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The role of contingency variables in a design of MCS

Case study: Canon Austria GmbH“

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My motivation to write this thesis was to contribute to empirical research in the field of management control systems.

ABSTRACT

Im Rahmen des situativen Ansatzes der Organisationstheorie existiert kein universelles Management Control System (MCS), das für jede Organisation geeignet ist. Jede Organisation erzeugt sein eigenes MCS, welches in Bezug auf unterschiedliche Faktoren situationsabhängig ist und die betriebliche Organisation beeinflusst. Jene Organisationen, bei denen sich sowohl die organisationsabhängigen als auch die beschriebenen Faktoren des situativen Ansatzes im Einklang befinden, erzielen den höchsten Grad an Performance.

Ziel und Zweck dieser Masterthesis ist es, situationsabhängige Variablen zu untersuchen, die einen Einfluss auf das Design von MCS haben und in weiterer Folge dieses Design im Zusammenhang mit unterschiedlichen Systemen zu beschreiben. Die Analyse wird in Form einer Fallstudie am Beispiel des Zusammenspiels zwischen einer Zentrale und einer untergeordneten Geschäftseinheit durchgeführt. Sie zeigt, dass kybernetischen Kontrollen im Zusammenhang mit Steuerungsprozessen der untergeordneten Geschäftseinheit weiterhin eine hohe Bedeutung zukommt. Abseits davon sind kulturbedingte sowie administrative Steuerungen unabdingbar, da ohne diese, die entscheidenden Resultate nicht erzielt werden können.

Stichworte: Steuerung, situativer Ansatz, Management Control System, Canon, Österreich, Japan

ABSTRACT

According to contingency theory there is no one, universal design of a management control system (MCS) that fits every organization. Each organization creates its own MCS, which is contingent upon different factors influencing the operations of the organization. Those organizations, which achieve a better fit between their organizational characteristics and relevant contingency factors will also achieve a better performance.

The aim of this master thesis is to examine contingency variables that have influence on a design of MCS and to describe the design of a management control system in the context of a package of systems. This analysis will be conducted in a form of a case study on the example of a relationship between headquarters and a subsidiary. The analysis shows that cybernetic controls are still the most important instrument when it comes to a control process in a subsidiary. Nevertheless, cultural and administrative controls play a key part in this process as without them it would not be possible to achieve the desired results.

Key words: control, contingency theory, management control system, Canon, Austria, Japan.

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List of Abbreviations

MCS	Management Control System(s)
R&D	Research and Development
M&A	Mergers and Acquisitions
CIG	Consumer Imaging Group
BIG	Business Imaging Group
PPG	Professional Printing Group
JIT	Just in Time
TQM	Total Quality Management
FM	Flexible Manufacturing
PMS	Performance Measurement Systems
ABB	Activity-Based Budgeting
BBA	Beyond-Budget Approach
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interests, Taxes, Depreciation and Amortization
EVA	Economic Value Added
CFROI	Cash Flow Return on Investment
MVA	Market Value Added
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CTO	Chief Technical Officer
COO	Chief Operating Officer
MD	Managing Director
KPI	Key Performance Indicator

1 INTRODUCTION

1.1 Motivation

A single task of control is to assure that activities of an organization are delivering expected results (Fisher, 1998). In the literature, control in complex organizations is exercised through two different channels. The first control channel includes cybernetic controls (formal budgeting process and performance measures) and planning. The second control channel includes cultural and administrative controls (Fisher, 1998; Malmi & Brown, 2008). According to contingency theory there is no one best design of a management control system (MCS) that fits every organization. Each organization creates its own MCS, which is contingent upon different factors influencing the operations of the organization. Those organizations, which achieve a better fit between their organizational characteristics and the relevant contingency factors will also achieve better performance.

1.2 Objective

This master thesis examines the relationship between contingency theory and management control systems. The aim of this master thesis is to examine contingency variables that have influence on the design of MCS and to describe the design of the management control system in the context of a package of systems. Since contingency theory does not state that there is one, unique design of a MCS, the design of a MCS has been analyzed on a practical example in a form of a case study. The control mechanism of headquarters (Canon Inc.) over its subsidiary (Canon Austria GmbH) will be analyzed in depth.

1.3 Theoretical relevance

The idea of examining a MCS not as a single system but rather as a package of systems is not entirely new (Flamholtz, Das, & Tsui, 1985). In the focus of this master thesis will be a framework of *Management control systems package* by Malmi & Brown (2008, p.291). Throughout the thesis I will refer to this package as the Framework. This thesis brings three relevant contributions to empirical research. Firstly, theoretical foundations about relevant contingency factors for the design of a MCS will be examined on a practical example. Secondly, the relative importance of control systems within the Framework will be examined. Finally, the reasons for a specific design of

MCS, based on a relationship between organizational characteristics and internal and external contingency variables will be presented.

1.4 Structure of Master Thesis

This master thesis consists of seven chapters. In this chapter the central question, motivation, objective and theoretical relevance have been described. In the second chapter the theoretical framework including definition of the terms control and management control system will be described, followed by contingency theory, contingency variables and relationship between contingency variables and MCS.

After the theoretical framework in the second chapter, the third chapter will describe the concept of MCS as a package and analyze each system separately. The fourth chapter will present the case study companies and the fifth and the sixth chapter will deal with analysis of the contingency variables and control systems of the companies.

In the seventh chapter the conclusion, recommendations and possibilities for further research will be discusses. Finally, the references and additional material in the appendices will follow.

2 THEORETICAL FRAMEWORK

2.1. Definition of the Terms

In the following section the terms control and management control system (MCS) will be defined. Further on, contingency theory as a relevant theory for studying MCS will be presented and relevant contingency variables will be analyzed in depth. Furthermore, the relationship between different contingency variables and MCS characteristics will be presented.

2.1.1 Control

Literature does not offer a single definition of control. There are different perspectives which imply different definitions of control. The literature is also described as “confusing”, having in mind both the meaning of control and the measurement of key variables (Flamholtz, Das, & Tsui, 1985).

Control represents one of the key aspects of managerial science. However, control as a term is used in other sciences as well and not just managerial science. Management view of control will be in focus. This view can focus on an individual or an organizational level of control. Flamholtz, Das & Tsui (1985) research control issues under the assumption that organizations and individuals are “purposeful, goal-seeking entities, whose goals may not be congruent, and are often in conflict with goals of a social organization”; for this reason, control is an “inherent part” of all human organizations (p.36).

For the purposes of this master thesis the definition from Fisher (1998) would be appropriate as it refers to control on organizational and not on the individual level. According to him control is used to create conditions that motivate the organization to achieve desirable or predetermined outcomes. In this sense the purpose of control is to assure that that activities of an organization are delivering expected results. This point of view limits control reach to monitoring, feedback analysis and corrective measures.

The literature body on this topic is very broad and is expanding. There are different views on how to organize the literature on control and also there are different perspectives of approaching this matter.

Flamholtz, Das & Tsui (1985) suggest analyzing control on three different perspectives. Firstly, the sociological macro perspective that has the whole organization in focus. Secondly, the administrative perspective which has individuals and single departments in focus. Finally, psychological perspective, which focuses solely on an individual within the organization. According to this approach, this master thesis has a sociological macro perspective in focus.

Demartini (2014) gives an overview of different theoretical approaches to organizational control. He divided literature into three different theoretical approaches:

- Economic theories of organizational control (agency theory and transaction cost theory)
- Sociological theories of organizational control (functionalism, general system theory approach, contingency theory and theory of bureaucracy)
- Psychological theories of organizational control and
- Behavioral theories of organizational control

Contingency theory is widely used when it comes to studying management control systems. However, agency theory is used as a basic theory when it comes to studying management control from a mathematical aspect, since it is easy to translate it into variables. In this place the main characteristics of agency theory will be presented because of its importance for understanding the concept of control.

“The relationship of agency is one of the oldest and commonest codified modes of social interaction” (Ross, 1973, p.134). The main conflict occurs when the principal has to delegate the tasks to an agent. “The relationship of agency is one of the oldest and commonest codified modes of social interaction” (Ross, 1973, p.134). The agency theory can be defined as a contractual agreement between two or more parties, where one party, the agent, acts on behalf of the other party, the principal, in a concrete setting involving decision making (Ross, 1973). The agency problem is to determine the optimal contract between an agent and the principal. The theory can be explained by two possible scenarios. The first scenario is the scenario of complete information. In this scenario the principal can observe the behavior of the agent and the effort of the agent is known to the principal. The second scenario is the scenario of incomplete information, the more complex one. In this scenario the principal cannot observe the agent and therefore he does not know if the agent behaved accordingly. The principal has two options. The principal can monitor the agent by using cost accounting,

budgeting etc. and in this way ensure that the agent acts accordingly or he can observe and reward the outcome. The latter can cause problems because the agent can be rewarded or punished for the outcomes he or she is not responsible for. According to Eisenhardt (1985) in agency theory the control can be exercised in two ways depending on the view of the organization the political and the outcome uncertainty view. The political view of organization says “the role of control is to provide measures and rewards such that individuals pursuing their own self-interest will also pursue the collective interest” (p.137). The outcome uncertainty view says “control system measures and rewards, not only motivate behavior, but also alter risk sharing patterns” (p.137).

Many authors acknowledged the influence of psychological and sociological factors on control systems within the organization (Anthony, 1965; Carneys, 2012). The psychological factors and culture as a sociological factor became an important variable of a control system and are coupled with traditional formal system in order to make a well-designed control system. In the following section the development of control systems will be presented.

2.1.2 Management Control Systems

The complexity of the term control causes difficulties in defining management control systems. MCS includes diverse actions and processes which are designed to establish desired behavior on all levels of organization. This system of control needs to be carefully designed.

The balance between control and flexibility has been one of the main issues in organizational literature. Traditional view of MCS sees it as formal control and feedback system whereas now the additional role of MCS to foster flexibility, innovation and organizational learning is also recognized (Henri, 2006, p.1).

Anthony (1965) introduced the term management control and defined it as a “process by which managers assure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives” (p.17).

Firstly, it is important to define other terms in order to correctly describe the role of management control systems in an organization. Throughout the literature terms management accounting, management accounting systems and organizational controls are often used as synonyms and that can cause confusion (Chenhall, 2003).

This happened because the field of management control has developed rapidly. Also more sophisticated terms like performance measurement systems, performance management systems or strategic performance management systems have become the topic in management control literature (Demartini, 2014).

Management Accounting Practices Committee first defined management accounting in 1981 as “the process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of financial information used by management to plan, evaluate, and control within an organization and to assure appropriate use of and accountability for its resources. Management accounting also comprises the preparation of financial reports for non-management groups such as shareholders, creditors, regulatory agencies, and tax authorities” (Management Accounting Practices Committee, 2008, Def. No.1). In this definition management accounting referred only to systematic dealing with financial information. Since then the field of management accounting and similar fields have evolved dramatically. Now management accounting also has a strategic role in an organization and involves decision making, budgeting, performance measurement systems and control (Institute of Management Accountants 2008; Chenhall, 2003). Management accounting has evolved to a management accounting system by adding more strategic processes and control aspect to a pure financial information processing system.

Another term that needs to be more specified is organizational controls. Chenhall (2003) referred to organizational controls as controls that are a part of organizational activities and processes such as just in time management or quality control.

According to Chow & Van der Stede (2006) performance measurement is a part of all essential processes in an organization which include „translating strategy into desired behaviors and results, communicating these expectations, monitoring progress, providing feedback, and motivating through performance - based rewards and sanctions “(p.1).

Carenys (2012) refers to three trends in development of management control presented by Soldevila (2000): mechanistic and formal control systems, systems based on psychological aspects and systems based on cultural and anthropological aspects (p.7). In the first trend, mechanistic and formal control systems, control is achieved through hierarchy, line of authority, formal processes and procedure and centralization of decision making. The main objective of an organization is profit

maximization and incentives are strictly in monetary form. However, this kind of a control system makes an organization inflexible to environmental changes and limits creativity and innovation. Nevertheless, most of the techniques of formal control systems are in use today (Carenys, 2012). The second trend, systems based on psychosocial aspects, presumes that the needs of an individual are also important for the establishing a control system. This is because people are a part of an organization and influence control systems. Also, limited rationality and nature of people's motivation are a characteristic ignored by the concept of formal control systems. This trend acknowledges that individuals and relationships between them have influence on management control system design. The third trend, systems based on cultural and anthropological aspects, came through as globalization process started to advance. Now, organizations need to function in multinational and multicultural environments which bring new challenges. Understanding the effect of culture and making culture a part of a control mechanism became necessary for design a successful control system (Carenys, 2012).

Consequently, it can be concluded that understanding of what a management control system is and what should be in its focus has changed over time. With development of the society and the global market new aspects, like psychosocial aspect and culture have gained on importance. Only with combining both formal and psychosocial and cultural control systems an organization can create an efficient control system which will provide support for achieving its goals.

2.2 Contingency Theory

Contingency theory is an approach in organizational theory, which states that there is no one unique type of organizational design which fits all organizations (Islam & Hu, 2012). Instead, organizational design is a reaction to different contingency factors under which influence the organization operates. As a consequence, a better fit between the organization and relevant contingency factors is what differs a good organization from a bad one (Fisher, 1998).

Contingency-based research is a commonly used approach in MCS research. Equivalently, there is no one best design of MCS which fits every organization and is universally applicable. One design can be a good solution for one organization, but not for the other. According to Carenys (2012) there is no one universal control system

applicable to all organizations and all circumstances, but each organization's specific circumstances like environment or management style.

Chenhall (2003) who used the relevant literature about MCS in the last twenty years states that „ the conventional, functionalist contingency-based approach to research assumes that MCS are adopted to assist managers achieve some desired organizational outcomes or organizational goals “(p.128). According to this view, MCS are considered to be a passive tool that has a role of assisting managers. The author also points out that there is another, sociological view of MCS, which gives a more active role to MCS. According to this view, MCS gives power to organizational members so they can achieve their goals.

The years of research on this topic identified different contingency variables as relevant for the design of MCS. Hofer (1975) has presented a circumspect analysis of contingency factors such as environment and product life cycle. In this case, contingency variables suggested by Chenhall (2003) will be used as relevant contingency variables for the design of MCS. Those are environment, technology, organizational structure, strategy, size and culture. Whereas organizational structure will be considered as a part of management control system and not as a contingency variable itself.

2.3 Contingency Variables

2.3.1 Environment

According to literature external environment is at very foundation of a contingency-based research (Hofer, 1975; Chenhall, 2003). Uncertainty and risk are two aspects of external environment that are discussed the most. It is important to clearly define these two terms. „ Risk is concerned with situations in which probabilities can be attached to particular events occurring, whereas uncertainty defines situations in which probabilities cannot be attached and even the elements of the environment may not be predictable" (Chenhall, 2003 p.137). Milliken (1987) reexamined environmental uncertainty and introduced three types of perceived uncertainty: state uncertainty, effect uncertainty and response uncertainty. State uncertainty refers to many variables (suppliers, competitors and government) surrounding the organization and which

future influence on the organization is unpredictable. Effect uncertainty refers to ability of the individual. The individual is familiar with the activity surrounding the organization but is not able to predict how this activity will affect his or her organization. Response uncertainty refers to ability to choose the adequate response to a surrounding threat.

Chenhall (2003) refers to Khandwalla (1977) and adds more variables to describe external environment. Those are turbulence (risky, unpredictable, fluctuating, ambiguous), hostility (stressful, dominating, restrictive), diversity (variety in products, inputs, customers) and complexity (rapidly developing technologies) (p.137).

Furthermore, the terms risk and uncertainty become real only when coupled with a specific term. Hofer (1975) introduced *broader environmental variables*. He divided them into economic conditions (GNP trend, interest rates, money supply and energy availability), demographic trends (growth rate of population, age distribution of population and regional shifts in population), sociocultural trends (life style changes, consumer activism and career expectations) and political/legal factors (antitrust regulations and environmental protection laws) (p.798). Even though supplier and competitor variables are presented as a separate set of variables they can also be included in an environment of an organization. The relationship between the organization and its suppliers has become closer than ever, as well as tracking competitors' behavior.

Presented lists of environmental characteristics and its variables are not exhaustive. These also change over time and not all aspects are equally important for each organization. Certain variables can become more important over time influenced by other contingency factors. Each organization needs to identify key environmental variables and track the changes in its environment.

2.3.2 Technology

The most important representatives of the importance of technology for an organization and its influence on it are Woodward (1958), Perrow (1967) and Thompson (1967). Demartini (2014) refers to work of Woodward (1958) who studied technology as a contingency variable and its influence on management practices. In accordance with contingency theory his research showed that successful organizations have a better match between technology practices and environmental characteristics. Perrow (1967) considered technology as defining characteristic of an organization, since technology

plays a key role in transformation of organizational inputs (people, symbols or things) (p.195).

Chenhall (2003) defined technology as „how the organization’s work processes operate (the way tasks transform inputs into outputs) and includes hardware (such as machines and tools), materials, people, software and knowledge “(p.139). He identified three generic types of technology that are relevant for MCS design: standardized-automated processes, task uncertainty and interdependence. The standardized-automated processes are usually supported by traditional formal design of MCS. Informal controls and less reliance on financial measures are typical for task uncertainty. Technologies with high interdependence are also characterized by informal integrated MCS. When it comes to contemporary, advanced technologies such as, Just in Time (JIT), Total Quality Management (TQM) and Flexible Manufacturing (FM), these are also supported by more informal and flexible MCS with greater reliance on nonfinancial measures.

Technology influences organizational structure and its administration procedures. Large scale organizations are specifically adapted to complicated technologies. If the product is concrete and tangible and the technology adaptable the biggest concern over policy will be when to shift to new products (Thompson & Bates, 1957, p.329).

Lincoln, Hanada, & McBride, (1986) compared United States and Japanese manufacturing organizations and found support for Japanese manufacturers having taller hierarchies, less functional specialization, less formal delegation of authority but more de facto participation at lower levels of management hierarchy (p.361).

2.3.3 Size

The size of an organization has a direct influence on many other components inside and outside the organization. Today it is not so easy anymore to make a distinction between a small and a large organization. Furthermore, through different ways of building closer relationships within the vertical chain, the boundaries between organizations are not that clear anymore. This increases complexity of organizational operating tasks.

Chenhall (2003) supports the view of large organizations having advantages of specialization and division of labor. Furthermore, they can more easily influence their operating environment and also reduce uncertainty. However, by becoming larger

organizations encounter problems such as handling more information flow, there is more demand for formalized means of communication through instruction manuals and other documentation and also decentralization of decision-making process.

Lawler (1999) gave an overview of advantages and disadvantages of large organizations. The main advantages are market share, access to low cost capital, brand recognition, research and development, global reach, expertise and systems development. Large size enables larger market share which is connected to economies of scale, better shelf space in stores, greater negotiating power with suppliers and generally greater impact on the market. Access to low capital is possible because investors connect large size with stability and large organizations get better debt ratings. Recognizable brand means perceived risk of new products is lower and organization can transfer the brand recognition to new products. Investing in R&D is very important for the growth of an organization. Larger R&D costs can only be amortized when there is a large customer base. When it comes to entering new markets large organizations have more advanced technology that can be transferred, therefore larger bargaining power. Also large organizations can afford significant initial investment, investment into information systems and centers of expertise. However, large size also has disadvantages. Large organizations tend to have coordination problems and react slowly to changes in the market, have lower employee satisfaction and high employee turnover, also employees tend to feel estranged and do not fully understand the organizations strategy. Therefore, the key to success would be to use the best of both sides and act large or act small at the right moment.

Size also implies certain behavior of an organization. Stanwick & Stanwick (1998) confirmed their hypothesis about a positive relationship between corporate social performance and the size of the firm. They found that larger organizations are willing to invest resources into implementing social programs. This behavior is driven both by access to additional resources and pressures by government regulation and environmental organizations. Brammer & Millington (2006) also found a strong support for their hypothesis about the level of corporate philanthropic expenditure being positively correlated with organizational size.

2.3.4 Strategy

Literature offers different definitions of strategy. Mintzberg (1978) offers a very broad definition of strategy “as deliberate conscious set of guidelines that determines decisions into the future” (p. 935). Strategy can also be defined as “an analytic process for establishing long-range goals and action plans for an organization” (Mintzberg & Waters, 1985 p.257). All these definitions refer to strategy as (1) planned, (2) deliberate and goal- oriented and (3) referring to the future.

Mintzberg (1985) has presented several type of strategies: planned, entrepreneurial, ideological, umbrella, process, unconnected, consensus and imposed. These types of strategies are different variations between two perfect extremes deliberate and emergent strategy. Deliberate strategy is a strategy that has previously well-developed plan of action, where every member of the organization follows the planned course of action and where is no deviation in the process of strategy realization not even due to the external factors like market or technology. Whereas by emergent strategies the organizations have developed patterns but unintentionally, without a previously defined plan. These two types of strategies are almost never found in practice but many companies come close to them, therefore it is very interesting to examine a whole range of different types between these two extremes.

Planned Strategy- the leader is in the focus of this strategy. He or she is in charge of strategy formulation and its implementation with as less variation from the plan as possible. This strategy is characterized by formal controls (budgets, schedules). This strategy is the closest to purely deliberate one.

Entrepreneurial Strategy – entrepreneur is in the focus of this strategy. This strategy is different from planned by its flexibility and adaptability of the leader. In this case the leader can react more quickly according to his own judgement since he or she is the formulator and implementer of the strategy. This type of strategy is typical for start-ups (young and small organizations). This strategy is rather deliberate but can become emerged.

Ideological Strategy – the members of the organization “share a vision and identify so strongly with it that they pursue it as an ideology” (p.262). This strategy is also characterized by high level of control not through formal rules or personal believes but through ideology. This strategy is rather deliberate.

Umbrella Strategy- this type of strategy has a looser type of control than the three previous strategies. Leaders do not have a full control over other members of the organization. There is a set goal which organization strives to achieve but there are various ways to achieve that goal. The leader has to give general guidance, motivate the members to strive towards a common goal and monitor their behavior.” Virtually all real-world strategies have umbrella characteristics” (p.263). This strategy can be both deliberate and emergent.

Process Strategy – this type of strategy is similar to umbrella strategy but the big difference is that “it controls the process of strategy making while leaving the content of strategy to other actors” (p.264). The members have much more free space to act upon its own ideas. Multinational companies with divisional structure usually apply this strategy, where they expect from local managers a specific strategy for their market and the central management gives basic guidance and manages the control systems. Process strategy can also be both deliberate and emergent.

Unconnected Strategy – this type of strategy occurs when one part of the organization, for example a subunit manages to create and conduct its own strategy. These strategies can be a part of the umbrella strategy, aside from it or they can be completely opposite. This strategy is emergent.

Consensus Strategy – this strategy can be explained by comparing it to ideological strategy. In this case the consensus is not created intentionally and with control. It is a product of a process where individuals influenced each other and evolved over time towards a common goal. One could say that this strategy occurs rather unexpectedly since it is not imposed and supervised by central management. This strategy is mostly emergent.

Imposed Strategy – this is a type of strategy where the course of action is imposed by a person or group of people outside the organization or by environment itself. Either way strategy is not a product of members within the organization. One important conclusion can be made at this point, almost every real-world strategy has to take restrictions of the environment into consideration. This strategy is the strategy closest to purely emerged strategy.

Miles & Snow (1978) presented four strategic types of organizations: defenders, prospectors, analyzers and reactors. Whereas reactors represent a form of “strategic

failure” where there is no perfect fit between strategy, technology, structure and process (p.550).

Defender – This type of organization operates in a stable, slow changing environment. Their main focus is on technological efficiency that has to be cost efficient at the same time. Organizational structure is functional and control is centralized. The major threats to these organizations are slow reactions to market changes and product preferences.

Prospector – This type of organization is very active in monitoring environmental changes and spotting the opportunities. Its flexibility is what clearly distinct it from defender strategy also in the field of technology. There is more reliance on people than on mechanization. External parties may also be a part of organizational structure and control is decentralized. The major threats to these organizations are a low margin and not focused use of resources.

Analyzer – This type of organization is a mix of characteristics of the previous two types. It represents a middle ground between two extremes. Analyzers actively monitor the environment but also bring changes. They try to remain stable and preserve flexibility at the same time. This is at expense of technological efficiency. These organizations have a matrix structure and are moderately decentralized. The biggest threat is losing the balance between stability and flexibility.

Maybe the most famous typology of organizational strategy is the one by Porter (1998). He introduced three generic strategies: overall cost leadership, differentiation and focus.

Overall cost leadership- requirements to pursue this strategy are access to raw materials, simple manufacturing process, high up-front capital, sophisticated equipment and aggressive pricing (p.36). This strategy lays on a tight cost control (overhead) and cost reduction (experience, R&D, sales force, service and advertising) in every aspect of doing business. This strategy provides a good position against powerful buyers and suppliers and substitute products (p.36).

Differentiation- organizations pursuing this strategy differentiate their product or service by creating a unique experience for customers. This perceived uniqueness can take different forms: design or brand image, technology, features, customer service, dealer network or high-quality (p.37). All these activities require a higher cost of the production process but this is compensated by a premium price charged. Strengths of this strategy are loyal customers and high market share.

Focus - organizations pursuing this strategy focus on a narrow segment of the market and then choose which of the strategies they want to pursue low cost or differentiation. Specializing in satisfying the needs of a certain group of customers is what makes these organizations successful. They manage to provide a customized product or a service and are usually awarded with above – average profitability. Focus strategy implies a “tradeoff between profitability and sales volume” (p.40).

Simons (1990) was one of the pioneers examining the relationship between the strategy and management control systems and the role of management control systems in creating a competitive advantage. His research indicated that management control systems are also important for strategy implementation and not only for strategy formation. He suggests that all large firms do not differ much in management control system. These systems are constructed in a similar way. They all have a short and long- term planning and budgeting systems, variance analyses and project management activities (p.135). The main conclusion is that when the firm chooses an appropriate business strategy at the same time the business strategy specific uncertainties and treats occur. The role of top management is to monitor these uncertainties. This personal choice of which uncertainties to monitor is what differentiates one organization from another (p.137).

Langfield-Smith, (1997) reviewed literature analyzing the relationship between strategy and MCS. Based on a strategy typology from Miles & Snow (1978) defenders have formal control system, focused on financial measures, cost monitoring and problem solving. Additionally, control is achieved through formal processes and procedures. Prospectors have more flexible control systems that are supposed to foster innovation and fast responding to environmental changes. Control tends to be decentralized whereas defenders may have a centralized control. However, the size of an organization can influence the nature of a control system. For example, large prospectors may use tight financial controls since this is the only way to control a wide range of activities.

Milgrom & Roberts, (1995) emphasize the importance of *fit* between organization's strategy and structure and translate the abstract term *fit* into mathematical variables. Their idea of complementarity suggests that all parts of the system need to be coordinated in order to achieve optimal results. Furthermore, according to them changes in the system of an organization should be “centrally directed” in order to achieve a successful change (p.191).

2.3.5 Culture

With internationalization of companies the culture got a bigger role in organizational theory. Culture also plays a part in designing MCS since headquarters are deciding if they will transfer culture to subsidiaries or they will adapt MCS to subsidiary's culture (Chenhall 2003). However, the literature and empirical evidence are still inconclusive when it comes to defining how preferred design of management control system is affected by national culture (Chow, Kato, & Shields, 1994).

Van der Stede (2003) also confirmed in his study that culture as a contingency factor has an influence on design of an MCS. The study showed that the influence of the culture of the parent company has a much greater influence on the design of MCS than the national culture of the subsidiary.

Culture is a very complex term. Hofstede (1983) defines culture as "collective mental programming" and "that part of our conditioning that we share with other members of our nation, region, or group but not with members of other nations, regions, or groups" (p.76).

A very important topic in organization science is the influence of national culture on management. Hofstede (1983) states it is so, for at least three reasons: political, sociological, physiological. Political because „nations are political units, rooted in history, with their own institutions: forms of government, legal systems, educational systems, labor and employer's association systems" (p.75). Additionally, he stresses out the importance of informal ways of using formal institutions. Sociological because nationality has „a symbolic value to citizens" (p.76). National identity is very important to people. It is connected to both individual and common identity. Psychological because „our thinking is partly conditioned by national culture factors" (p.76). According to him this effect is connected to „early life experiences in the family and later educational experiences in schools and organizations" (p.76). These experiences differ from country to country.

Hofstede (1983) differentiates four different dimensions: individualism versus collectivism, large or small power distance, strong or weak uncertainty and masculinity versus femininity.

In the following section these four dimensions with addition of two new dimensions will be defined and analyzed on the example of Japanese culture¹ (Hofstede, 2001; Hofstede, Hofstede, & Minkov, 2010).

Power distance - the hierarchy in Japan is strictly respected in all life spheres. On level of an individual, Japan is described as *meritocratic society*, meaning all individuals are born equal and everyone has the same chance to success if they work hard enough. In business world that means that the decision-making process is a very long one and each decision before its made needs to go through many hierarchical levels.

Individualism - with score of 46 Japan shows both characteristic of individualism and collectivism in comparison to the United States with highly individualistic culture (91). Individualism characteristics that Japanese show are being loyal to the company they work for and being very private. Collectivism characteristics would be putting the interests of the group above personal ones. Furthermore, losing face and reputation are strongly condemned by the society. However, Japan is not as collectivistic as China or Korea.

Masculinity - Japan scores 95 being one the most masculine societies in the world. From an early age Japanese compete in groups and are motivated to win. This pattern of behavior then transfers into the corporate world where employees are highly motivated to win against the competitors. Japanese are well known for being hard working and striving for perfection. However, the working habit of long hours and work dedication is making it hard for women to succeed in Japan's corporate world.

Uncertainty avoidance - at score of 92, Japan is one of the most uncertainty avoiding societies in the world. It is presumed, this is due to the fact that Japan has always been struck by or near natural catastrophes. As Japan always had to be prepared for the worst and have a contingency plan this kind of cautious behavior has transferred to other spheres of life. Social gatherings are followed by many ceremonial customs which are usually always conducted in the same way. Additionally, in corporate world each corporate decision is carefully analyzed and supported by scenario analyses and risk assessment.

¹ The following description of Japan's cultural characteristics is used from the website: www.geert-hofstede.com.

The text in italics is used to emphasize the definitions from the website.

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References should be made to one or both of the original sources: (Hofstede, 2001), (Hofstede, Hofstede, & Minkov, 2010).

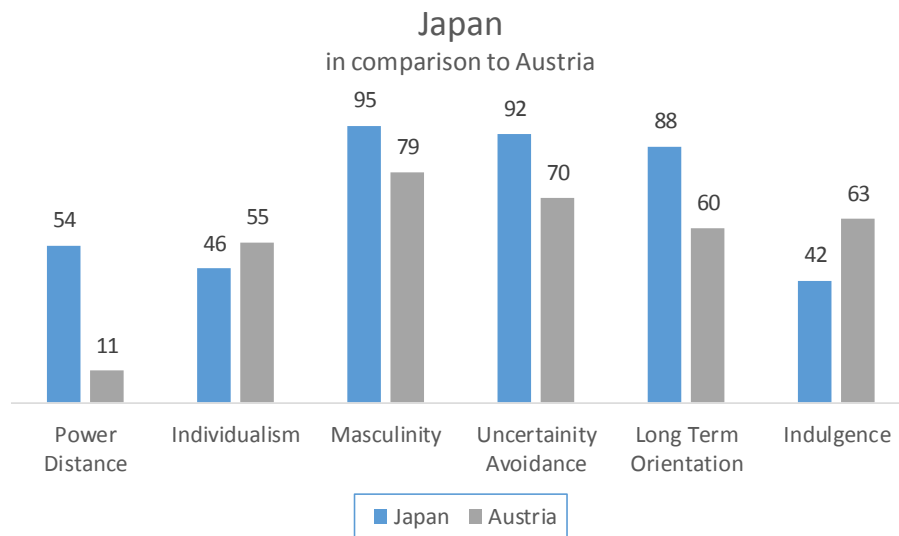
Long Term Orientation - at a score of 88 Japan represents one of the most long-term oriented societies. In comparison to Australia (21) or the United States (26) with one of the lowest scores. On an individual level Japanese see themselves as *short moment in a long history of mankind*. Long term orientation can be seen in high R&D rates, in prioritized steady growth rates of market share and less focus on short-term goals. The long life of the company is in focus.

Indulgence- the score 42 represents the lowest score in all dimensions. This score shows that Japan has culture of very low indulgence, meaning it's a culture of restraint. Generally, societies described as Restraint societies lean towards cynicism and pessimism. Furthermore, these societies do not consider leisure time and indulging themselves as positive tendency in life. As a comparison, the highest scores in this dimension have the Scandinavian countries Sweden (76) and Denmark (70).

Chow, Kato, & Shields, (1994) studied the relationship between different dimensions of Japanese and US culture and preferred design of MCS. They studied uncertainty avoidance, power distance, masculinity versus femininity and individualism versus collectivism. Even though, they found a support for a hypothesis that American and Japanese preference for certain control components is a function of national culture, they were not able to explain why. This is due to the fact that the field of complementary and substitution effect between different control mechanisms and relative importance of certain dimensions for choosing different control mechanisms is still not explored enough (p.396).

For the purposes of this thesis, it is interesting to briefly compare Japanese and Austrian culture using a framework of Hofstede's dimensions. As Figure 1. shows the largest difference is between the values for power distance and long term orientation. On one hand, this means that in Austrian society equality is preferred over control which makes it very different from Japanese. On the other hand, both Austria and Japan belong to long term oriented countries where consideration of future effects plays a big role in present decisions. The same conclusion is applicable to masculinity and uncertainty avoidance where both countries have very high scores, whereas Austrian society is considered indulgent and Japanese restrained.

Figure 1: Japan and Austria Dimensions Comparison



Source: own illustration; www.geert-hofstede.com; Hofstede, (2001), Hofstede, Hofstede, & Minkov, (2010).

2.4 Contingency Factors and MCS

Chenhall (2003) has analyzed literature about different contingency variables and corresponding characteristics of MCS. Environment characterized as highly uncertain will be coupled with more open and externally focused MCS. Whereas in hostile and turbulent environment there will be a greater reliance on formal MCS. Uncertain environment implies more focus on formal MCS but it will be coupled with flexible and informal communication system. Different technologies also imply corresponding MCS. New advanced technologies like TQM, JIT and FMS imply more flexible MCS relying on nonfinancial performance measures. Even though organization structure in this context is studied as a part of MCS, for the purposes of completeness it is also presented in the summary. As previously discussed large organizations prefer the use of formal controls for coordination reasons. Strategy is also an important factor affecting the characteristics of MCS. Formal and traditional MCS are more typical for cost orientation and defender strategies, whereas prospectors tend to have organic and flexible MCS. Entrepreneurial strategies are coupled with MCS which have characteristics of both formal and organic MCS. In the following table (Table 1.) different contingency variables and corresponding characteristics of MCS are summarized.

Table 1: Contingency Variables and Corresponding Characteristics of MCS

Contingency Factors	Characteristics of MCS
External Environment	
High uncertainty	More open and externally focused
Hostile and turbulent	Greater reliance on formal controls and traditional budgets
Uncertain environment	Tight financial controls & flexible interpersonal interactions
Advanced Technology	
TQM	Broadly based MCS timely, flexible and externally focused information, close interactions between advances technologies and strategy, nonfinancial performance measurement
JIT and FMS	Informal controls and nonfinancial performance measurement
Organizational Structure	
Large organizations with high diversity and more decentralized structure	Formal, traditional MCS (budgets, formal communications)
Decentralization	Aggregation and integration
Team based structures	Participation and comprehensive performance measures used for compensation
Organic structures	Future oriented (activity analysis and activity-cost analysis)
Size	
Large organizations	Formalization of procedures and specialization of functions Emphasis on and participation in budgets and sophisticated controls
Strategy	
Conservatism/defender orientations/cost leadership	Formal, traditional, focused on cost control, budgets and rigid budget controls
Product differentiation/competitor	Broad scope of MCS for planning purposes
Customization	Aggregated, integrated and timely MCS for operational decisions
Entrepreneurial strategies	Formal, traditional and organic decision making and communications
Defender\ Prospector	Formal, objective\ informal, subjective
Culture	
National culture is associated with the design of MCS	

Source: own illustration; based on Chenhall, (2003)

3. MANAGEMENT CONTROL SYSTEM AS A PACKAGE

The concept of studying MCS as a package is not entirely new. In the following section different models and frameworks of MCS will be presented.

One of the earliest models of a control system of an organization is presented by Baliga & Jaeger, (1984) (See *Appendix 1*). They introduced a model with two types of control: bureaucratic control and cultural control. In the bureaucratic model the new members are trained to learn formal set of rules and follow them. In this model the control system is explicit. This type of control is mostly applied in Western organizations. In the cultural model control is rather informal and implicit. This model implies that employees stay loyal to the organization for a long period of time or entire working life and they follow the rules of the company. This type of a control system is more typical for Japanese culture. The authors emphasize that “cultural control systems can only be sustained in those organizations where turnover is relatively low” (p.31). Low turnover makes the bond between the members stronger and enhances organizational culture. However, as the companies grow they tend to transform into more bureaucratic control system for efficiency reasons.

One of the first frameworks of organizational control systems *An Integrative Framework of Organizational Control* was presented by Flamholtz, Das, & Tsui (1985). This framework consists of two parts: control context and core control system (See *Appendix 2*). The control context consists of external environment, organizational culture and organizational structure. The core control system consists of planning, operational subsystem, the outcome element, the measurement element, the feedback element and evaluation-reward element. The planning element includes defining goals and standards in order to achieve goal congruence at all levels of organization. The measurement element has both informational and motivational role since it provides information on performance (ex post) and has influence on individuals who are trying to achieve target measures (ex ante). The feedback element has both directional and motivational role since it serves as means of improving the performance of an individual and rewarding desired performance results. The evaluation-reward element basically means analyzing forecasted performance goals with present results and rewarding positive outcomes of this comparison.

Furthermore, Macintosh & Daft (1987) presented management control system package consisting of the operating budget, periodic statistical reports, and standard operating policies and procedures.

Ferreira & Otley (2009) presented a very detailed performance management system (PMS) framework (See *Appendix 3*). They defined PMS as “evolving formal and informal mechanisms, processes, systems, and networks used by organizations for conveying the key objective and goals elicited by management, for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding, and broadly managing performance, and for supporting and facilitating organizational learning and change” (p.264).

Flamholtz (1983) states that “the amount of control produced by a given control system may be expected to increase with the addition of each element of a control system” (p.157). Consequently, having both planning and performance measurement as a part of a control system is better than having just one of these systems.

The framework of a *Management Control System as a Package* by Malmi & Brown (2008) shares many components with the previous frameworks. This framework includes planning, budgets, the measurement element, evaluation-reward element and standard operating policies and procedures element (Flamholtz, Das, & Tsui (1985); Macintosh & Daft (1987); Ferreira & Otley (2009)). However, this framework includes culture and organizational structure as control mechanisms and not as external factors influencing the control system of an organization. Accordingly, this framework includes both bureaucratic (formal) and cultural controls similar to a model by Baliga & Jaeger (1984).

In the following figure (Figure 2.) the typology of a management control system as a package is presented. It consists of five types of control: cultural controls (clans, values, symbols), planning (long-range and action planning), cybernetic controls (budgets, financial and nonfinancial measurement systems and hybrid measurement systems), reward and compensation and administrative controls (governance structure, organization structure and policies and procedures). In the following section each of the controls will be analyzed separately.

Figure 2: Management Control System as a Package

Cultural Controls						
Clans			Values			Symbols
Planning		Cybernetic Controls				Reward and Compensation
Long range planning	Action planning	Budgets	Financial Measurement Systems	Non Financial Measurement Systems	Hybrid Measureme	
Administrative Controls						
Governance Structure			Organisation Structure			Policies and Procedures

Source: own illustration; Malmi & Brown, (2008, p.291)

3.1 Cultural Controls

Schein (1984) defined organizational culture as “the pattern of basic assumptions that a *given group* has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, these have worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems” (p.3, emphasis added). From this definition we can see that organizational culture is always related to a specific given group which basically creates its own culture. The last part of the definition refers to perception, thinking and feelings of the members of the organization. The accent should not be on the “total control” of the members of the organization but it is emphasized that the longer the member belongs to the group the more influence will the group’s culture have on the perception, thinking and feeling of the member. The group is considered to be a group of people that has mutual history in encountering problems, solving those problems and learning from the experience. This knowledge is then passed on to new members. The author stress out that the process of passing the knowledge is the key factor in considering a group having a common culture. “If a group passes on with conviction elements of a way of perceiving, thinking, and feeling, we assume that the group has had enough stability and has had shared enough common experiences to have developed a culture” (p.7). If the members of a certain group have a long, close and turbulent relationship which has managed to overcome the difficulties over time, that group is considered to have a strong culture. However, it is stressed out that “cultural strength may or may not be correlated with effectiveness” (p.7).

Finding solutions to the problems is the main activity of the group. Many solutions have historical background and have been used for a long time as they proved to be

effective. The new solutions come from leaders as they are the ones finding ways for the organization to cope with new problems that organization has no experience with. Each organization needs to adapt to its environment. The strategy of adaption is changing over time since the environment is also changing. The real challenge for the organization is to adapt timely and predict future trends in environmental change. As a result of this process the *basic underlying assumptions* of the organizational culture which has had a crucial influence on core mission definition and strategic direction will also change and become a part of the group's culture. Internal integration refers to capability of the group to cope with the problems within the group itself. These problems are ideology, the system of rewards and punishment, intimacy, power and status, boundaries and criteria for inclusion and exclusion, and common language (Schein, 1984).

The process of bringing new people to the organization is vital for its survival. The new members must adopt the existing culture of the organization but they also “bring new ideas and do produce culture change, especially if they are brought in at the high levels of the organization” (Schein, 1984, p.10).

Schein (1984) lists four important characteristics of culture:

- (1) is always in the process of formation and change
- (2) tends to cover all aspects of human functioning
- (3) is learned around the major issues of external adaptation and internal integration and
- (4) is ultimately embodied as and interrelated, patterned set of basic assumptions that deal with ultimate issues, such as the nature of humanity, human relationships, time, space, and the nature of reality and truth itself (p.14).

Cultural controls are set on the top of the Framework. This suggests that culture sets a corner stone for the direction in which the MCS are going to be designed. Schein (2009) adds that organizational culture is “especially important because elements of culture determine strategy, goals and modes of operating” (p.19).

Flamholtz, Das, & Tsui (1985) see organizational culture as a “form of social control” (p. 46). According to them the process of socialization is also a key factor in achieving organizational goals. In the process of socialization, the organization members share organizational values and goals. Through this process a better fit between individual and organizational values and goals is achieved, which eventually leads to fulfillment

of organizational plans. Furthermore, they state that organizational culture is seen as the most appropriate means of control when there is low ability of measuring output.

Henri (2006) examined the relationship between organizational culture and performance measurement systems (PMS) as a part of MCS. He studied two values of organizational culture: control and flexibility. Control refers to formality, predictability and stability whereas flexibility refers to change, responsiveness and openness. He found a support for a hypothesis about a relationship between flexible organizational culture and more flexible PMS. However, he did not find support for the hypothesis about high control organizational culture using PMS to a greater extent than flexibility dominant organizational cultures. According to this it is possible for companies that have flexibility dominant organizational cultures, necessary to foster innovation and change, to use control dominant PMS.

In the Framework cultural controls consist of three parts: clan controls, value controls and symbols. In the next section each of these parts will be presented separately.

Clans

Clans can be defined as mechanisms of socialization within the organization which influence the individuals to see their own goals and organizational goals as more alike (Deshpande & Webster, 1989). It is perfectly normal that members within the organization have different cultural backgrounds and working habits. These can be very much different than the organizational ones but that does not mean that these members cannot become fully integrated. The main idea of clan controls is to reduce unnecessary surveillance costs through aligning personal and organizational goals. Even though this system is rather an informal one, the clans can “serve as the basis of control in some organizations” (Ouchi, 1979, p.837).

Values

Schwartz (1992) defined values as “concepts or beliefs that refer to desirable end states or behaviors, transcend specific situations, guide selection or evaluation of behavior and events, and are ordered by relative importance” (p.4). According to Schein (2009) values of organization leaders and senior management are formed based on their own experience and cultural background. In a way the leaders are creators of organizational culture.

Values in organizational sense are created to influence the behavior of employees. The goal is to transfer organizational values onto employees during the socialization process. The alignment between personal and organizational values is a desired state. This alignment reduces monitoring costs and enables successful achievement of organizational goals.

Symbols

According to Pratt & Rafaeli (2001) physical symbols are a language which is necessary to understand in order to understand a relationship between individuals and organizations. Symbols have a social meaning which is recognized and understandable to a small or wide group of individuals. "Individuals may assume that the meaning they ascribe to a symbol is the objective meaning, but there is no objective meaning, as all meanings are socially ascribed" (p.97).

However, symbols not only have a social meaning, they are also actively constructing meanings. These meanings are created in social interactions and can change and evolve over time. Physical symbols like office design send a specific message to the observer. Also using certain physical symbols to send a desired message is a way to create organizational routine and processes which is also a way to control the employees' behavior in order to achieve organizational goals (Pratt & Rafaeli, 2001).

3.2 Planning Controls

According to Flamholtz, Das, & Tsui (1985) planning includes the setting of work goals for each key functional area and the establishment of standards for each goal. Planning is an ex ante form of control, because its role is to provide information for decision-making process. Furthermore, planning points actions of the members of organization in the right direction and aligns the goals of individuals and the organization.

Malmi & Brown (2008) describe the planning process on the base of its three roles:

- to direct effort and behavior of individuals by setting out goals for functional areas of the organization
- to provide clear goal- effort standards
- to align goals across the functional areas of the organization (p.292)

In the Framework planning consists of two parts: long range planning and action planning. These two parts differ in focus and time period they observe. Long range planning has a strategic view of organizational goals in focus and observes a time period from 3-5 years. Action planning has more operational significance and it is focused on a shorter period of time, usually a 12- months period (Malmi & Brown, 2008).

3.3 Cybernetic Controls

Cybernetic type of controls is commonly understood under the meaning of control system of an organization. According to Green & Welsh (1988) “cybernetics is the basis of control in any system and the foundation on which any definition of organizational control must rest “(p.289). They define cybernetics as “a process in which a feedback loop is represented by using standards of performance, measuring system performance, comparing that performance to standards, feeding back information about unwanted variances in the system, and modifying the system's comportment “(p.289). Management must ensure that cybernetic controls are properly implemented and functional. However, its right implementation is costly and time-consuming. Furthermore, by using cybernetics, management must put focus on true control of the processes within the organization and not just ability to influence these processes. In the Framework cybernetic controls consist of: budgets, financial measurement systems, nonfinancial measurement systems and hybrid measurement systems. Each of these elements will be presented separately.

Budgets

A budgeting process is the foundation of the management control system in almost every organization. In almost every organization the budgeting system is a part of a planning process and performance system. However, budgeting system is not the same as control system because it does not include “critical components” (Flamholtz, 1983).

“The budgeting area studies have focused upon static aspects of the relationship between participation and budgetary behavior, rather than the relationship between budgeting and the overall organizational control structure” (Flamholtz, 1983, p.153).

Since budgeting is such an essential process in an organization naturally the body of research has developed different approaches to this topic. According to Hansen, Otley,

& Van der Stede (2003) recent practice development point out two approaches to budgeting Activity-Based Budgeting Approach (ABB) and Beyond-Budget Approach (BBA).

Activity – Based Budgeting (ABB) represents an enhanced version of traditional approach to budgeting. Traditional budgeting is mainly focused on planning and often strategic level budget plans are not coordinated with operational level budget plans. Therefore, there is place for improvement by unifying these two levels. The main idea for improvement is to create a feasible budget on operational level and then create a financial budget. The suggested budget planning process consists of two parts *operational loop* and *financial loop*. The process should start with demand planning and end with resource planning in *operational loop* and translate these activities into a financial plan in *financial loop*. This approach offers many advantages such as: (1) reduction of unnecessary calculations, (2) budget is a direct product of activities and resources (3) targeting of sources of inefficiency and bottlenecks (4) better allocation of resources (5) better understanding of the budget on all organizational levels (6) reduction of departmental thinking and silos effect and (7) enhancement of decision making process.

Beyond-Budget Approach (BBA) represents a totally new approach to a budgeting process. It suggests using a wide range of financial and nonfinancial performance measures based on internal or external benchmarks. In contrast to traditional budgeting where there is one set annual target, this approach offers more flexibility and reduces opportunistic behavior. Opportunistic behavior can take many forms (1) manipulations to obtain an easier target, (2) manipulating the timing of revenues and expenses and (3) postponing maintenance expenditures. These activities can take place before and during the budget year (p.101). However, this kind of approach to budgeting would require overall shift from traditional controls to “controls based on employee selection, corporate visions and values, codes of conduct, training” (p.103). The objective of this approach is to motivate employees to act in the firm’s best interest and to promote teamwork.

Jensen (2003) also speaks in favor of radical changes necessary in a budgeting process. He points out that the way most organizations approach budgeting induces gaming, accounting manipulation and in the end destroys value. According to him, the process where managers manipulate their targets and are rewarded on the basis of it is basically “paying people to lie”.

The fact is that a traditional approach to budgeting process needs to be reformed. It is good that theorists are suggesting alternative ways to approach this process and that organizations now have more alternatives. It is on organizations to find the most appropriate budgeting process which will improve performance, reduce gaming and increase value.

Performance Measurement Systems

Performance measurement systems can be based on financial performance measures, nonfinancial performance measures or a combination of these two. Most organizations nowadays use a combination of financial and nonfinancial performance measures with larger focus on financial measures.

Gomez-Mejia, Berrone, & Franco-Santos (2010) analyzed both financial and nonfinancial performance measures in depth. According to them performance measures do not represent true performance as there are aspects of performance that are not directly observable or measurable. Performance measures serve as a good proxy for true performance but they are not a perfect representation of it. In the process of setting performance measurement system, it is important to choose the right performance measures. The performance measures once chosen will be hard to change as employees are reluctant to accept the new measures in the performance system. Furthermore, performance measures occur coupled with (1) tunnel vision, where managers only focus on aspects of performance being measured, (2) short-term focus, where managers only focused on performance evaluation at the end of the year, (3) measure fixation, where measure becomes the main objective and (4) gaming and misrepresentation, where managers try to manipulate measures in order to achieve the target. In order to overcome these side effects performance measures, need to be congruent, controllable, set in a timely manner, accurate, understandable, cost-effective and fair.

In the following section financial, nonfinancial and hybrid measurement systems will be discussed.

Financial measurement systems

It is important to make a distinction between budget and financial performance measurement system. Budget is considered to be a complete technique, which contains more information and financial systems are less circumspect and include a standard target-setting process (Malmi & Brown, 2008).

Financial performance measures can be categorized according to financial dimensions. Gomez-Mejia, Berrone, & Franco-Santos (2010) categorize these measures in: accounting measures, economic value-added measures and market measures.

Accounting measures refer to information from financial statement such as balance sheet, income statement and cash flow statement. The common examples of these measures are profitability measures (net profit, net income, EBIT, EBITDA), liquidity measures and various types of ratios. These measures are subject to external as well as internal auditing. Also managers mostly rely on financial measures when it comes to measuring performance and the value of the company. These measures are regularly reported and provide the best insight about the progress of the business. Most companies invest significant amount of resources in developing an efficient reporting system based on these measures. However, accounting measures do not consider future performance, they are solely based on past performance. Furthermore, accounting measures encourage short termism among managers. Also they are not suitable as single performance indicators as they are highly dependent on external factors. Finally, accounting measures have historically been a subject to manipulation in order to artificially increase the companies' value or performance therefore it is advisable not to base business decisions based only on financial measures.

The most famous economic value added measure is EVA^{TM2}. There are also Cash Flow Return on Investment (CFROI)³ and Economic Profit⁴. These measures represent adjusted accounting measures and are supposed to reflect market value changes better than the traditional accounting measures. However, these measures are also based on past performance and suffer manipulation. Furthermore, these measures are offered by consultant companies and come with fees. Finally, very often they are hard to understand.

² Developed by Stern Stewart Consulting

³ Developed by Holt Value Associates; Boston Consulting Group (BSG) also has its own version.

⁴ Developed by McKinsey & Company

Market measures represent the value of the firm according to the market and are related to publically traded companies. Typical market measures are Return to Shareholders and Market Value Added (MVA)⁵. Market measures are considered to be objective, accurate and cost-effective. Furthermore, it is harder to manipulate them and they provide a very accurate information about the value of the company. Nevertheless, since these measures are related to market movements they are highly dependent on future expectations and market valuations are not perfect. Finally, these measures are not easily communicated to all levels of organizations.

Nonfinancial measurement systems

According to Ittner & Larcker (2003) nonfinancial measures are there to fill in the gap left by financial measurement. The well-known nonfinancial measures are customer satisfaction, employee turnover and employee satisfaction. The right combination of financial and nonfinancial measures provides companies with all the information for achieving their strategic goals. However, the practice shows different results. The companies mostly have difficulties in choosing the *right* nonfinancial measures, which will help them achieve strategic goals. The authors name four reasons why the application of nonfinancial measures fails: not linking measures to the strategy, not validating the links, setting the wrong performance targets and incorrect measurement. On the other hand, they also suggest a way of doing it properly. The process starts with developing a casual model, then gathering data and turning data into information, followed by continuous refinement of the model, basing actions on received results and assessing the outcomes. Nonfinancial instruments are a powerful tool but only if used the right way. The conclusion of the case study from Ittner & Larcker (2003) suggests that these measures in practice „have become a shabby substitute for financial performance “(p.9).

Hybrid measurement systems

The Balanced Scorecard represents a hybrid measurement system. The Balanced Scorecard was introduced by Kaplan & Norton (1992) as a new tool for managers which enables them to measure performance from different perspectives. This system combines four different perspectives which focus on the most important measures and in that way make decision-making process easier for managers. These four perspectives are: (1) customer perspective (How do customers see us?), (2) internal

⁵ Developed by LEK/ Alcar's Consulting Group

perspective (What must we excel at?), (3) innovation and learning perspective (Can we continue to improve and create value?) and (4) financial perspective (How do we look at shareholders?). The goal of Balanced Scorecard to serve for better performance measurement has advanced to having a strategic function in an organization. The concept gives companies the ability to align its management processes and to focus the whole organization on implementation of long term strategies (p.13). The successful process of Balanced Scorecard implementation involves clear definition of strategic objectives before identifying critical performance drivers. This process of linking actions to strategy showed as complicated to implement practically. Only a handful of companies actually managed to use the full potential of the Balanced Scorecard (Kaplan & Norton, 1996).

3.4 Reward/Compensation

Flamholtz (1983) defined a reward system as “mechanisms for performance assessment and administration of rewards” (p.156). Rewards are observed as positive outcomes favorable to a person and this kind of rewards represents an extrinsic reward.

Bonner & Sprinkle, (2002) studied the effect of monetary incentives on effort and task performance. This complex subject is dependent on personal preferences, complexity of the task, environmental characteristics and the structure of the incentive scheme. However, they found that “on average assigned goals have additive positive effects on effort and performance over monetary incentives”, which indicates that combining performance targets and monetary incentives motivates employees (p.337).

Malmi & Brown, (2008) underline the importance of studying the relationship between reward and compensation controls and other types of control like cultural controls.

3.5 Administrative Control System

According to the Framework administrative controls include governance structure, organizational structure and procedures and policies. Malmi & Brown (2008) refer to administrative control systems as systems which organize individuals and groups within the organization, define desired behaviors, monitor these behaviors and make employees responsible for it.

Governance structure

Abernethy & Chua, (1996) put a special focus on governance structure as a part of *organizational control mix*. According to them, governance structure refers to a board and internal management level structure. According to Malmi & Brown, (2008) governance structure refers to “formal lines of authority and accountability” and systems which ensure functioning of vertical and horizontal coordination within the organization (p.294). This refers to meeting the schedules, deadlines and coordination of actions according to agenda.

Organizational structure

The purpose of organizational structure is to define the role of organizational members in their organizational activities. Their role must be clearly defined in order to make a meaningful contribution to organizational activities. The way the organization is structured has influence on “the efficiency of work, the motivation of individuals, information flows and control systems and can help shape the future of organization” (Chenhall, 2003, p.145). Child (1972) defined organizational structure as “formal allocation of work roles and the administrative mechanisms to control and integrate work activities including those which cross formal organizational boundaries” (p.2).

These definitions of organizational structure have two things in common: (1) role of each member is formally defined and (2) control mechanisms are necessary to supervise activity of the members.

In literature organizational structure is often considered to be a contingency variable (Chenhall, 2003). However, managers can use organization structure as means of control, therefore it is more accurate to consider organizational structure a control mechanism (Malmi & Brown, 2008). Child (1972) named environment, technology and size as main situational variables that have influence on organizational structure.

It can be concluded that different conditions in the environment, different size and technological capability of the organization will predetermine organizational structure. The organization needs to be flexible enough to respond to all challenges in order to achieve and preserve superior performance.

Policies and procedures

Machintosh & Daft (1987) considered standard operating policies and procedures to be a part of management control systems. These policies and procedures are

supposed to provide managers with guidelines how to act and behave in different situations which occur within the organization. They emphasize that in a case of pool interdependence, where departments do not closely work with each other, standardization plays a key role. The standardization is achieved through rules and procedures and the methods of control are policy manuals, working position descriptions, rule books and standardized reports. In cases of sequential and reciprocal interdependence operating budget and informal controls are the main control mechanisms.

4. PRESENTATION OF THE COMPANIES

In the following section Canon Inc., Canon Europe Ltd. and Canon Austria GmbH will be presented. In order to avoid a misunderstanding, the following terms need to be defined: Canon Inc. will refer to headquarters of the company in Japan; Canon Europe will refer to Canon Europe Ltd. and it will refer to European Headquarters and its subsidiaries; Canon Austria will refer to Canon Austria GmbH and it will refer to a subsidiary of Canon Europe and consequently a subsidiary of Canon Inc. The term Canon Group or just Canon will refer to Canon Inc. and all of its subsidiaries.

4.1 Canon Inc.

Canon Inc. was founded in 1933 in Roppongi, Minato-ku, Tokyo, Japan. It was founded under the name of *Precision Optical Instruments Laboratory* in order to do research in the field of high quality camera production. Only four years after the foundation of the company, in 1937, it has changed its name into Precision Optical Industry, Co., Ltd. Another name change to Canon Camera Co, Inc. took place in 1947. In 1969 Canon became Canon Inc., and this name remained until today.

Canon Inc. operates in three different business segment the Office Business Unit, the Imaging System Business Unit, and the Industry and Others Business Unit. These business segments are based on the organizational structure. The Office Business Unit includes: office multifunction devices (MFDs), laser multifunction printers, laser printers, digital production printing systems, high speed continuous feed printers, wide-format printers and document solutions. This business segment makes more than a half of total sales (55,5%). The Imaging System Business Unit includes: interchangeable lens digital cameras, digital compact cameras, digital camcorders, digital cinema cameras, interchangeable lenses, compact photo printers, inkjet

printers, large-format inkjet printers, commercial photo printers, image scanners, multimedia projectors, broadcast equipment and calculators. This segment makes a third of total sales (33,3%). Industry and Others Business Unit include: Semiconductor lithography equipment, FPD (Flat panel display) lithography equipment, digital radiography systems, ophthalmic equipment, vacuum thin-film deposition equipment, organic LED (OLED) panel manufacturing equipment, die bonders, micro motors, network cameras, handy terminals and document scanners. This is the segment with the smallest sales volume (13,8%) (Canon Inc., 2015, p.12-13).

Further details about Canon Inc. will follow in the section regarding contingency variables.

4.2 Canon Europe Ltd.

Canon Europe was founded in 1957 in Geneva, (Switzerland). Today Canon Europe has dual headquarters in London (Great Britain) and Amsterdam (The Netherlands). It contributes to approximately a third of the company's global revenue. It is selling to customers in more than 116 countries and it employs around 17.000 people in Europe, the Middle East and Africa.

Current strategic priorities of the company can be divided in three different groups: new business, new ways of doing business and enhancing existing business. New business includes: Network Video Surveillance market, Mixed Reality Systems, 3D printing and Solutions and Business Services. New ways of doing business include: revitalizing Consumer Imaging Group (CIG) business through direct sales, digital marketing and connected cameras and accelerating growth in inkjet through combining B2B (Business-to-Business) and B2C (Business-to-Consumer) channels. Enhancing existing business include: growth of Graphic Arts and targeted growth on the European market.

In the time period of five years (2010 – 2015) Canon Europe made very important strategic acquisitions in order to acquire new technologies and advance its business. In 2015 Canon acquired Italy- based document and business process outsourcing specialist Integra Document Management in order to enhance its presence in the information management market segment. In the second half of 2015 a takeover bid of Axis, Swedish network video solutions company, has been completed. Previous acquisitions include: Cognitas- German technical documentation provider (2014), I.R.I.S Group, Belgian solutions specialist (2013), and Delfi Di, Netherlands -based

medical solutions specialist (2012). The acquisitions of OCE (2010) was the biggest acquisition in the history of Canon Europe. All these are a confirmation of Canon's new strategy of focusing on document management service and new technologies.

4.3 Canon Austria GmbH

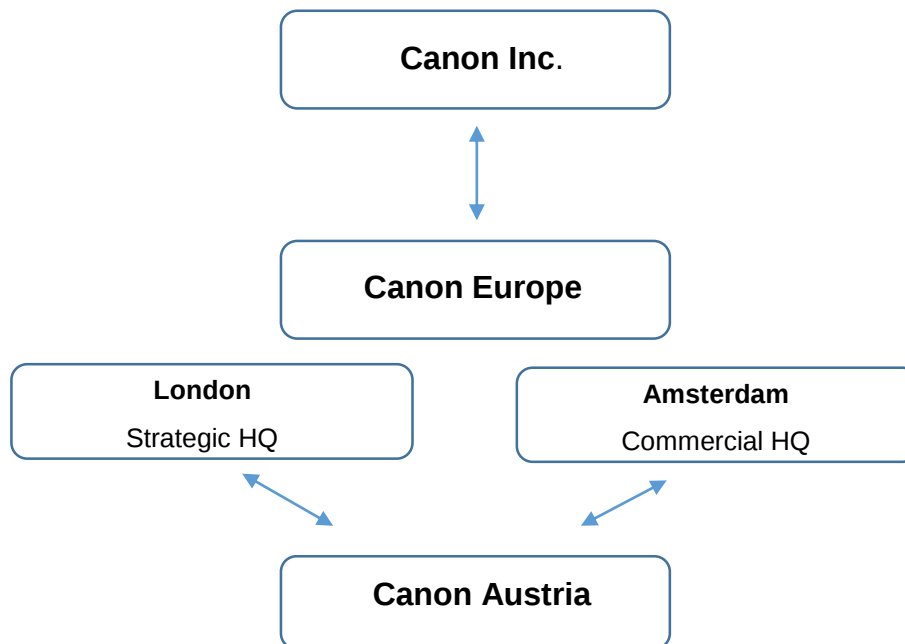
Canon Austria was founded in 1975 in Vienna (Austria). It sells and services Canon products in Austria. These products include Consumer Imaging Group (CIG), Business Imaging Group (BIG) and Professional Printing Group (PPG). The range of products does not include medical equipment, but it is one of the planned activities. When it comes to new technologies that Canon offers, Canon Austria is on the market of 3D printing since April 2016.

As a part of big organizational change that Canon Group is currently going through, Canon Austria has newly defined its mission and vision, renamed in ambition and vision. Ambition is defined as *Canon should play a part in every single image in the future*. Vision is defined as *enriching lives and business through imaging experiences*.

Canon Austria represents one of the smaller subsidiaries of Canon Europe. It is approximately ten times smaller than Canon Germany. Canon Europe has dual headquarters in London and Amsterdam. The headquarters of strategic and marketing operations is in London and the headquarters of commercial and finance operations is in Amsterdam. This implies a dual responsibility of Canon Austria towards the headquarters.

Example: Canon Austria is sending its monthly financial reports to Amsterdam. Furthermore, all the goods are invoiced from Amsterdam. However, Budget Performance Meeting (BPM) and other strategic meetings where subsidiary representatives have to attend are held in London.

Figure 3: Presentation of Intercompany Relations



Source: own illustration

4.4. Control Systems and Headquarters–Subsidiary Relationship

Multinational corporations have complex structures. As a consequence, the problem of control between headquarters and its subsidiaries arises. As a solution to this problem Baliga & Jaeger, (1984) presented a framework of the right type of a control system based on a type of interdependencies between the headquarters and the subsidiaries (See Appendix 4). According to them there are three possible types of interdependence between headquarters and its subsidiaries. The first type, pooled interdependence, means that there is one shared pool of resources which organizations use but besides that they act independently. In the second type, sequential interdependence, the output of one subsidiary is delivered to the other subsidiary, as a consequence these two subsidiaries are not acting independently. The third type, reciprocal interdependence, is the most complex form of interdependence where the output of one subsidiary is delivered to the other for further processing and then returned. This kind of process is highly demanding and involves high levels of coordination and control.

The relevant type of interdependence for this thesis is pooled interdependence. All the products Canon Austria is receiving are delivered by the headquarters, Canon Europe,

and not by other subsidiaries. Out of this reason this is not the case of sequential interdependence. Furthermore, Canon Austria does not process the products, it only deals with final products. Therefore, this is not the case of reciprocal interdependence.

Based on the interdependence type it is possible to determine which type of control system, bureaucratic or cultural, is the right one. Two other contingency variables need to be considered in order to identify the right system and those are environmental uncertainty and cultural proximity. In this case environmental uncertainty can be considered as high and cultural proximity as low (cultural proximity between Japan and Austria is considered). These variables imply a bureaucratic control system (See Table 2).

Table 2: Control System Appropriate to Subsidiaries under Various Conditions

Type of Interdependence	Environmental Uncertainty	Cultural Proximity	Type of Control System
Pooled	H	H	Cultural
		L	Bureaucratic
	L	H	Cultural
		L	Bureaucratic

Source: own illustration; based on Baliga & Jaeger, (1984, p.35)

5. ANALYSIS OF THE CONTINGENCY VARIABLES

In the following chapter Canon's contingency variables will be presented, including examples from Canon Austria.

5.1 Environment

Overview of the global economy ⁶

As a global company Canon is exposed to developments on every major market in the world. Global economy is recovering moderately from the economic crisis in 2008 and geopolitical risks in the Middle East are increasing. All this has a major influence on Canon's business. The situation in the United States and Europe is crucial for Canon

⁶ This chapter section is based on the report: RESULTS FOR THE FOURTH QUARTER AND THE FISCAL YEAR ENDED DECEMBER 31, 2015. Source : (Canon Inc. Headquarter office, 2016)

since these two subsidiaries together make more than 50% of the global income. The United States and Europe are showing signs of moderate growth due to decline of unemployment rate and increased consumer spending. Furthermore, Japan is also showing visible signs of recovery in corporate earnings and employment rates. However, the leading global market China is experiencing a major slowdown additionally affecting the countries in the region such as India.

Products, which Canon sells in China and emerging Asian countries, have mainly suffered a slowdown in sales due to economic conditions. These are digital cameras and inkjet printers. However, semiconductor lithography equipment, which represents a more technologically advanced product has not suffered in sales. Generally, products and technologies which are connected to smartphone market, on-board automotive market, communication devices and other products which are in widest sense connected to Internet of Things are experiencing growth in demand.

Overall, the outlook for 2016 is not predicting any major growth trends in the recovery of global economy. The United States, Europe and Japan remain to grow moderately. China and emerging economies such as India, Brazil and Russia will continue to suffer a slowdown. Another major threat which Canon is facing are startups and entrepreneurship culture. It is nowadays easier than ever, due to digital technologies, to enter the market and offer new ideas and technologies. Canon is a company with a long market presence and traditional Canon market for digital cameras and office printers is maturing. For this reason, Canon is making significant investments in technologies of the future such as mixed reality and expanding its R&D platform through open innovation concept.

Competitors Analysis

Depending on the type of the product Canon has different competitors in the field. Business Imaging Group (BIG) and the most successful office product Image Runner can be taken as an example to observe a market share. The Table 3. shows that Canon's biggest competitors in the field are Konica Minolta and Ricoh. In comparison to 2013 Canon has managed to take the first place with a market share of 22%.

Table 3: Market Share of Image Runner from 2013- 2015 (Q1)

Sum of Units Brand	Period 2013 Full year			Period 2014 Full year			Period 2015 Q1		
	MASH 2013 FY	Rank		MASH 2014 FY	Rank		MASH 2015 Q1	Rank	
CANON	5.582	16%	3	6.829	20%	2	1.880	22%	1
DELL	66	0%	15	77	0%	14	26	0%	15
DEVELOP	598	2%	10	552	2%	11	128	1%	11
HP	1.873	5%	8	2.030	6%	7	380	4%	7
KONICA MINOLTA	6.879	20%	1	5.874	17%	3	1.355	16%	3
KYOCERA	3.150	9%	5	3.739	11%	4	1.153	13%	4
LEXMARK	524	1%	12	908	3%	8	195	2%	9
OCE	23	0%	16	1	0%	15	3	0%	16
OKI	556	2%	11	502	1%	11	118	1%	12
OLIVETTI	970	3%	9	703	2%	9	163	2%	10
RICOH	6.500	19%	2	7.748	22%	1	1.364	16%	2
SAMSUNG	197	1%	1	588	2%	10	276	3%	8
SHARP	2.242	6%	6	2.066	6%	6	681	8%	6
TOSHIBA	174	0%	14	154	0%	13	42	0%	14
TRIUMPH-ADLER	1.976	6%	7	501	1%	12	99	1%	13
XEROX	3.770	11%	4	2.493	7%	5	736	9%	5
Total	35.080			34.780			8.599		

Source: own illustration; internal document Canon Austria GmbH

On the other hand, in Consumer Imaging Group (CIG) Canon's biggest global competitors are Nikon, Kodak, Fujifilm and Sony. As in previous product group it is important to distinct the product which is observed. On the market of digital cameras (SLR) in Japan, Canon had a market share of 56,2%, followed by Nikon Corporation (36,7%) and Ricoh Imaging (6,7%). However, observing the market of mirrorless cameras Olympus (34,5%), Sony Corporation (24,8%) and Canon (13,6%) were market leaders in Japan in 2015.⁷

On a global level it can be said that Canon biggest competitors are Xerox and Nikon. However, entering new markets and developing new technologies comes along with new competitors. For example, earlier this year Canon stepped into market of high quality medical equipment such as Magnetic Resonance Imaging (MRI), and in this way Canon stepped into competition with General Electric Co., Royal Philips NV and Siemens AG (Alpeyev & Amano, 2016).

⁷ Market research and analysis firm BCN announced the annual BCN Japan 2016 Awards (2015 Data). Winners are determined based on sales volume, calculated from data gathered from thousands of sellers throughout Japan. Source: www.dpreview.com

5.2 Strategy

Canon is currently undergoing a major strategic change process called *Excellent Global Corporation Plan*. Canon recognized the necessity to change and to prepare for major changes and challenges in its environment. This process has started in 1996 and consists of five different phases.

Phase I (1996-2000) is successfully completed and has achieved a goal of increasing productivity and better global managing of cash flow. *Phase II* (2001-2005) has achieved a goal of coming closer to customers by digitalizing camera and printer offerings. *Phase III* (2006-2010) was strongly focused on expanding business and establishing new businesses through mergers and acquisitions (M&A). During *Phase IV* (2011-2015) Canon has strengthened its financial structure in order to be prepared for future unexpected global events like major crisis or slow market growth and continued to grow through M&A. *Phase V* (2016-2020) is the last phase of Canon becoming “all-new Canon”. During *Phase V* five key strategies are to be achieved: (1) establish a new production system to achieve a cost-to-sales ratio of 45%, (2) reinforce and expand new businesses while creating future businesses, (3) restructure global sales network in accordance with market changes, (4) enhance R&D capabilities through open innovation, and (5) complete the Three Regional Headquarters management system capturing world dynamism (Canon Inc., 2015, p.6-8).

At the moment Canon is focused on growth and expanding business tightly connected to its core competences. Canon is doing this mainly through M&A of companies targeted as high quality providers of products and services in their fields. The two main sources of growth are Commercial Printing Business and Network Camera Business (Canon Inc., 2015, p.11). Through Commercial Printing Business Canon stays loyal to traditional printing segment which includes printing of books, newspapers and booklets. However, the acquisition of OCE Printing Systems has enabled Canon to add printing on different materials to its regular paper printing, including printing on Plexiglas, metal and plastic with ultra-fast printing technology. In Network Camera Business segment Canon also decided to combine its core competences in optical, sensor and image-processing technologies with new opportunities in a fast growing video surveillance market. It is forecasted that this market will grow by 20% per year and reach more than 15 Billion US\$ by 2018. In order to firmly set foot in this segment Canon acquired two companies Axis and Milestone. Axis is a network video solutions company and Milestone is an open platform video management software. The

combination of competences of all three companies under one roof is predicted to create great synergies for Canon.

In the next section Canon's strategy will be analyzed based on different theoretical frameworks and the examples will be given.

Having in mind the types of strategy by Mintzberg (1973) it can be said that Canon has the characteristics of umbrella strategy. Canon Europe receives general guidelines from Canon Inc. which are then transferred in more detail onto each subsidiary under Canon Europe, in this case Canon Austria. The purpose of this system is to achieve the general corporate goals.

Example: After receiving target about the cost decrease in the Europe, the Middle East and Africa (EMEA) region for the next year Canon Europe sets cost decrease targets for each country/market separately. Canon Europe set a 3% decrease target in 2016 for Canon Austria. It is then on Canon Austria to realize the forecasted 3%, but it has the flexibility of choosing the segments which are going to go through cost cutting.

According to strategy types from Miles & Snow (1983) Canon has the characteristics of a prospector. Canon carefully monitors the environmental changes and is strongly focused on technological leadership and developing new technologies. These technologies include Mixed Reality, 3D Printing and innovative diagnostics DNA Systems.

Example: The most recent example of such strategy was the acquisition of Toshiba's medical unit in March 2016 (Alpeyev & Amano, 2016). By doing this Canon added high quality equipment based on diagnostic imaging systems such as MRI, X-ray and ultrasound to its portfolio.

Based on Porter (1980) Canon follows the strategy of differentiation. Canon differentiates itself from the competitors by being technologically superior and also by offering a product package as a combination of hardware, software and services to a final customer. Consequently, premium service is coupled with a premium price.

Example: The sale of printing machines (hardware) is coupled with document management programs and solutions (software) and Canon also arranges a supply of toners, paper and maintenance services for its customs.

The role of Canon Austria is to ensure realization of global strategy on a micro level. The set targets for Canon Austria need to be coordinated with a global strategy and in

that way provide support. Necessary trainings for employees need to be provided, in order for employees to understand the new strategy direction and to acquire necessary skills which they need to implement new working processes in their daily routines. Canon Austria can actively support integration of OCE Austria subsidiary on a country level and in that way support integration of OCE on a global level. Furthermore, Canon Austria helps execution of diverse projects on European level by providing its expertise and local knowledge.

5.3 Technology

Investing in R&D and acquiring new companies with rich R&D base is what makes Canon moving forward. Over the years Canon has managed to develop its core technologies and also to diversify in those directions which enable employing core competences in the best possible way. In the 1960 Canon has developed its first computer software for lens design. Since then further achievements like development of aspherical lens, development of Japan's first semiconductor lithography tool, electrographic printing process and development of ink jet printers have contributed to creating rock solid technology base for further achievements and development like mixed reality technology.

The core technologies are represented by optical and precision control technologies followed by imaging, exposure, electrophotography, display and inkjet technologies. These core technologies have then been expended in electronic and system engineering, recording engineering, mixed reality technology, communications and solution business and medical equipment.

In 2015 the ratio of R&D expenses to net sales was 8.6%. Large investments in R&D are part of Canon's global corporate strategy to further continue developing its core technologies and achieve a number one position in all core businesses. Furthermore, development needs to be coupled with responsible behavior towards environment (Canon Inc., 2015).

What makes Canon strong is its ability to create synergies between already developed technologies and incorporating these technologies into new products. Organizational culture and organizational structure play a major role in creating synergies between different technologies. Canon has managed to create an encouraging and supportive working environment and its corporate culture encourages strong sense of responsibility and high level of motivation among its engineers.

Example: One of Canon's core competences is optical technology. This technology has been further developed by adding infrared and ultraviolet light to visible light through expanding wavelength bands. This technological development is in tune with Canon's strategy to step into market of video surveillance and perfectly depicts the process of creating synergies.

Canon has developed a global network of R&D centers. The goal was to establish additional R&D centers, besides one in Japan, close to leading markets in certain fields. Since United States is a leader in medical technology Canon has established R&D Medical Center there, focused on developing technologies applicable in medical field. The research center⁸ in France is focused on development of wireless communications and multimedia network infrastructure technologies and the research center⁹ in the United Kingdom on software localization. The research center¹⁰ in Australia is focused on image-processing software libraries which provide high quality images and printing solutions. Further R&D centers are in India, China and in the Philippines. Nevertheless, managing global R&D comes with its challenges. The main challenges are coordination between different centers, collaboration and sharing ideas and communication. Establishing Three Regional Headquarters management system in 2016 represents a strategic solution to these problems. This system is supposed to ensure a better control and coordination of global R&D activities. Furthermore, Innovative Technology Forum, which is held once a year, is a form of Canon's internal conference where researchers present and share their ideas with fellow coworkers from all over the world (Canon Inc. Headquarter office, 2016).

Canon ranked third on the list of Top Ten U.S Patent Holders in 2015 with 4.134 registered patents after IBM (7.355) and Samsung Electronics (5.072), leaving behind companies such as Google (2.835), Toshiba (2.627) and Microsoft (1.956) (Canon Inc., 2015, p.24). This shows how much effort Canon is making in order to position itself as a leader in the field and strategically secure rights to develop in certain directions in the future. Furthermore, very close cooperation between technology departments and intellectual property office is the practice that ensures the best results. In favor of this also speaks a heard- oft mantra in R&D laboratories which states: "instead of reading a paper, one should read a patent; instead of writing a report, write a patent".¹¹

⁸Canon Research Centre France S.A.

⁹ Canon Research Europe Ltd.

¹⁰ Canon Information Systems Research Australia Pty. Ltd. (CISRA)

¹¹ Canon Inc. Headquarter office,(2016); Source: <http://www.canon.com/technology/approach/organization.html>

With strong R&D centers it is possible to optimize production process. The plan is to start bringing production of high-quality products back to Japan (up to 60%) but still continue to conduct mass production in low cost Asian countries like China, Thailand and the Philippines. Furthermore, the production of consumables such as toners will remain close to selling markets in order to save logistics costs (Canon Inc., 2015).

Canon Austria, as a subsidiary, is not directly involved in any form of R&D activities. However, it benefits directly from having new products in selling assortment which increases profits and enables targeting new customers on the market. The most recent innovation from which Canon Austria benefited directly is having a 3D Printer in its product range from beginning of April 2016.

5.4 Size

Canon is one of the largest corporations in the world. From its predecessor, *Precision Optical Instruments Laboratory* founded in 1933, with only four employees it has grown to a multinational Canon Group. Canon Group now employs more than 191.000 people and has more than 260 subsidiaries and affiliated companies in more than 160 countries in the world.

The world renown rankings only confirm the previous facts. The Fortune, Global 500 for 2014 (announced July 2014) ranks Canon in overall ranking on 292nd and in Japanese companies ranking in 32nd place. Financial Times World's Largest Companies (announced 27 June 2014) in its Global 500 ranking, ranks Canon on 243rd in overall ranking, in Sector ranking - Technology, Hardware and Equipment on 11th and in Japan 500 on 13th place in overall ranking.¹²

Canon has started its expansion to other continents gradually and establishing research centers and production centers outside Japan was an important step in this process. Canon Europe was founded in 1957 in Geneva and foundation of Canon Germany (1973), Canon France (1975) and Canon UK (1976) has followed. In 1955 Canon opened a subsidiary in New York, this was the first step made on the American continent and founding a Canon USA happened in 1965. Canon Australia was founded in 1978. During the expansion to other continents Canon also extensively expanded in the research area. First research center outside Japan was opened in 1988 in Europe (UK) and the new ones followed. Canon opened its first production site outside Japan

¹² Canon Facts. Internal document Canon Austria GmbH

in 1970 in Taiwan and European and American sites followed. Consequently, Canon today has a wide network of specialized subsidiaries, research centers and production sites.

As stated before, size also brings new responsibilities. For Canon being environmentally and socially responsible, is of utmost importance. The highest standards are achieved in areas of waste disposal, recycling and paper production. Canon also supports numerous projects to save the wild life and help people in undeveloped areas.

5.5 Culture

Organizations that value team work and employee involvement have better performance (Gregory, Harris, Armenakis, & Shook, 2009). Therefore, Canon is working on establishing corporate culture that facilitates these. Culture has a more indirect influence on individual performance. Canon wants its employees to feel appreciated and recognized at their work place and in return the employees are performing better.

The analysis of the culture based on the framework from Schein (2009) warns about the danger of oversimplifying the culture. Therefore, I will describe the organizational culture of Canon using his framework with three levels. Organizational culture is a complex process within the organization and it is important to understand it in order to understand the organization. His Framework includes three levels: artefact level, espoused values and underlying assumptions (p.21).

On the first level, the artefact level, there are visible structures and processes which are hard to decipher. This level is what is first seen and has an immediate emotional impact. At Canon this is represented by open space offices, where each department is characterized by a different color, coffee corners at each floor where people can get together, informal dressing and many diverse green house plants all around. However, this is just a way how Canon presents itself, there is still no meaning assigned to these artefacts.

On the second level, espoused values, there are strategies, goals and philosophies which represent espoused justification. This is a concept of “3 Selves” which Canon is promoting, besides that, there are concepts of team work, mutual communication and strong customer focus as forms of espoused values. However, there is a difference

between espoused values and espoused behavior. On a deeper level the employees have been showing behavior different than espoused values in the past: such as not perfectly working internal communication despite many available possibilities of communication like internal Facebook, Skype for business, focus points (small rooms specially designed for ad-hoc meetings) or simple face- to- face communication. This inconsistency between espoused values and visible behavior has been recognized by Canon Austria leadership and measures have been implemented in order to reduce these inconsistencies. This is mainly done by workshops, regular team meetings, monthly newsletter “myCanon” and generally promoting the “spirit of togetherness” on all levels of the company. Furthermore, the Managing Director has been conducting monthly Skype presentations where all the employees from Austria can join and be informed about monthly results, highlights and future projects. One of the espoused values at Canon is taking care of the environment and supporting healthy life- style of its employees. Observed behavior at Canon Austria is consistently supporting these espoused values. Each year Canon Austria employees vote for an environmental project which will be supported in the next year. Furthermore, Canon offers many sport activities for its employees and encourages more moving and activity even during working hours. One such project is “from Vienna to Tokyo” where employees get a step counter and are motivated to move more. Besides these there are “go to office” by bicycle, weekly running trainings and yoga.

On the third level there are unconscious, taken for granted beliefs, perceptions, thoughts, and feelings which represent an ultimate of values and action. This level is the most complex one and in order to understand it one must go back to the beginning and analyze where the company was founded and by whom. Canon was founded in Tokyo to conduct research into quality camera. Canon has developed slowly but strongly. Developing new technologies and long term orientation are two things which keep Canon moving forward and have an influence on all aspects of Canon’s business.

It would be hard and somewhat inaccurate to make a general statement about Canon’s corporate culture and list the characteristics which are present in each Canon’s subsidiary. However, it is interesting enough to observe it on the example of one subsidiary Canon Austria. As stated before, at this subsidiary the appearance of the building and the offices is according to corporate guidelines, also environmental awareness, health programs and working in teams are part of a regular business day. Furthermore, the way Canon Austria is conducting its business is very much influenced

by Japanese culture of always thinking of the future and developing a contingency plan. Also, long decision making processes and strong hierarchy are characteristics of Japanese culture which are also visible at Canon Austria. Nevertheless, there is a very strong presence of Austrian culture as the subsidiary is not very internationalized and employs mainly Austrians.

6. DESIGN OF MCS AT CANON AUSTRIA GMBH

6.1 Cybernetic Controls

Cybernetic controls are a heart of management control system at Canon Austria. Even though, the planning and reward and compensation controls are presented separately in the Framework these two parts are tightly related and intertwined with a budgeting and financial measurement process. Canon has invested a lot of time and resources in making planning, budgeting and reporting an integrated process. It would be hard to describe each of these processes separately without including the other processes. Because of the sensitivity of the data reward and compensation controls will not be analyzed separately but they will be included in the analysis of other systems. In the next section the process of planning, budgeting and reporting and performance measurement (financial and nonfinancial) will be described.

Planning controls

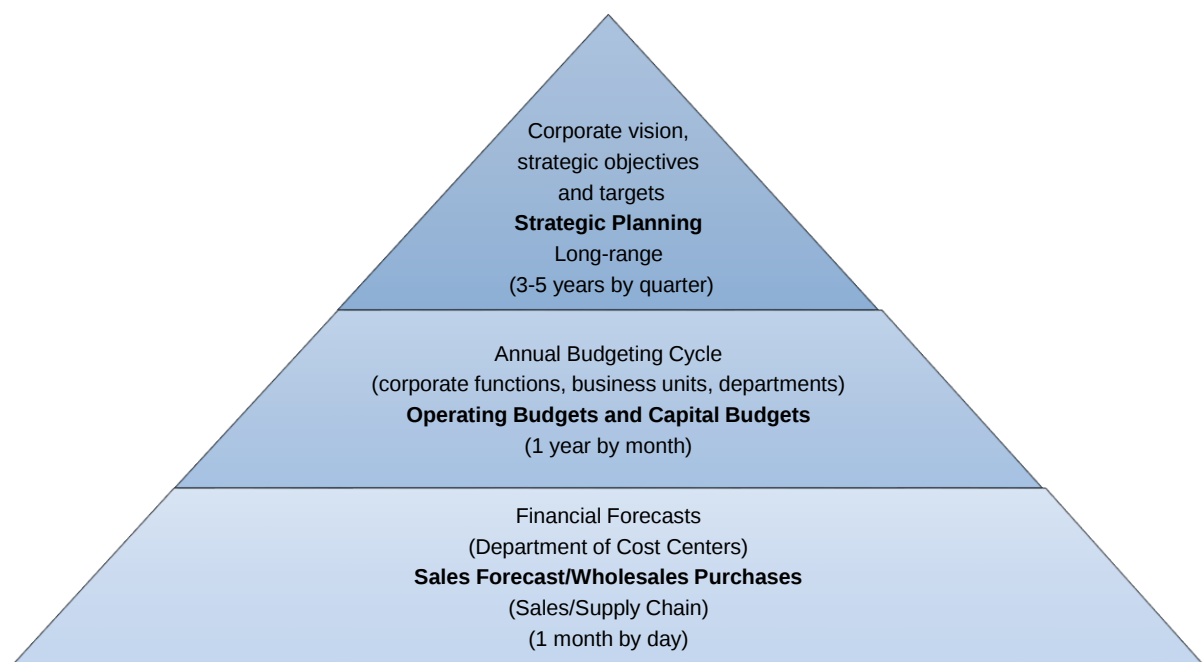
At Canon planning is an integrated set of steps. The reported data is aligned and standardized which enables high quality planning process. Planning process is a part of a larger system called Integrated Business Planning. Integrated Business Planning includes: strategic planning and target setting, budgeting and forecasting, commercial planning and supply chain planning. This kind of planning enables Canon one cross functionally integrated monthly end-to-end forecasting process, which addresses specific functional needs. The integration of different functional processes also achieved full visibility of data and trust in cross functional information. This results in better understanding of the process *from strategy to plan*. The transparent process of translating the strategy into plan enables clearly defined accountability for the execution and common goals.

Canon Austria executes planning on three levels for different time periods (See Figure 4). On the first level, operative planning level at the bottom of the pyramid, monthly day by day forecasts are conducted which include sales forecasts and wholesale

purchases. On the operative level departments also make financial forecasts. On the next level, tactical planning level, there are annual month by month forecasts which include operating and capital budgets. These are conducted by both corporate functions and business units. On the top of the pyramid strategic planning takes place. Strategic planning is conducted quarterly for the period from three to five years and long range planning refers to planning concerning corporate vision and strategic objectives and targets. This kind of planning structure enables Canon to get data from subsidiaries in timely manner.

Example: Each subsidiary, including Canon Austria, is obliged to send sales forecasts at the first of each month by noon. Further reports like cash flow forecast for the current month is due on the fifth working day of the month. Such practices lead to very successful monthly cash-flow planning on the enterprise level. Also Canon Europe can develop a help plan in time for a subsidiary that is not performing well in the current month.

Figure 4: The Planning Pyramid



Source: own illustration; internal document Canon Austria GmbH

For effective planning it is essential to select the right forecasting approach. In this process it is important to determine the forecasting horizon, level of detail and the frequency of adapting the planned values. Canon uses this process for various purposes, such as forecasts and budgets, and it represents the guidelines for various

business needs (also for subsidiaries). The simplified process of selecting the right forecasting approach is shown in Table 4.

Table 4: The Process of Selecting the Right Forecasting Approach

How far out

Determine Predictability Horizon (Note this may not be the same for all lines of business)
Consider Product Lifecycle Length

How detailed

Manual or Driver-based forecasting
Focus on business levers Canon can influence
Balance detail level against speed and effort for preparation

How often

Understand Corporate Reaction Times (again this could vary by line of business)
Balance effort of preparation against usefulness of frequent updates

Source: own illustration; internal document Canon Austria GmbH

Budgeting controls

Annual and long range budgets are prepared once a year or after major business changes. For Canon the budgeting process represents a financial roadmap. The goal is to set targets, constraints and define aspirations for the budgeted period. The role of senior management and finance department is to deliver numbers and conduct the process. They are supposed to focus on completeness and the balance. The corporate goals are defined before the budgeting process has started and the quality of the budget is measured by execution to plan.

Canon Europe has a budget department that is responsible for the budget creation and consolidated budget throughout Canon Europe. Each business year this department establishes the yearly budget calendar and a detailed plan of each budget event. It analyses and reports budget vs. actual/ budget vs. previous year to Canon Inc. The main objective is to support the management with necessary information. Reporting needs to be done in timely manner with high quality. Furthermore, the process of reporting is combined with *budget literacy* and *proposals of improvement* which are supposed to raise quality of the information. Canon Europe heavily relies on the budgeting process as a control mechanism regarding its subsidiaries.

Example: There are four different budget events during the year where Canon Austria needs to meet the deadlines: Original Budget, Latest Forecast 1st half, Revised Budget

and Latest Forecast 2nd half. There is also a Book closing Forecast but this forecast does not have a role of a control mechanism. Canon Europe is controlling the whole budgeting process of Canon Austria and it is also monitoring the progress of actuals compared to the budget throughout the year.

Canon Europe achieves budget management and control through three means: (1) Business unit and cost center ownership, (2) Account ownership and (3) Account leadership.

Example: The Procurement Cost Center is designated as the Account Leader for Travel costs. Procurement will nominate a preferred supplier (e.g. a specific airline) and will negotiate rates with this supplier based on an anticipated volume of business. Procurement can advise Business Unit and Cost Centre on standard rates to be used in calculating budgets but will not advise on the amount of activity. Procurement will monitor actual cost to ensure preferred suppliers are being used and volumes sufficient to achieve any agreed volume discounts.

Table 5 : The Process of Selecting the Right Budget Approach

What

Analyze and agree on budget models

Agree on detail to be included in the budget in each model and corporate roll-up

Simplify and Streamline

How

Manual or Driver-based planning

Define process from broader goals to board approved budgets

Plan direction Top-down, Bottom- up or Hybrid

What data will serve as a starting point

Who

Starting point is with the business (Bottom –up) or finance (Top-down)

Approval and signoff of each component by knowledgeable overseers

Final roll-up by finance and approval by management and the board

Source: own illustration; internal document Canon Austria GmbH

In the budgeting process at Canon Europe and consequently Canon Austria the forecasts are mainly focused on the results of the past year. Based on this, the decision is made about the necessary cost cutting and increase in sales. The budgeting process is a mix of top-down and bottom-up approach.

The main control tool that Canon Europe is using to manage its subsidiaries are Budget Performance Meetings (BPM(s)). BPM is a meeting where the most important figures and trends previously defined by Canon Europe are presented. Each subsidiary has to fill in the previously designed templates and present the results in front of the Board of Canon Europe in London. The Board consists of top management, including CFO and CEO of Canon Europe. The CFO and CEO of the subsidiary presenting its results fly to London and present for approximately two hours and answer the board's questions. Since not all of the subsidiaries are the same size and consequently the same importance there is a predefined schedule of BPM meetings for each European subsidiary.

Example: Canon Austria is not a large subsidiary and it has to attend BPM twice a year, in April and September. Large subsidiaries have to do it quarterly and the largest such as Germany and France have to do it monthly with the exception of low season summer months. Five years ago each subsidiary had to do a BPM each month which was leading to performance issues. Namely, subsidiaries have only been focused on preparing the good results for BMP meetings and not focusing on running the business and spotting opportunities. Therefore, the schedule has changed according to a subsidiary's size.

Financial measurement system

The financial data serves as a source of consistent, accurate and transparent data for the entire corporation. Financial system delivers data to different levels of corporation through different reporting dimensions based on shared standards and definitions.

At Canon, financial and nonfinancial measurement systems are a part of a larger system called Enterprise Performance Management System (EPMS). This system is supposed to represent *one source of truth* with consistent and accurate information without data duplication. This approach enables monitoring across the whole enterprise, high quality decision supports and performance measurement. The vision describing the goal of this system is *integrated business planning and performance management, built on a uniform, transparent and integrated data model supporting all reporting levels*.

Financial forecast is prepared quarterly, monthly or on demand. It represents a plan of what is ahead of the company. This kind of forecast is supposed to identify and report obstacles and opportunities. The role of these forecasts is to deliver data to senior

management. Decisions are taken *after* the forecast to avoid problems or meet opportunities. This process is focused on speed and actionable data. The quality is measured on rapid response and supporting corporate decisions.

The main idea of this system was to establish more managing power over subsidiaries and improve business performance. EPMS enables Canon to have great commercial insight across the whole organization including product and customer group analysis in terms of profitability. Also through this system Canon is efficient and flexible at creating plans whether they are top down or bottom up. Furthermore, planning and forecasts are possible with great precision to align sales, finance and operations. In this way all functions are integrated in a single model which also enables better control. Aligned data models enable better insight into businesses of subsidiaries. This system has the ability to change behaviors in finance and go beyond transparent performance measures, standard KPI's and create collaborative process and business partnership between the headquarters and subsidiaries.

6.2 Administrative Controls

Governance structure¹³

The main bodies of governance at Canon are Board of Directors, Representative Directors, Corporate Strategy Committee, Risk Management Committee, Audit and Supervisory Board, Internal Audit Division, Accounting Auditor and Executive Officers and each General Manager (*See Appendix 5*).

Board of Directors consists of six members, four members are former Canon veteran directors and two outside directors. Reducing the number of Board members from seventeen in 2015 to six in 2016, had a goal to speed up decision-making process and make the Board a more agile body. The main task of the Board is overseeing the operations within the organization with the purpose of internal control. The Board also receives regular reports from Representative Director about business operations and management.

There are four Representative Directors at Canon. The Chief Executive Officer (CEO) is responsible for overall management of the enterprise. The Chief Operating Officer (COO) serves as a president of the company and manages Canon Businesses as instructed by CEO. The Chief Financial Officer (CFO) is responsible for finance and

¹³ The following segment is based on the information from (Canon Inc., 2015)

the Chief Technical Officer (CTO) for technology and R&D. Corporate Strategy Committee has the role of advising the CEO. This Committee consists of Representative Directors and chosen Executive Officers. The main role of the Committee is to make important strategic decisions concerning the Company.

Risk Management Committee has the role of internal control system. This Committee consists of Financial Risk Management Subcommittee in charge of credible financial reporting, Compliance Subcommittee in charge of business ethics and legal compliance and Business Risk Management Subcommittee in charge of overall business risk including product quality and information leaks.

Audit and Supervisory Board, Internal Audit Division, Accounting Auditor are bodies in charge of checking the business and financial operations of Canon Group and its subsidiary. These Bodies also supervise internal control system and give guidance to ensure that management is doing its job properly.

A strong governance structure is vital for Canon. This structure ensures that high executives and employees are holding on the mission and the ethics of the Company. This is also supported by the statement that “Canon believes that it is essential to improve management transparency and strengthen functions to supervise and monitor management” (Canon Inc., 2015, p.20).

Canon Austria itself only has a CEO and a CFO. Higher levels of regulatory bodies in Canon Europe are in charge of controlling internal control systems of its subsidiaries including Canon Austria.

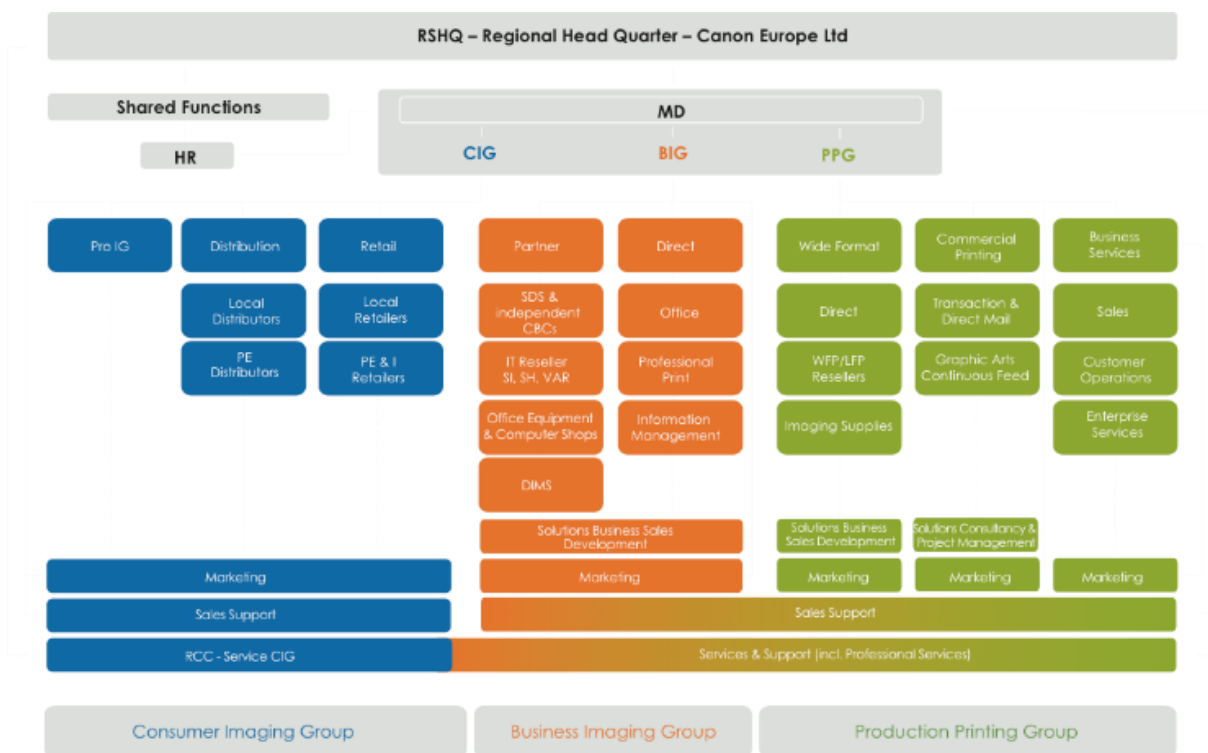
Organizational Structure

Currently, the organizational structure is based on three business segments in which Canon is operating in: CIG, BIG and PPG. This organizational structure shows that Canon’s organizational structure is product oriented. Canon has always put its customer and market needs in the focus of its operations but the organizational structure was not always fully in line with this strategy. Nevertheless, this strategy has been successful for many years and has served Canon very well. However, due to market and environmental changes Canon has decided to develop a major global level project of changing its organizational structure which will be strictly customer oriented.

Canon Austria has a hierarchical organization structure which is typical for Canon. There are operative levels of employees, followed by two levels of management

(middle and senior) and executive officers (CFO and CEO). Current organizational structure is showed in Figure 5. In the focus of the organization structure are product groups CIG, BIG and PPG with the directors and managers in charge. These product groups have supporting functions like Sales Support, Marketing and Solution Business Sales which support them. The product groups and supporting functions are directly reporting to the Managing Director (MD). However, Shared Functions such as Finance and Business Operations have a dual responsibility. They directly report to Canon Europe and have a dotted line responsibility towards the Managing Direction of Canon Austria. In this way Canon Europe is directly familiar with the performance of the subsidiary and the Managing Director is in charge of sales and overall management.

Figure 5: Organizational Structure of Canon Austria GmbH



Source: internal document Canon Austria GmbH

Policies and Procedures

Legal compliance and corporate ethics represent essential values for Canon. The role of Canon Inc. is to provide the infrastructure for establishing these values in all of the subsidiaries. Canon Inc. does this by publishing corporate policies and procedures and providing training and education. However, it is the role of regional marketing headquarters to assure that legal compliance and corporate ethics are implemented on a subsidiary level in accordance with local laws and regulations.

Group Code of Conduct has a significant role in expanding the awareness across global Canon sites. This Code refers to management and employees on all levels and ensures legal compliance throughout the whole organization, such as fair competition, corporate ethics and appropriate disclosure of information as well as management of information (prohibition against insider trading and appropriate use of confidential information).

The matter of legal compliance and risk measurement falls under the responsibility of Risk Management Committee. This committee has the task of developing policies and assessing the risk on a Canon Group level. The Compliance Subcommittee is in charge of corporate ethics and operates under the Risk Management Committee. Both of these committees have headquarters at Canon Inc. It is the responsibility of regional headquarters to develop structure for legal compliance based on policies of Canon Inc. and monitor the administration and execution of these policies (Canon Inc., 2015).

Example: Canon Europe is developing policies and measures to assure legal compliance and corporate ethics are implemented in each subsidiary and consequently on a headquarter level. Each employee at Canon Austria according to its working position has an assigned number of training during the year referring to legal policies and corporate ethics. These trainings are in a form of online lectures followed by tests. They cover diverse topics from very general, which every employee needs to fulfill, to very position specific. The nature of these trainings also changes over the years. The topics like information technology security, social media code of conduct and environmental topics have rapidly gained on importance and became a standard training which every employee needs to pass.

Canon Inc. incorporates the common values into corporate ethics. The subsidiaries, by adopting the corporate ethics are also adopting common values. It is very important for Canon Inc. to achieve the adoption of common values on an individual level. For

Canon Inc. long term orientation and “the common good” are essential for the survival of the company. That can only be achieved when all members of the group share the common goals. This is why policies and procedures are so important. These rules which employees need to adopt and according to which they need to behave are ensuring the standardized pattern of behavior which is easier to manage and monitor and at the same time is in line with its long term orientation.

6.3 Cultural Controls

The corporate culture of Canon Inc. is strongly influenced by national Japanese culture. The cultural characteristics of long term orientation and strong sense of collectivism are incorporated in Canon’s corporate philosophy named *Kyosei* which means *living and working together for the common good*. Furthermore, Canon puts strong focus on Canon values which are focused on individual contribution to “the common good”. These values represent guidelines for individual behavior and personal development which every employee should follow.

Canon values are based on San- Ji spirit of the „3 Selves “:

Self-Motivation (Ji-hatsu) – take initiative and be proactive

Self- Management (Ji- chi) – conduct yourself responsibly and be accountable

Self- Awareness (Ji- Kaku) – understand the situation and your role¹⁴

The corporate philosophy and values are strongly promoted in every subsidiary and on all levels. However, in order to ensure that these are actually a part of everyday actions taken in a course of a working way, they are incorporated in yearly bonuses.

Example: At Canon reward and compensation controls are strongly connected to cybernetic controls, but also to supporting of corporate values. At Canon Austria on an operating level nearly 40 % of a yearly bonus refers to overall personal performance. The biggest part of this performance is referring to actually implementing the behavior defined in the “3 Selves” concept. In this way it can be ensured that Canon values are actually lived by all employees.

For Japanese the corporate culture is a very important part of successful companies. But they also possess a very high level of cultural awareness towards other cultures. For many years the CEO of Canon Europe was a Japanese appointed by Canon Inc.

¹⁴ Canon Facts. Internal document Canon Austria GmbH

However, in 2010 Canon Inc. acquired OCE Company. In order to achieve a faster and more successful integration process one of the European OCE directors was appointed as CEO of Canon Europe including the meanwhile merged OCE companies.

7. CONCLUSION

Theory and practice do not offer a universal design of a management control system that “fits” every organization. However, there are types of control which can be found in almost every organization. Those are cybernetic, administrative and cultural controls. Depending on different contingency variables, such as environment or size, companies have adapted their control systems in order to achieve the best results.

By analyzing the types of control from the Framework it was possible to see how one company actually conducts the control process within the specific control. Canon Europe and in last instance Canon Inc. is using all the types of controls from management control system framework to control its subsidiaries. Based on the size and consequently importance of the subsidiary, Canon Europe uses tighter controls. This is however only seen in the frequency of reporting and presenting results and not in the applying other control measures than in the smaller size subsidiaries. Canon Europe clearly puts the strongest focus on cybernetic controls with emphasis on the budgeting process and financial performance measures. However, the supporting role of the other control systems should not be underestimated. Administrative controls ensure that the business is conducted according to specified procedures and policies and cultural controls play a key role in facilitating the Canon culture. Maintaining corporate culture is of outmost importance to Canon and transferring common values and goals onto subsidiaries is a part of this process.

This thesis has made a small but not disregarding contribution to empirical research in this field. Cybernetics are proven to be a heart of a control system of an organization however this analysis has supported the rising influence of cultural controls even in global corporations.

Further research possibilities lie in making a larger empirical research and exploring the influence of different contingency variables on a design of a management control system, depending on the country of origin of the parent company and its subsidiaries.

Appendices

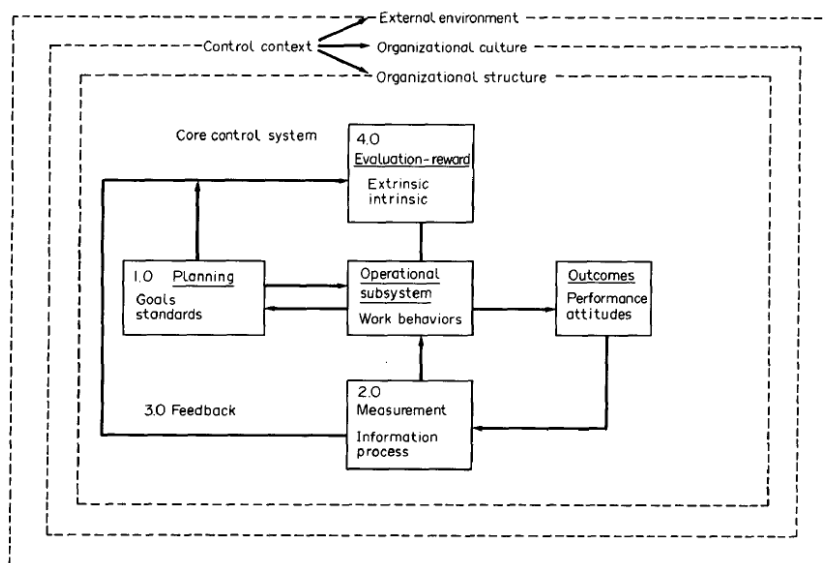
Appendix 1 An integrative framework of organizational control

FIGURE 1
Comparison of Bureaucratic and Cultural Control Mechanisms

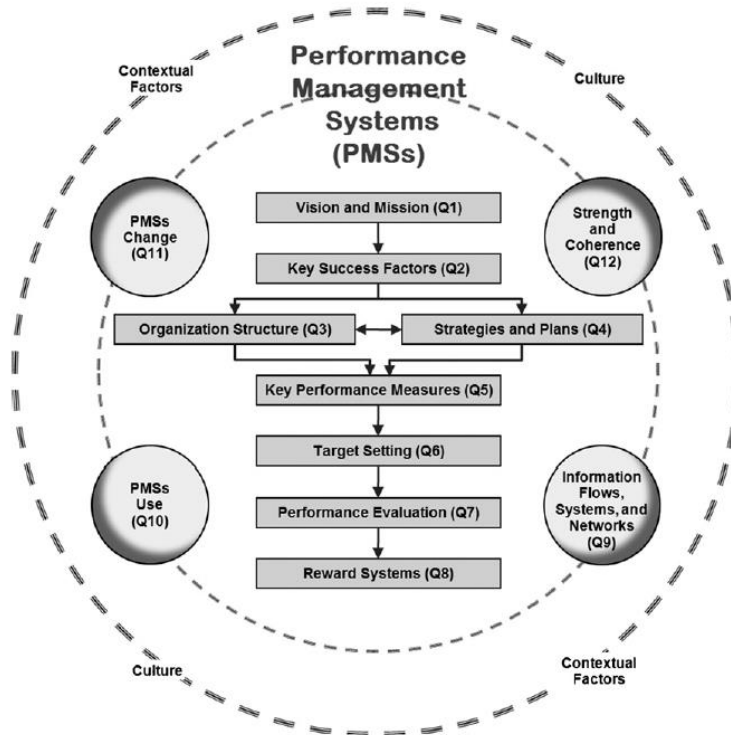
OBJECT OF CONTROL	TYPE OF CONTROL	
	Pure bureaucratic/ formalized control	Pure cultural control
Output	Formal performance reports	Shared norms of performance
Behavior	Company manuals	Shared philosophy of management

Source: Baliga & Jaeger, (1984, p. 28)

Appendix 2 An integrative framework of organizational control

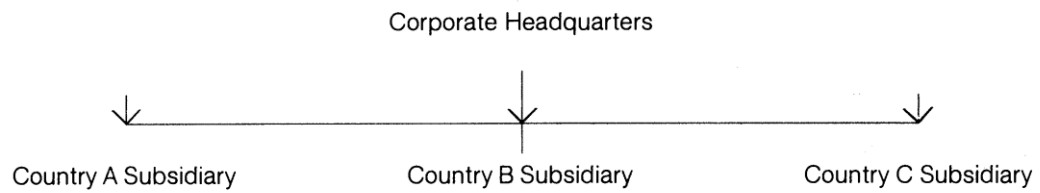


Source: Flamholtz, Das, & Tsui, (1985, p. 38)

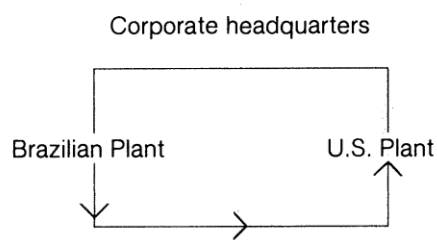


Source: Ferreira & Otley, (2009, p. 268)

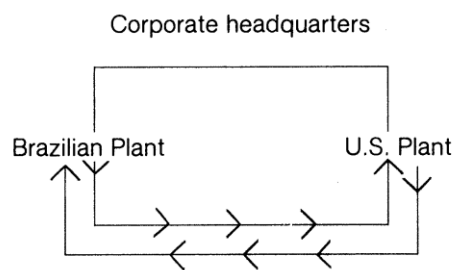
Types of Interdependence within Organizations*



POOLED INTERDEPENDENCE



SEQUENTIAL INTERDEPENDENCE



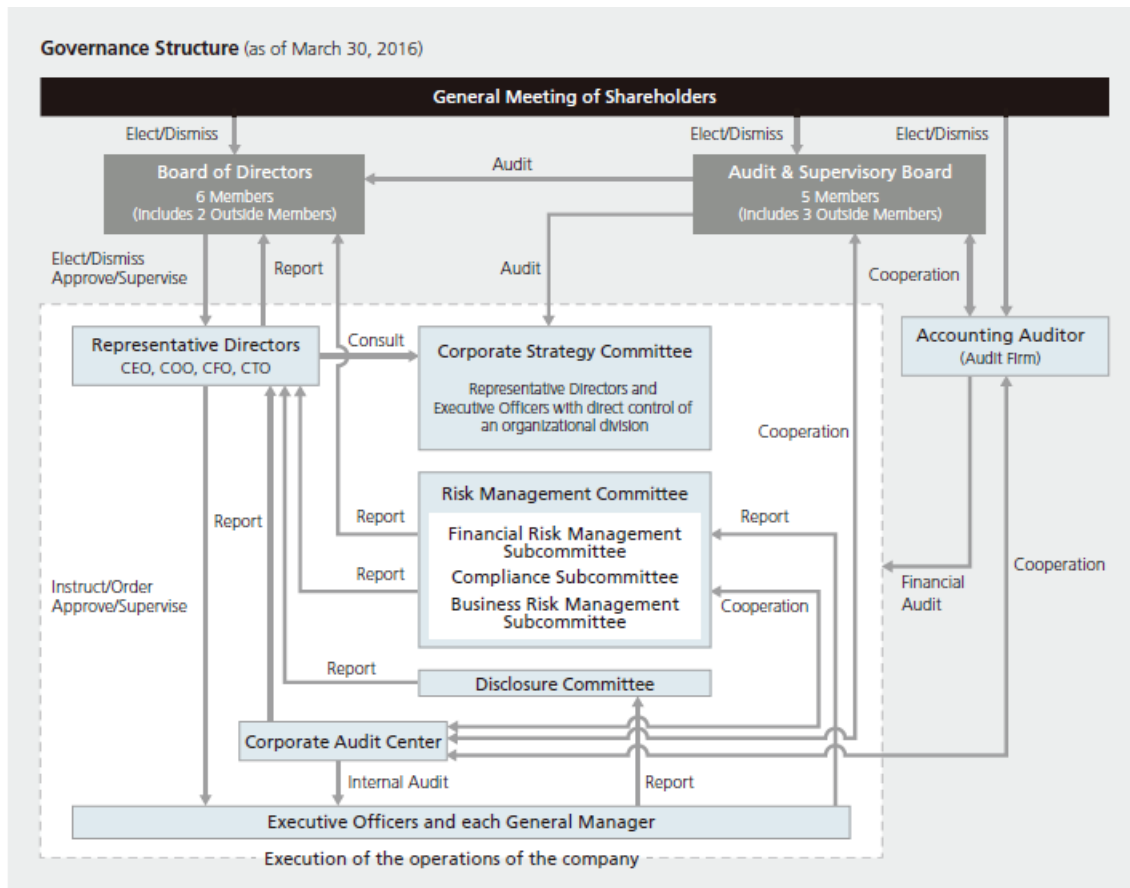
RECIPROCAL INTERDEPENDENCE

Key: —>—>— indicates direction of flow of materials.

* Based on Thompson [1967].

Source: Baliga & Jaeger, (1984, p.32)

Appendix 5 Governance Structure of Canon Inc.



Source: Canon Annual Report 2015, (p. 22)

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