that structure (Greenberg, 2002). In practice, a multinational firm exists of a number of substructures. The different substructures are included in the table below (Strikwerda, 2005b; 2008: p.123):

<table>
<thead>
<tr>
<th>Different substructures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Structure (e.g. ownership of shares and assets)</td>
</tr>
<tr>
<td>Governance structure (e.g. tasks, attributed decision rights, use of resources and assets, reporting and selection of people, assessment and monitoring of remuneration)</td>
</tr>
<tr>
<td>Informal, social structures, ethical structures (which may influence routines, decision making and innovation)</td>
</tr>
<tr>
<td>Financial structure (e.g. central concern funding)</td>
</tr>
<tr>
<td>Structure of strategic theme’s and Accounts (e.g. theme and Account management)</td>
</tr>
<tr>
<td>Functional structures (accounting, HR, etc)</td>
</tr>
<tr>
<td>Treasury structure (e.g. international cash management)</td>
</tr>
<tr>
<td>Project structures (e.g. for innovation and strategy development)</td>
</tr>
<tr>
<td>Knowledge structures (the pattern of distribution of (related) knowledge across the organization)</td>
</tr>
<tr>
<td>Fiscal structure (e.g. fiscal transfer prices)</td>
</tr>
<tr>
<td>Geographic structures (e.g. country organizations, land fixed assets like telephone networks)</td>
</tr>
<tr>
<td>Information or data structures (data bases, intranet)</td>
</tr>
<tr>
<td>Transaction structure (e.g. ownership flow, information, goods, value flow)</td>
</tr>
<tr>
<td>Product / Services structures (may be generated across business units)</td>
</tr>
<tr>
<td>Market segment-structures (based on consumer attributes, preferences)</td>
</tr>
<tr>
<td>Process / delivery-structures, (production, logistics, distribution)</td>
</tr>
<tr>
<td>Technology infrastructure (e.g. generic technologies used by all divisions, software libraries, operating platforms)</td>
</tr>
<tr>
<td>Timing structure (patterns of purchasing, services, real option method film industry, etc)</td>
</tr>
</tbody>
</table>

Table 4.3: Different substructures of a firm (Strikwerda, 2005b; 2008: p.123)
The table shows the difference of an organizational and a legal entity which are not always the same (Hodgson, 2002; Strikwerda, 2009). Differences occur due to local tax- and/or other legislation. Noteworthy is the discussion about fading boundaries of the firm. This is valid from an economic perspective, but not always from a legal perspective as these so called hybrid firms’ are networks of multiple and distinct legal firms connected by contracts, rather than a single firm (Hodgson, 2002). This shows the importance of attention for different perspectives, such as between legal and organizational structures.

Organization structure’s role as part of an control system of a firm changed in the 21st century in relation to the 20th century and some new attention areas emerged (Bower et al., 2005; Strikwerda, 2008). The characteristics of task structure, attribution of decision rights, allocation of physical and financial resources (budget) and reporting is extended with strategic themes and key accounts as accountable entities. Furthermore, the coordination, concentration, organization and thinking of activities shifts towards a combination of purpose, economic model, cause-effect relations, systematic context and information which is loosely coupled from the formal structure. In addition, where a formal structure provided an identity and security in social-psychological sense in the 20th century, people in the 21st century tend to have more identities, separate from the identity at work.

Another central element of organization structure relates to its logic. The logic behind different kind of forms of internal organization of a firm can be divided in three categories (Chandler, 1990; Donaldson, 2001; Miles et al., 1994; Strikwerda, 2000, , 2008): The first category relates to strategy. In accordance with Chandler (1990), the design of the operating model should follow the strategy of the firm. More specific, the strategy and related strategic themes should be reflected in the primary accountable entities for target setting, resource allocation, etc. Secondly, the operating model should have a fit with the market. This is also known as the fit-to-the market criterion (Chandler, 1990; Miles et al., 1994), such as customer preferences, availability and use of distribution channels, accounts, regions. The third category questions the character of the operational processes of a firm. Attention points for this category are economies of scale/scope/speed, availability of resources, purchasing power, modularity, cost of communication, market efficiency (Slywotzky, 1996; Strikwerda, 2008). Also the opportunities concerning inter-organizational relationships such as joint-ventures, outsourcing and integrative buyer-supplier relationships should be taken into account as they have implications for the control of the firm (Dekker, 2004). The previous points lead to questions with respect to the exploitation of synergies and the boundaries of a firm.
(the activities to be performed in-house (R&D, Manufacturing, etc) versus the use of subcontracts versus outsourcing).

Pugh et all (1968) investigated dimensions which explain the variations between organization structures. These dimensions have been supported but also criticized on its selection process which lacks a solid basis. Overall, there appears to be consensus that complexity (amount of specialization and degree of expertise), formalization (standard, documented procedures), and centralization (hierarchy of authority, span of control) are the major dimensions of structure (Blackburn, 1982; Van de Ven, 1976). Furthermore, empirical research shows that a positive relationship exists between complexity and formalization, but a negative one between complexity and centralization (Child, 1972; Van de Ven, 1976). The standard at multinational firms is to decentralize authority down into the organization (Arrow, 1964; Hayek, 1945). This enables a firm to anticipate on and process information concerning local changes and opportunities in the market in a controlled and efficient manner. However, Slywotzky (1996) provides a good statement regarding designing a proper structure: every dimension of a design involves choices, not givens!

Another dimension of an organization structure relates to management accounting streams within a firm, defining the internal organization in terms of profit centers, cost centers, etc (Anthony, 1995). Drucker identified basic building blocks of a structure that can be marked as revenue activities (sales, marketing), result contributing activities (purchasing, production, etc), support activities (staff functions), top management and household/hygiene activities (Drucker, 1974). However the difference between cost centers and profit centers diminishes due to lowering costs of information and disembedded organization of information58 (Kaplan, 2007). Strikwerda describes new building blocks of the organization based on more modular set up of organizations which is in line with contemporary situation (Strikwerda, 2005a: p 78-79). The logic of the modular set up is to enhance the capability to deal with uncertainty by more focused information process capability. The difference mainly relates to a change from profit versus cost centers to value creating units (activities increasing value, mix-match

58 The difference between profit and cost centres is important as it covers the reporting for management and the external parties according local (tax) authorities and local shareholders. In case the assumptions of profit center and cost center are left behind, this will have possible fiscal implications as fiscal authorities would like to tax possible added value (Strikwerda, 2008).
flexibility, co-creation, infrastructure) and value defending units (public affairs, alliances, etc) and profit appropriation units (e.g. exploitation of property rights, patents, licences, etc). The assumption behind this extension is to highlight which activities create value, which activities ensure the capturing of value and which activities defend the core of the firm. This new set up shows attention for co-creation and support units which are seen as value creating units based on their infrastructure/ economies of scale activities (e.g. SSC).

Overall, the importance of the internal structure of the firm changes as the coordination and programming mechanism is diminished. The different, formal structures still are important, but their coordination role is overshadowed by other control mechanisms as described in this chapter.

4.8.6 Leadership

There is a long history of research concerning the importance and effect of leadership on the firm’s performance and control. Ethological research suggests that people have a need for leadership (Kets de Vries, 2001). Leadership within a firm is generally defined as the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organization of which they are members (Den Hartog & Dickson, 2004: p. 250). People within a firm who identify themselves in and are committed with the objectives of the firm perform beyond expectation (de Hoogh et al., 2004).

Different kinds of leadership concepts have come and gone over time, from transforming leadership (Burns, 1978), transformational leadership (Bass, 1985), charismatic leadership (Conger & Kanungo, 1987), visionary leadership (Collins et al., 2002), to authentic leadership (Avolio & Gardner, 2005). All concepts relate to formulating and communicating attractive visions and strategy, making decisions, selecting the right people, motivating people, consistency between words and deeds, focusing on results, and effecting change. This also means that the behavior may be unconventional and/or counter normative (Conger et al., 1987). A leader is able to make sense of its environment and changes within the environment by properly analyzing material information and translating this into eidetic information preserving its identity and values. Furthermore, they are willing to confront and lead the people within the firm to new areas which can be fundamental different (Conger et al., 1987). In addition, these kinds of leaders are
believed to have the ability to shift people their focus from self interest to collective interest (Bass, 1985; Burns, 1978).59

Leadership should always be seen within the context of the firm, its environment and even society. Charismatic and authentic leaders leave a sufficient number of options open to create different styles with these concepts; is a leader autocratic - making decisions on his/her own or is a leader participative – involving managers and employees in the decision making process (Tannenbaum & Schmidt, 1973). A leader can take on different roles depending on the situation in the firm, environment and society. This contingency approach was used by Jack Welch during his time at GE where he varied his leadership style from autocratic to participative due to changes in the context of the firm (O'Toole, 1995). However, the underlying assumptions and consistency in behavior were always the same.

Besides leadership competencies, it is important to consider the dynamics between management and employees as well as the firm’s national and international domain (Kets de Vries, Vrignaud, Agrawal, & Florent-Treacy, 2009). Leadership is not only realized by the CEO but is joint effort between the management Board and middle management etc. Mintzberg investigated the role of management and identified a variety of roles an executive performs. Leadership is only one of the elements (Mintzberg, 1973): other elements of the interpersonal role are being a figurehead (ceremonial duties) and liaison to/with members of his organization and outside the organization. The second role relates to the informational role, which covers monitoring of different persons and parties, disseminating information to different stakeholders and being the spokesman to the outside world (investors, large clients, etc). The third role deals with making decisions as part of being the entrepreneur, the disturbance handler or negotiator in case of problems and the decision maker regarding resource allocation. The different roles of management, as described by Mintzberg, highlight the diversity in activities that determine the

59 There is a noteworthy website with leadership quotes which supports this research (http://www.leadershipnow.com/leadershipquotes.html) such as:

*To be able to lead others, a man must be willing to go forward alone* – Harry Truman

*All of the great leaders have had one characteristic in common: it was the willingness to confront unequivocally the major anxiety of their people in their time. This, and not much else, is the essence of leadership* - John Kenneth Galbraith

*Superstars seek success in a technique for eliciting support; heroes pursue success as the outgrowth of inner values* - Henry Kissinger
effectiveness of leadership, not only from the CEO, but also from his/her fellow executives and of middle management who should set the same tone.

However, the dark side of human behaviour could be detrimental for a firm. There are several neurotic leadership styles, such as suspicion, depression, dramatic/narcissism, compulsive and detached/schizoid behaviour, all of which determine the hygiene within a firm (Kets de Vries & Miller, 1986). These styles could lead to mistrust, internal fight culture, inactiveness, inertia, lack of confidence (suspicion, depression) or to a compulsive need for control and centralization (compulsive) or to a pattern of non-involvement, non-coordination, non-cooperation and internal rivalry (detached/schizoid). The most common neurotic style relates to charismatic and visionary leadership which in turn may lead to narcissism. This kind of leadership is determined by demonstrating excessive emotions, exhibitionism, and exaggeration of achievements, image management, misuse of information, risk-taking and creating his own environment instead of acting in favor of the interests of the firm. A meaningful turnaround of this neurotic behavior is in worst case performed after dramatic failure.

Some risks in the behavior of leaders are due to cognitive biases, for example the process of anchoring which relates to focusing on initial data, impressions or estimates instead of the whole picture (Tversky et al., 1974). Another example concerns competitor neglect, when a firm only focuses on a fraction of the actual competition and thus concentrate on the variables under their own control, ignoring competition (Simonsohn, 2010). Other cognitive biases are bounded rationality and bounded awareness resulting in failure to see and use relevant information (Chugh & Bazerman, 2007; Williamson, 1996), bounded knowledgeability by unacknowledged conditions of action and unintended consequences of action (Giddens, 1984), dominant logic in the way of thinking due to experience, mental maps and orientation (Prahalad et al., 1986) and belief conservatism as rigidity to change of mind and old experiences (March, 1994).

Leadership should in this sense also be related to the moral development as described by Kohlberg (1969). Looking at the scandals and examples described it could be concluded that many leaders have not reached the 2nd and 3rd level of moral development (1st level - self-interest, 2nd level - conformity to society, 3rd level - using universal ethical principles).
Another risk area is groupthink with the following symptoms (Janis, 1972):

- Illusions of invulnerability;
- Unquestioned belief in the morality of the group;
- Collective rationalization of assumptions;
- Stereotyping / disqualifying of out-group;
- Direct pressure to conformance / loyalty;
- Self-censorship of (deviating) ideas;
- Illusions of unanimity;
- Self-appointed mind guards.

The above symptoms lead to decision-making based on incomplete information, missing assessment of risks of leading alternative and missing critical assessment of alternatives. This strong cohesion of opinions, fear of discussion and strive for unanimity diminishes the connection with the developments within and outside a firm and as a consequence relevant information is not correctly interpreted and/or used.

An important factor for sound leadership and to prevent groupthink as well as to eliminate cognitive biases is to mix personality types within a Board (Kets de Vries et al., 1986). The Board room and management dynamics are an important denominator of leadership success within a firm. Awareness of Board room dynamics enables management to adapt any dysfunctional behaviour. If the dysfunctional dynamics remain (sub)unconscious, it will eventually control the firm instead of resolving it (Cairnes, 2003).

Many internal auditors believe that leadership is a difficult element of control and hard to include in internal audit activities. This paragraph shows extensive research and attention areas which should be taken into account as an internal audit function.

### 4.8.7 Learning & adaptation

An element of cybernetics is that systems interact with their environment. A firm is an open system that can never be in a true steady state because it is continually learning and adapting to its surrounding environment. There is always a challenge to cope with sufficient variety of sophistication within the firm in relation to the environment and is thus able to remain in equilibrium regardless of a changing environment (Ashby, 1956). This is also called homeostasis. It always deals with a variety of possibilities within an organization. Others call this the adaptability of
the organization or the flexibility of the organization to cope with changes in the environment (Barnard, 1938; Volberda, 1998). The awareness of complexity and the importance of considering the whole picture instead of the parts of a system is the added value of this view.

Learning and adaptation are closely connected to cybernetics. This describes self-regulated mechanisms with feedback and feed forward mechanisms. Learning is the adaptation or encoding of internal or external information, interferences and errors into the organizational routines to guide the behaviour of the firm (Levitt et al., 1988).

There are several levels of learning and adaptation relating to control (Argyris, 1999; Beniger, 1986). A first dimension is the maintenance of an organization, even when there are no external changes (existence or being). In this situation single-loop learning takes place by identifying and correcting errors in a process and organization. The underlying assumptions are not changed. The second dimension is the adaptation of goal-oriented organizations to variation and change in external conditions (experience or behaving). This is also known as double-loop learning in which the system is changed to prevent errors in the future. The third dimension relates to reprogramming less successful goals and processes while preserving successful ones (evolution or becoming). This dimension needs to be applied to counteract entropy, but requires a huge change in the foundation of the firm. There are two well-known examples, such as Nokia and Dupont who reprogrammed themselves into a new firm with new activities, selling the old activities. Another example relates to arriving at the inflection point; this means shifting from an old structure of doing business to a new way of doing business, as happened to Intel and the whole computing industry in the 1990’s (Grove, 1996).

A central item in the literature concerning adaptation of the firm is the relation between the exploitation of current certainties versus the exploration of new possibilities (March, 1991). The latter is concerned with risk taking, experimentation and looking for innovation, while exploitation concerns efficiency, effectiveness and refinement. The choice for the balance between exploitation and exploration is made concrete in the allocation of resources.

---

61 In 2007, Nokia failed to catch the last wave of innovation and is now losing its position to other competitors such as Apple and Samsung. It remains to be seen whether Nokia is able to adapt and reprogram itself again.
In current environments it seems almost impossible to focus only on exploitation without being faced by losing market share and/or dominance. Christensen investigated well-managed firms that failed to stay atop of their industry when they were confronted with market and technological changes (Christensen, 1997). This happened to firms in both fast moving and slow moving industries (e.g. chemical and mechanical related firms). The problem lies in sensing disruptive technologies, having the allocated resources and capabilities to bring innovations into the market. It requires management to sense the changes needed and to seize how to allocate resources and reconfigure the organization, even if this means cannibalizing existing businesses (Teece, 2007).

There are also challenges in learning and adaptation. Ashby already indicated during the 1950s that from a biological standpoint it is more important to focus on the reason for errors instead of just fixing errors (Ashby, 1956; Otley, 1999), otherwise there is also the risk of falling into a competence trap (Levitt et al., 1988). A competence trap is the adherence to routines and the denial of the need for change which leads to inappropriate learning (March, 1991). An example of a firm which stepped into a competence trap is Chrysler. Chrysler invented the mini-van during the 1980s and made a fortune. Although America's car-buying tastes changed, Chrysler's factories continued to produce this particular car, and failed to focus on innovation other styles of vehicles (Pfeffer, 2007). In the meantime the rivals developed other kind of cars and even minivans resulting in diminishing market share and thus profit for Chrysler. The term dynamic conservatism, may apply here. Dynamic conservatism refers to persistence to adhering to past patterns of practice in the face of information that should initiate change, but the gaming and self-interest of parties who do not want to change (middle management) (Argyris, 1999).

Simons indicated that interactive control within the firm and its outside parties is critical to anticipate and manage future uncertainties (Simons, 1995). In other words, sensing and scanning disruptions and reflection points. Within the firm these changes are mostly already identified but not yet anticipated upon. As described by Simons, there may be a link between interactive control systems it within the capabilities of a firm, the allocation of resources and from exploration to exploitation. All should be taken into account as part of a firm’s comprehensive control system, to prevent getting out-of-control. History and research show that focus on exploitation only will lead to losing market share and/or dominance and, in the end, might put an end to the firm’s continuation.
4.8.8 Performance Management & Monitoring

The measurement and monitoring of performance within a firm has a long tradition of research and is mostly known from the management control research (Anthony, 1995; Simons, 1995). The intention of performance management is to coordinate and influence behaviour, so that organizational members have the knowledge and motivation to act in the organization’s best interests (Jensen, 2003; Otley, 1999). A critical process in the performance of a firm is its resource allocation process (Bower et al., 2005). This is the process by which, in addition to corresponding changes in the systemic context, the strategy is implemented in operational budgets and operations.

The assumptions used behind performance management originate from the cybernetic and systems view (Anthony, 1995; Simons, 1995). This view also begins with setting standards and objectives, measuring achievements, comparing achievements to standards and objectives, feeding back information about unwanted variances and correcting processes. Typical elements related to the performance management process are developing goals and objectives, strategic and business plans and budgets, monitoring by strategic and business reviews, and necessary corrective actions in case of deviations or changes in the environment (Otley, 1999; Simons, 1995). As mentioned earlier, a missing element in the traditional management control approach is the element of programming; programming relates to clarity on the strategy, goals, values and value hierarchy of the firm. This is in line with the so called systemic context (Bower et al., 2005). This context should prevent any misaligned resource allocation and information asymmetry between corporate plans and business unit initiatives. Misalignment can lead to a performance gap. Mankins & Steele mention that many firms realize only 60% of their strategies’ potential value because of misalignment between strategy, planning and execution (Mankins & Steele, 2005).

Today’s firms have to balance between economic profit and observing environmental and other constraints as well as pursue non-financial objectives (diversity, social objectives and sustainability). Hence the need for multi-objective multi-criteria decision making increases and needs to be embedded in the objective function of a firm (Strikwerda, 2012).

Critical performance parameters help in order to realize the targets, objectives and strategy (Simons, 1995). This focus on parameters is not new, but was already set up at Dupont around 1915 (Simons, 1995). The latest method to develop and measure objectives is the Balanced Scorecard (BSC), developed by Kaplan and
Norton (2008). This method is further extended by the use of strategy maps to highlight strategic themes, causal relations that represent the major component of the strategy and their interrelationships. The basis of the BSC concerns the different points of view — financial, customer, internal process and learning. This spread of attention for financial and non-financial parameters originates in the 1920s when firms such as General Motors focused on these broad criteria (Johnson et al., 1987). In addition, Kaplan and Norton differentiate between leading (future oriented) and lagging (result-oriented) parameters to ensure a balance to short-term results and long-term success.

Budgeting has traditionally been the method for setting targets and is intended to motivate managers. Budgets are necessary to help managers make the tradeoffs in allocating resources between initiatives and going-concern activities, divisions, and projects (Jensen, 2003). The challenge is to execute these rational-based plans and budgets, because people within a firm have their own objectives and these can be in conflict with the firm’s. Therefore, goal congruence should ensure consistency between the firm’s objectives versus personal objectives (Anthony, 1995). A mechanical cybernetics view is not always realistic, because objectives are not always clear, and/or cannot be measured, and feedback information is not always well understood or reacted upon (Hofstede, 1978a). March and Simon indicated that objective setting is a political process in which differences in goals and in perceptions of reality may be a condition for intergroup conflict (Cyert et al., 1992). On the other hand, Locke has empirical evidence that suggests that goal setting increases performance and motivation (Locke, 2001). Attention is needed for the context (such as politics, power and psychological factors) in relation to the budget and the resource allocation process as part of the whole performance management system (Hofstede, 1981) and the systemic (structural, cultural and cognitive) context (Bower et al., 2005).

One of the elements of the systemic context is the reward system. The current idea is that the relation between compensation and budgeting is the source of the problem regarding a non-effective budget/resource allocation process (Jensen, 2003). Research shows that rewards temporarily change what we do and ensure compliance to the targets, but do not create an enduring commitment to any value or action (Hope et al., 2003). This can lead to actions that may be harmful to the firm, such as holding back profits when a target cannot be reached, pulling next years’ profits forward to reach a target or moving profits to a next year when the targets have been met (Jensen, 2003). Therefore, some authors strive for the beyond budget phase in which budgets are no longer used (Hope et al., 2003). This
approach does not prohibit a reward system, because they acknowledge the importance of rewarding good performance. There are a number of principles that provide a framework for setting rewards in a right way (Hope et al., 2003: p. 110-112; Jensen et al., 2004):

- Do not base rewards on a fixed performance contract;
- Evaluate and reward performance relative to peers, benchmarks, and prior periods given the circumstances;
- Use a few simple, clear, and transparent measures;
- Align rewards with strategic goals;
- Reward team performance;
- Align rewards with interdependent groups;
- Do not use rewards to motivate people, but use them as a means of involvement and commitment;
- Make rewards fair and inclusive;
- Senior managers must communicate with capital markets. They must understand what drives value in their organization and align internal goals with those drivers, not with analysts’ expectations;
- Remuneration committees must take full control of the remuneration process, policies, and practices.

4.8.9 Information & Communication

Information and communication are closely connected, at least in the classical, mathematical approach because information is in this approach only identifiable as part of a communication situation with transmission and receiving data (Skyttner, 2005). This communication can take place between people but also between machines or between machines and people. In the sociological theory of information it is seen as a matter of social order and a mutually making sense of information (Garfinkel, 2008).

The description of the control element information & communication in the management control or audit literature is usually limited to the information technology systems. It is true that the evolution of computer-based information systems enabled major development in processing large, complex amounts of data in a timely way (Beniger, 1986). It enlarged the scope of data processing to add systems to support management and administrative activities including planning, analysis, and decision making (Davis, 1999). Furthermore, information technology was extended to internal and external networks connecting a firm to outside parties. The basis of information systems consists of information technology infrastructure
(hardware), application systems (software), and personnel that apply information technology to deliver the information requirements and output (Davis, 1999).

However, as described in paragraphs 4.5 and 4.6, the cybernetic theory of control provided various types of information – from goal, axiological and environmental, to effect and pragmatic information. These different types of information relate to the earlier discussed management control elements, such as mission, values, strategy, performance management, learning and adaptation (as discussed in paragraph 4.8). As such, information within a firm is more than just an IT system and its related pragmatic — transaction related — information. As described by Strikwerda (2008, 2011), there is a growing number of firms, such as IBM and Nestlé, that have found their way in managing the new business administration by detaching information from its organizational structure. Furthermore, Strikwerda (2011) describes that information technology only serves the people within the firm to be able to interpret and exploit data. In other words, these firms invest in the information capital of the firm instead of in information technology.

This view is beyond the narrow focus of much used quality criteria of information such as completeness, timeliness, accuracy, accessibility information as defined by COSO (2004). COSO is very much limited to transaction data, while the cybernetic theory of control explained a broader perspective where also relevance and the relation to its competitive position is included (Alberts, Garstka, & Stein, 1999).

This broader cybernetic theory of control should prevent a firm to become out of control as it is not able to control data and information as a result of data overload. Individuals have cognitive limitations to processing large amounts of data and/or information (Simons, 1995). There is a clear dilemma between receiving too much pragmatic information and receiving all available, but not the right information (Edmunds & Morris, 2000). Research shows that decision making performance was unaffected when there was more information. In fact, when more information was available, it actually lead to less accurate decision making (O’Reilly III, 1980). A cause of this problem is insufficient attention for the interpretation of information in relation to a firms mission, values, goals, besides the collecting and organizing of material information, which may not all be relevant for the performance of a firm (Sutcliffe et al., 2003).
4.9 Concluding remarks

This chapter explored literature on control to analyze and to identify a theory of control that could provide clarity to the required scope of work for internal audit functions. The following concluding remarks can be made based on the exploration:

A comprehensive theory of control could be formulated by using the biological cybernetics and information theory supported by insights from organization theories. Its concept of analysis is a living system, that is explicitly organized for information processing to effect control and to remain alive in an open system. This is in line with firms who are information driven constructions, competing with their rivals and aligning with their environment to adapt and remain alive. However, it should be noted as well that the comprehensive theory as described in this chapter has not been adopted yet in current management, management control and management accounting studies.

Furthermore, based on this literature research, control elements and their assumptions have been clarified. Firstly, there is a growing importance of the mission and values of a firm as focal points for its managers and employees and to prevent any data overload. This is also related to the whole systemic context of a firm, which includes, among other, the values, structure and performance structure of a firm. The question is, whether missions and visions are correctly defined and really provide clear guidance. It is also the question whether management on values is applied correctly, instead of being treated as trivial, intangible and as an artefact.

Secondly, information is broader than the traditional scope on accounting type of information. There is a growing importance of relevant, accurate, timely and accessible information from a broad perspective (goal, axiological, environmental, effect and pragmatic) that also requires the attention of internal audit.

Thirdly, the logic of organization structure changes due to the changing information context. The importance of the internal structure of the firm changes as the coordination and programming mechanism is diminished. The different, formal structures remain important, but their coordinating role is overshadowed by other control mechanisms as described in this chapter.

Fourthly, the importance of psychological element expands. Internal audit should be able to identify lacking results and misalignment with dysfunctional behaviour and other causes.
Fifthly, changes in the resource allocation process and its detrimental effects on a firm’s performance management are an essential part of an appropriate control system of a firm. However, this process only seems to receive marginal attention at this moment.

These insights can help internal audit to focus on essentials regarding the control system of a firm. However, these assumptions are not static and may alter due to modifications in the institutional environment. The logic of falsification cannot always be applied and principles therefore may be seen only as temporary crutches to aid sense-making as we go along and are accepted within its institutional boundaries.