

University of Economics, Prague

Faculty of Business Administration
CEMS Master in International Management



MASTER THESIS

**The challenge of implementing Toyota
Production System (TPS) in the Czech
Republic: A study in cross-cultural
management**

Author: Bc. Mgr. Michal Koža

Supervisor: Richard Brunet-Thornton, FRSA, MIM, MBA, PhD

Academic Year: 2014/2015

Declaration of Authorship

The author hereby declares that he compiled this thesis independently, using only the listed resources and literature.

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Acknowledgments

I would like to express my gratitude to my supervisor Richard Brunet-Thornton for the useful comments, remarks and direction. The amount of occasional disagreement was more than outweighed by the sum of things I could learn. Furthermore I would also like to thank to the participants in my survey for their precious time. Finally, I thank my family for their support and Martina for always showing me true direction, care, and patience.

Abstract

This master's thesis analyzes the possibilities of implementation of Toyota Production System within Japanese subsidiaries in Czech Republic. It explores the fit between the cultural values of Czech and Japanese management and the values incorporated in the Toyota Production System. In order to conduct the study, 79 companies were contacted, and survey responses from a total of 108 Czech and Japanese employees were collected. Data from the survey show that both Czech and Japanese employees have similar values related to work and neither job satisfaction nor number of conflicts is connected with TPS training. In the conclusion, areas for further research and more detailed elaboration are identified and presented.

Keywords Toyota Production System, Cross-cultural management, Japanese subsidiaries, Management system implementation

Abstrakt

Magisterská práce analyzuje možnost implementace Toyota Production System (TPS) v rámci poboček japonských firem v České republice. Zkoumá soulad mezi kulturními hodnotami českého a japonského managementu a hodnotami obsaženými v TPS. Za účelem vypracování studie bylo kontaktováno 79 firem, ze kterých bylo získáno 108 odpovědí od českých a japonských manažerů. Data z dotazníků ukazují, že čeští a japonští manažery mají velmi podobné hodnoty týkající se práce a ani spokojenost s prací, ani množství konfliktů nesouvisí s TPS tréninkem. Závěr práce identifikuje a představuje další oblasti pro hlubší výzkum.

Klíčová slova Toyota Production System, mezikulturní management, japonské pobočky, implementace management systémů

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Acronyms

FDI Foreign direct investment

HR Human Resources

MNC Multinational Company

OECD Organisation for Economic Co-operation and Development

SAQ Self-Administered Questionnaire

UAI Uncertainty Avoidance Index

TMC Toyota Motor Company

TPS Toyota Production System

TW Toyota Way

Chapter 1

Introduction

During the 1980s, Japanese companies rapidly increased the total amount of FDI, mainly to the USA and China (Yokozawa *et al.* 2007). A similar movement is visible during the last decade in countries of Central Europe. For example, the absolute number of Japanese investments to the Czech Republic grew rapidly after 2000. More than ninety investments were recorded in Czech Republic during the 2000-2008 period, compared to only seven investments between 1993 and 2000. In 2008, 239 Japanese companies were active in the Czech market (Czechinvest.org 2008).

Multinational companies (MNCs) are by their nature prone to cross-cultural interaction (Rozkwitalska 2010; 2014). This is especially significant in the case of Japanese MNCs, which heavily rely on the use of expatriates to control foreign subsidiaries and implement foreign managerial systems (Harzing 1999). Outside of Japan, local employees in many Japanese subsidiaries interact with Japanese expatriates and the managerial transplantation activities on daily basis. Such cross-cultural interaction often results in inter-personal friction, conflicts and other problems. In the global context, these conflicts between local employees and expatriates in subsidiaries are relevant, as they may impair the efficiency of the entire organization (Pudelko & Tenzer 2011).

One approach to explain and analyze these conflicts and the success of managerial systems is to apply the concept of cultural differences (Tsui *et al.* 1991; Ayoko *et al.* 2002; Vaara 2003). Another stream of literature tackles the problem from the perspective of Human Resources Management (Pudelko 2000). To deal with expatriation-specific problems, both approaches stress the importance of cross-cultural awareness training programs and overall support and assistance to expatriates (Pudelko & Tenzer 2011). The cross-cultural

awareness training and overall support is often vaguely defined and lacks a more specific analysis. Even though both approaches analyze the degree of acceptance of various tools, they are mostly focused only on the tools. Less attention is paid to a wider perspective that possibly serves as a definitive framework for these tools.

This thesis analyses the cultural values of Czech managers related to the Toyota Production System (TPS), a Japanese manufacturing and managerial framework and philosophy (Liker 2004) shared by most automotive Japanese subsidiaries in the Czech Republic and other countries. It also analyses the connection between TPS training the employees receive, and the level of satisfaction and severity of conflicts in Japanese MNCs in the Czech Republic from viewpoints of both Czech and Japanese employees. It addresses the insufficient research on performance in Japanese MNCs in the Czech environment as there exists little literature reviewing the job-satisfaction, conflict, and TPS training situation of Japanese MNCs in Czech Republic.

The thesis is structured as follows: chapter 2 reviews literature (culture, cultural distance, cultural dimensions, management system transmission and Toyota Production System), chapter 3 defines the problem statement, chapter 4 describes the methodology and data, chapter 5 presents the partial results, chapter 6 shows results of hypothesis testing, and chapter 7 provides discussion about results and concludes.

Chapter 2

Literature Overview

The first literature review covers the question of culture and cultural dimensions. The second literature review explains the research concluded on TPS and the last discusses the possibility and efficiency of transmission of Japanese managerial techniques to non-Japanese environments.

2.1 Culture and “cross-culture”

2.1.1 Culture

Culture is a word that has so much meanings already that one more can do it no harm (Hall 1959, pg. 10)

The term culture has more than one broadly accepted definition. Etymologically, the English word *culture* comes from the Latin *cultura* (to care, to cultivate). Depending on time and the background of various researchers, the subtle connotations of each definition differ. Kroeber & Kluckhohn (1952) compiled a list of more than 160 definitions of culture. These definitions are further divided into six specific groups: descriptive, historical, normative, psychological, structural and genetic. Table 2.1 displays a short excerpt of few of these definitions introduced during the first half of 20th century.

Based on the work done by (Szewczak & Snodgrass 2002), the multiplicity of cultural definitions can be classified into three major groups:

Definitions based on shared values

This categorization suggests that behavioral and thinking patterns are shared by people of the same society, and that these patterns are based on values. Values are defined as connecting bridges between various abstract

Table 2.1: List of selected definitions of culture

Author	Year	Group	Definition
Wissler	1920	Descriptive	... all social activities in the broadest sense, such as language, marriage, property system, etiquette, industries, art, etc.
Sapir	1921	Historical	... the socially inherited assemblage of practices and beliefs that determines the texture of our lives.
Lasswell	1948	Normative	“Culture” is the term used to refer to the way that the members of a group act in relation to one another and to other groups.
Blumenthal	1941	Psychological	Culture consists of all results (products) of human learned effort at adjustment.
Wiley	1929	Structural	A culture is a system of interrelated and interdependent habit patterns of response.
Ward	1903	Genetic	A culture is a social structure, a social organism, if any one prefers, and ideas are its germs.

Source: adapted from Kroeber & Kluckhohn (1952, pp. 43–67)

categories, forms of behavior, and personal preferences transferable to action (Szewczak & Snodgrass 2002).

Definitions based on problem solving

Definitions falling under this category state that culture is a result of a group, which needs to deal with its environment. Therefore, a culture involves learning within a group, solving problems of survival and solving problems of its internal integration (Schein 1985).

General all-encompassing definitions

These definitions are more abstract or even esoteric. Culture is described as something, which consists of explicit and implicit elements. The explicit culture deals with matters close to the minds of individuals, while implicit aspects are generalized individuals find them difficult to formulate.

Many definitions use common terms such as “shared”, “values”, “behavior” or “beliefs”. These definitions help to describe and understand the term, but the author finds that in order to analyze a certain culture more in depth, it

is important to use a more profound and encompassing model. Only then it is possible to decode the patterns and understand how they shape, direct or affect the behavior of certain individuals, or groups of people.

For the purposes of this thesis, the author uses an organizational cultural model developed by Schein (1985). Schein argues that there are two factors that shape the “patterns of basic assumptions” (Schein 1985, p. 14) – external adaptation and internal integration. The developed or discovered patterns that work in the problem-solving problems are then passed to new members, who then behave in accordance with these patterns. Schein uses three levels of an iceberg model:

Artefacts and Creations

Technology, Art, Visible and Audible Behavior Patterns

Values

What is told as the reason for a certain behavior

Basic assumptions

Relationship to Environment, Nature of Reality, Time and Space, Nature of Human Nature, Nature of Human Activity, Nature of Human Relationships

The first level of culture, artefacts and creations, is visible, but is often difficult to interpret. It is possible to analyze the visual part of culture (the “how” and “what”), but difficult to understand the reasons (the “why”).

Answers to the “why” are partially provided by the second level of the iceberg – the values. These are difficult to observe directly; even when spoken, they are only a manifestation of the actual values, espoused values, and the real reasons for behavior are concealed or unconscious.

Actual determinants of behavior are the underlying assumptions. Members of a society behave, perceive and think according to them, even though they are typically not aware of these assumptions (Schein 1985, p. 3). Third level of this model explains the real behavioral drivers. These drivers are often unknown to both the person behaving in a certain way, and the observer, who tries to understand the behavior.

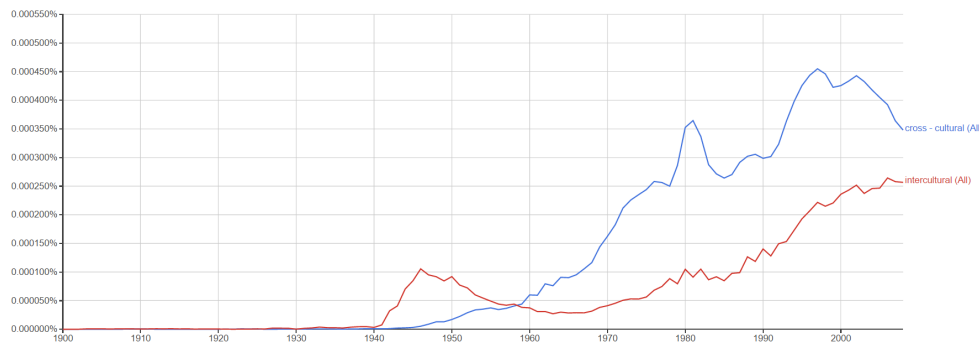
This simple model provides a framework for decoding both the rules used in the TPS, and the reasons why and how these rules were created. It is crucial in differentiating the actions from values, and values from true underlying reasons or behavior.

This chapter showed the richness of the term “culture” and described a simple model that is used in the consequent chapters. Following chapter will focus on cross-cultural studies and frameworks, which work with the values in the meaning of underlying reasons or behavior – the last layer of above-mentioned framework.

2.1.2 Cross-cultural studies and relevant frameworks

Compared to the world *culture*, the expression *cross-cultural* was not in use until the beginning of 20th century. A quick search on Google books Ngram Viewer, a tool that tracks the occurrence of words in books through time, shows that the popularity of the expression *cross-cultural* started in the 1930s, gradually raised until the 1980s, then fell, and raised again around the change of millennia (Figure 2.1). The word *intercultural* sees a similar raising tendency from around the 1970s, but its development saw a preceding spike around 1945, possibly in a different than business-related context. Even though these words are often used interchangeably, the term *cross-cultural* relates to the act of comparing different cultures. This thesis this will use the term *cross-cultural* in the context of *cross-cultural management* and *cross-cultural communication*.

Figure 2.1: Occurrences of words *cross-cultural* and *intercultural*



Source: adapted from Google Ngram Viewer (<https://books.google.com/ngrams>, (case-insensitive aggregation between 1900 and 2008, smoothing of 1)

Edward T. Hall introduced 3 basic factors for understanding various aspects of cultures: monochronic and polychronic time orientation (Hall 1959), proxemics, i.e. use of space (Hall 1966) and high context and low context culture (Hall 1976). Monochronic time describes a culture, which tends to do one thing at a time in a sequential order. They tend to plan and schedule ahead. In contrast, polychronic cultures tend to do things simultaneously, and they are more focused on an individual perception of time. Regarding space,

Hall divided this dimension into four distances: intimate, personal, social and public. Various cultures perceive space differently, and what one culture might perceive as intimate space might be viewed as social space in a different culture.

This thesis works most intensively with the level of context within a culture, specifically the amount of context within messages used in communication. Hall understood culture as a “highly selective screen between man and the outside world” (Hall 1976, p. 85). This screen designates what people ignore and what do they choose to pay attention. By providing structure to the world, it also protects people from information overload. Hall defines high-context communication as “one in which most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message”. Low-context communication is “just the opposite; i.e., the mass of the information is vested in the explicit code.” (Hall 1976, p. 91). One of Hall’s observations is that when conveying a message in a high context-based culture, less importance is attributed to information, and more to context (Hall 1976, p. 102).

Another cultural model proposed by Trompenaars & Hampden-Turner (1998) is based on comparing cultures from the viewpoint of following seven bipolar dimensions: Universalism/Particularism, Individualism/Collectivism, Neutral/Affective, Diffuse/Specific, Achievement/Ascription, Attitude to Time, and Attitude to the Environment. Some of these dimensions, such as Individualism/Collectivism or Achievement/Ascription, are similar to those used by Hofstede described below. The added value in using multiple dimensions is that more viewpoints (dimensions) can be compared, which will add deeper context to the cultural observations.

One of the most renowned models is the six dimensions model presented by Hofstede (1983). It is based on a series of surveys conducted on employees of IBM and originally identified only four dimensions of national cultures: Power Distance, Uncertainty Avoidance, Individualism, and Masculinity-Femininity. In later research conducted with Minkov, two more values were added to this group: Long-Term vs. Short-Term Orientation and Indulgence/Restraint. The following overview summarizes Hofstede (2011, pp. 9–16).

Power Distance

Perception of difference between various hierarchical levels in the society. It defines the extent to which the less powerful members of organizations and institutions accept and expect that power is distributed unequally.

Uncertainty Avoidance

Acceptance of uncertainty. Societies with a weak uncertainty avoidance have a higher tolerance of deviant persons or ideas, whereas societies with a strong uncertainty avoidance need structure and see uncertainty as a threat.

Individualism - Collectivism

Importance of the “I” consciousness. Individualistic cultures expect from their members to be able to take care of themselves and expect personal opinion to be said out loud. Non-individualistic cultures view people as born into extended families and stress the importance of harmony within a group.

Masculinity - Femininity

Distribution of gender values. Masculine societies admire the strong and tend to support the conservative gender roles. Feminine societies have minimum emotional and social role differentiation between genders and balance family and work.

Long-Term - Short-Term Orientation

Perception of time and tradition. Long-Term oriented societies view differences between good and evil as relative, traditions are adaptable. Short-Term oriented societies view traditions as holy and see good and evil as universally defined.

Indulgence - Restraint

Perception of pleasure. Indulgent cultures relish basic and natural human desires. Restraint cultures tend to control and regulate gratification.

Hofstede’s model is used by more than one hundred and eighty articles published between 1980 and 2002 (Brunet-Thornton & Bureš 2012) and has continuously attracted both praise and criticism. Various research (see, *inter alia* Wu 2006; Bergiel *et al.* 2012; Kohun *et al.* 2012) indicates that values for various countries are evolving, but missing constants for exact calculation of the dimensions for each country and different survey populations make direct comparison difficult. Based on Hofstede’s model, Kogut & Singh (1988) have developed the concept of cultural distance in order to express effects of cultural differences and characteristics on the choice of market entry mode in foreign direct investments. The concept of cultural distance has been since then used in various other studies: efficiency of managerial networks (Manev & Stevenson 2001), knowledge transfer (Holtbrügge & Berg 2004), internalization process

of firms (Clark & Pugh 2001), performance of MNCs (Gomez-Mejia & Palich 1997), or conflict between Japanese and western companies (Pudelko & Tenzer 2011). A large cultural distance between two countries can imply larger conflicts between two nations working in one company, such as a Japanese subsidiary in Czech Republic. Kogut and Singh combined Hofstede's four dimensions into one number (the sum of the difference between pairs of cultural values for USA and a different nation, divided by the variance of values for USA, divided by four). Together with Hofstede's model, they are the object of frequent criticism (for a summary of shortcomings see Shenkar 2012), as they are trying to express the complex cultural characteristics with a deterministic approach, but in terms of comparing two cultures, it provides a tool which is easy to use and applicable in order to determine the basic differences between two cultures. The original cultural distance is calculated by using the following formula (Kogut & Singh 1988, p. 422):

$$CD_{ab} = \frac{\sum_{i=1}^4 \frac{(I_{ij} - I_{iu})^2}{V_i}}{4} \quad (2.1)$$

Where, I_{ij} is the number of the i th cultural dimension and j th country, u is the number for relevant index of United States, V_i is the variance of the i th dimension and CD_j stands for the cultural distance between the j th country and the United States. Since the introduction of this concept, many researchers tried to come up with a different and more accurate way to calculate cultural distance (Yeganeh 2011; Kandogan 2012; Gerschewski 2013). For the purpose of this thesis, Yeganeh's (2011) formula is used, as it accounts for cultural asymmetry (shows both negative and positive values), dimensions' alignment (it does not aggregate opposing cultural dimensions), and weight (cultural dimensions have unequal importance, thus their relative weights are factored).

$$CD_{ab} = \left\{ -0.1 \frac{(PD_a - PD_b)}{sd_{PD}} + 0.79 \frac{(IN_a - IN_b)}{sd_{IN}} - 0.09 \frac{MA_a - MA_b}{sd_{MA}} + 0.01 \frac{UA_a - UA_b}{sd_{UA}} \right\} \quad (2.2)$$

Where CD_{ab} stands for cultural distance between countries a and b , variables $PD_a, PD_b \dots LT_a, LT_b$ represent Hofstede's cultural dimensions for respective countries.

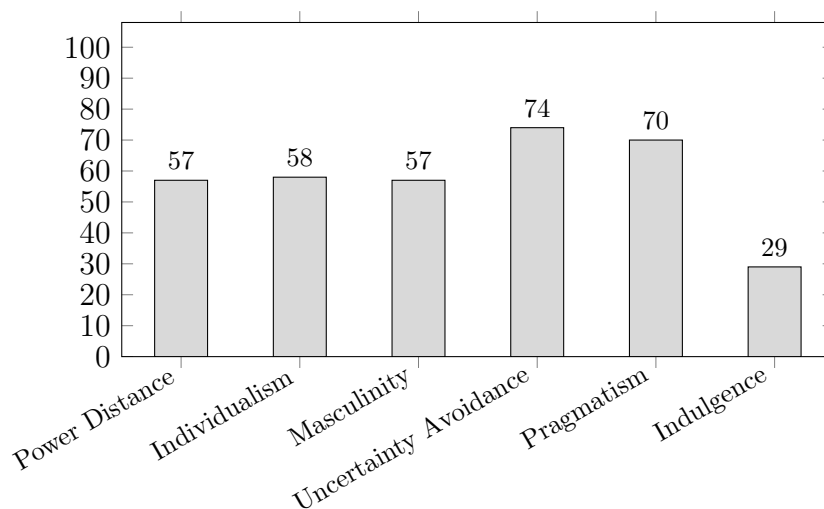
The next sub-chapters describe the cultural characteristics of Czech Republic and Japan.

2.1.3 Czech Republic

In the case of Czech Republic, research suggests that because most of the cultural studies were done in the 1990s, they are often outdated and in need of revision (Kolman *et al.* 2003; Brunet-Thornton & Bureš 2012).

Figure 2.2 shows Hofstede's dimensional scores for Czech Republic (Hofstede *et al.* 2010). The scores are recalculated to fit a scale of 0 to 100, where 50 is the mid-level value. Czech Republic scores slightly above-average values for three dimensions (57 for Power Distance, 58 for Individualism, and 57 for Masculinity). It scores high on Uncertainty Avoidance (74) and Pragmatism (70), and low on Indulgence (29).

Figure 2.2: Hofstede's dimensional scores for Czech Republic



Source: adapted from Hofstede *et al.* (2010)

The numbers are a useful tool for head-to-head comparison of various cultures. A deeper analysis shows that the Hofstede's dimensions for Czech Republic, which are based on replications or estimates (*ibid*), require a substantive re-evaluation (Brunet-Thornton 2011). For example, the Masculinity index shows that Czech Republic is a slightly masculine society, where people live in order to work, but research shows that individuals seek a harmonious balance in taking care of the household and child rearing (*ibid*). The Individualism positions Czech Republic in the group of average-rating countries, but the growing importance of “me” in opposite to “we” or a continuously developing perception

of a career, especially among young people, indicate signals of change. Overall, the Czech society is still heavily influenced by the Švejk factor and that “this becomes further complicated in a period of economic turmoil with a rebirth of conservative values, high corruption, and a return to Czechness” (Brunet-Thornton & Bureš 2012, p. 58). Older works stress the need for a re-evaluation and deeper analysis as well. Based on a discourse analysis, Thorpe & Pavlica (1996) argue that Czech managers see themselves as individuals who were selected to lead, but other researchers (Kruzela 1995; Chadabra 1994) show that Czech society is an egalitarian society with a characteristic distrust towards authorities and assigned leaders. The research indicated that this might be a result of the communism era. Another effect of the 40 years long period is a strong focus on securing living standards (i.e. secure the same level of standard that was the social average), rather than developing and growing them (Musil 1993).

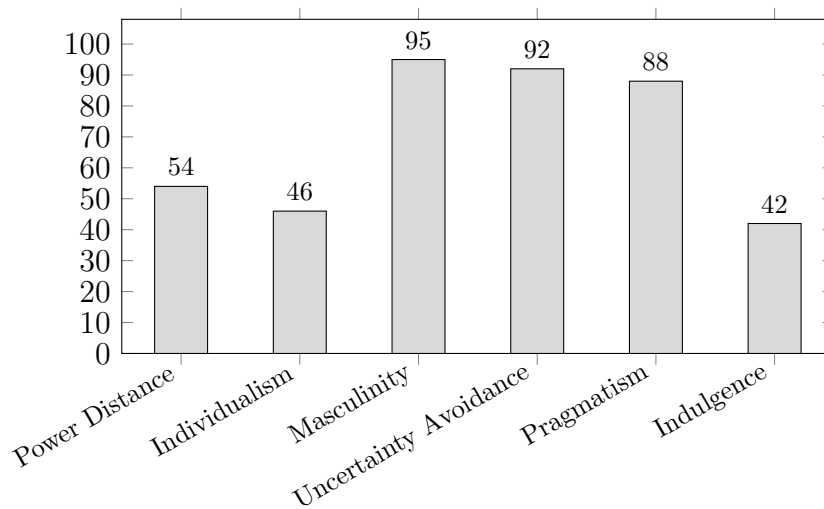
2.1.4 Japan

The Inglehart–Welzel cultural map of the world uses a survey consisting of 250 questions (World Values Survey Association 2012) to determine two basic cultural dimensions: traditional vs. secular-rational values and survival vs. self-expression values. According to the authors, “these two dimensions explain more than 70 percent of the cross-national variance on key variables, and each dimension is strongly correlated with scores of other important attitudes” (Inglehart 2012).

This map (see Appendix A) shows Japan as a country with the highest score on rational-secular views. These views describe the liberal ways of thinking, and are generally high for countries with low importance of religion, parent-child relationship, or national pride. Hofstede’s dimensions confirm this observation. Figure 2.3 shows that Japan scores high on three dimensions that can be connected with rationalism: masculinity, uncertainty avoidance and pragmatism.

In order to better understand the specifications of Japanese culture and their effect on the formation of Toyota Production System, it is important to deeper review the specific position of Japan that was studied by researchers and historians for a long period of time. The end of the 19th century signaled the start of a radical transformation in Japanese history and culture. After almost three hundred years of relative isolation, the Japanese empire opened up which lead to unprecedented intensive trading and cultural exchange. This

Figure 2.3: Hofstede’s dimensional scores for Japan



Source: adapted from Hofstede *et al.* (2010)

lead to the birth of *nihonjinron*, which can be roughly translated as “Theories about the Japanese”. The expression consists of two expressions: *nihonjin* (Japanese) and *ron* (theory, discourse). These texts, theories and “discussions of being Japanese” (Reischauer 1998, p. 371) grew most vigorously during the post-war years and formed a diverse collection of opinions, texts, articles and books about how and why Japan and Japanese are different. These theories (unrelatedly to their academic correctness or accuracy) have slowly formed a body of knowledge, which gradually shaped the contours of Japanese both national image and national ideology. “The endless discussions of Japanese uniqueness are, if more precisely put, discussions of difference, but difference of a specific kind” (Yoshino 1992, p. 8).

Nihonjinron texts and theories vary in content, but they are similar in a way that they base their argumentation around five general types of differentiation from the rest of the world (Jérémie 2012; Dale 1986; Yoshino 1992):

Distinction of race

From the perspective of *nihonjinron*, Japanese people are believed to be members of a race distinct from others

Unique geography

Japan is defined as an island country. The non-existence of physical contact with other world produced a homogenous society without any outside-world influences

Unique climate

Combination of four seasons, high humidity and earthquakes had a unique effect on Japanese society creation

Unique language

The belief that the Japanese language is incomparable with any other language in the world, and only people with Japanese blood

Unique psychological structure of mind

This group of specifics describes the groupism, vagueness and other aspects of Japanese society, which have further impact on other distinctions, such as language as well

Jérémie (2012, p. 50) summarizes that the *nihonjinron* writings are rooted in the belief that Japan is a “uniquely unique” society. The important question to answer is the degree to which *nihonjinron* beliefs affects the current Japanese society. According to Yoshino (1992, p. 8), it explains “everyday occurrences and current news in terms of culture or cultural ethos considered peculiar to the Japanese.”

Some of the most often cited publications are *The Chrysanthemum and The Sword* (Benedict 1946), *Climate and Culture* (Watsuji 1961), *The anatomy of dependence* (Doi 1973), *Tate Shakai no Ningen Kankei* (Nakane 1967), *Haji no bunka saiko* (Sakuta 1967), *Globalization of Japan* (Itoh 1998) or *The Japanese brain* (Tsunoda 1985). The following paragraphs are a brief summary of basic selected concepts presented in these books.

Vertical society (*tate shakai*)

The concept of a vertical society was first introduced by Nakane (1967). The concept is probably coming from a Confucianism cultural background (Kobayashi 1997), and it describes the function of rank, status and hierarchy between various social groups. It explains the rather firm relationship between the parent and the child, the superior and the inferior or the teacher and the student (Nakane 1970, p. 23).

Inside-outside (*uchi-soto*)

In Japan, membership in one group defines the member of the group to a much bigger degree than in Europe or the USA. Compared to companies in Europe or the USA, “it is much more difficult to move between in-group and out-group status in Japanese organizations” (Black & Mendenhall 1993). The *uchi-soto* concept defines, among others, the context of problem resolution as well. Outsiders cannot be trusted to recognize or fulfill their obligations, therefore conflict with them must be

avoided and a solution must be found through a different way (Black & Mendenhall 1993). The insiders, on the other hand, strive not only to benefit from the membership of the group, but they also work harder on becoming more engaged members, which results in more effective problem solving and social harmony.

True feelings and face/façade (*honne-tatemae*)

Honne stands for true intentions, *tatemae* refers to the “standard, principle, or rule by which one is bound at least outwardly.” (Lebra 1976, p. 136). Skillful differentiating between the private and public stance enable Japanese to keep a comfortable atmosphere and maintain harmony among people (Davies & Ikeno 2002).

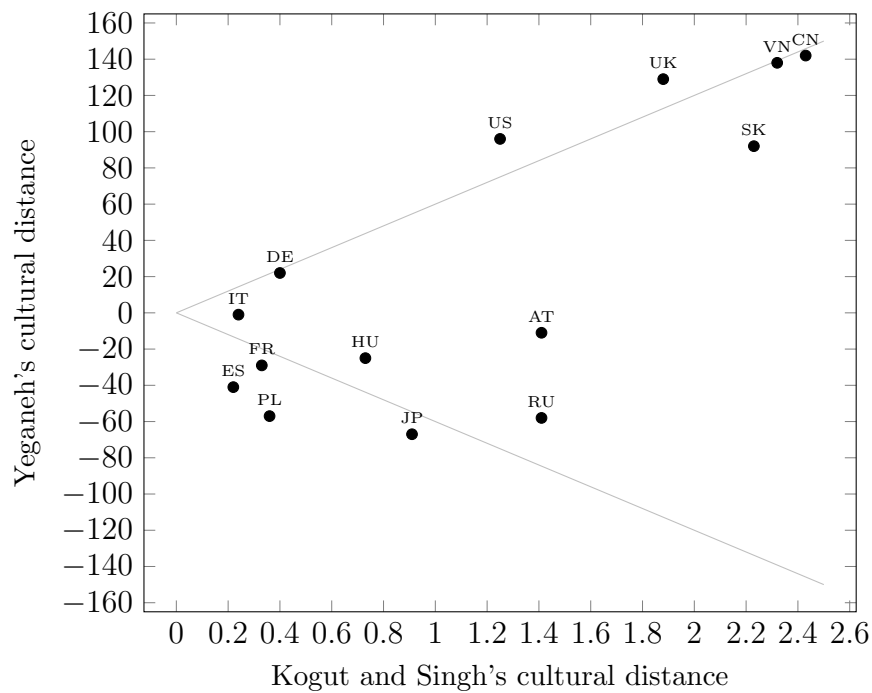
Ultimately, the topic of *nihonjinron* is revolving around a chicken and egg problem. It is difficult to assess whether the *nihonjinron* realistically describes the specifics of Japanese culture, or whether the Japanese culture was shaped and built up in the minds of society members based on inputs coming from various *nihonjinron*. Moreover, a chance exists that the perception of Japanese culture in the minds of Japanese is shaped by the theories, but it does not necessarily reflect the reality. Nevertheless it is important to be aware of such theories, and to correctly identify them when discussing Japanese culture-related topics – whether with or without Japanese people – in order to correctly identify and deconstruct deeper and more complicated concepts connected with Japanese culture or society.

2.1.5 Measured cultural distances between Czech Republic and Japan

Cultural distance between Czech Republic and Japan based on Yeganeh’s (2011) formula and a dataset acquired from Harzing (2014) is -67.37. Kogut and Singh’s distance index is 0.9. These numbers tell more when compared to other countries. Summarized results are in the Appendix B, the results are plotted in Figure 2.4. The X axis shows Kogut and Singh’s distances, the Y axis shows positive or negative Yeganeh’s distances. Kogut and Singh’s distance index (X distance) show that the distance between Czech Republic and Japan is close to cultural distances between Czech Republic and Hungary, Russia, USA or Austria. Yeganeh’s index (Y distance) shows that other countries with similar distance to Czech Republic as Japan are Poland, Russia or Spain. Interestingly, Italy, Germany and France seem to be countries with a relatively

small cultural distance. Correlation between Kogut and Singh's formula and absolute values of Yeganeh's formulas is 83.8%. The gray lines in the graph show a theoretical 100% correlation between Yeganeh's and Kogut and Singh's formulas.

Figure 2.4: Plotted cultural distances



Source: author's own

2.1.6 Pillars of the Toyota Production System and Toyota Way

This chapter provides a basic overview of the Toyota Production System and Toyota Way. A short insight in the history of the Toyota Motor Company and a brief summary of the Toyota Production System are attached in the appendix.

Toyota Production System was originally a set of techniques and tools, gradually developed into a deeper philosophy called Toyota Way (Liker 2004). Today, TPS is a system of manufacturing as well as management principles used in most of Japanese manufacturing companies active in the automotive industry.

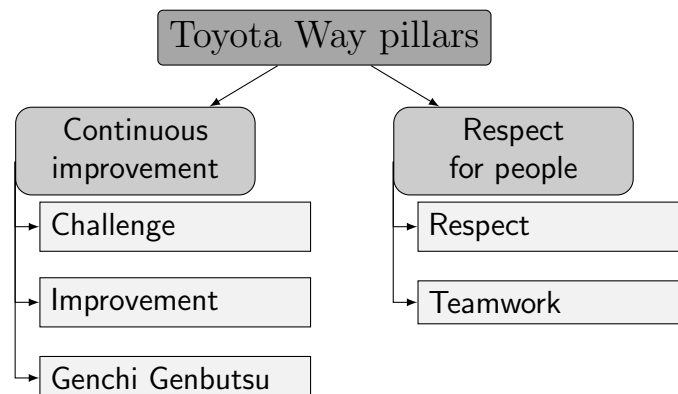
Liker (2004) views the philosophy behind TPS as a concept consisting of four main components: Philosophy (Long-Term Thinking), Process (Eliminate

Waste), People and Partners (Respect, Challenge and Grow Them), and Problem Solving (Continuous Improvement and Learning).

The Toyota Environmental and Social report (TMC 2003) states that “in order to carry out the Guiding Principles at Toyota Motor Corporation, in April 2001 Toyota adopted the Toyota Way 2001, an expression of the values and conduct guidelines that all employees should embrace.” The Toyota Way is defined as the strategic, high performance work system that sits at the very core of the TPS and other value adding systems and processes in Toyota’s value chain (Jayamaha *et al.* 2014, p. 1).

It is shaped by two basic pillars: Continuous improvement and Respect for people. These two groups of values encompass five key principles: Challenge, Kaizen (improvement), Genchi Genbutsu (go and see), Respect and Teamwork (TMC 2003).

Figure 2.5: Toyota Way pillars



Source: adapted from TMC (2003)

Studies show that when empirically measured, these five principles are not statistically different from each other, since they are highly inter correlated according to the measurement system used by Toyota to measure the TW (Jayamaha *et al.* 2014, p. 2).

The Environment and Social report states that Toyota’s values and business methods were previously tacit, but with the development of the company and its intention to become a true global player, it had to define these values to help its local subsidiaries to better understand its philosophy (TMC 2003). The reasons for creating the Toyota Way are explained in the foreword by the president Fujio Cho in the Toyota Way Booklet: “It is essential that our global leadership team embrace the concepts of the Toyota Way as we achieve

our business goals in host countries which have a wide variety of customs, traditions and business practices” (TMC 2002).

These words explain that up until the beginning of the 21st century, the rules were implicit, and were expected to be “understood without explanation”. This approach to learning is a typical example of the Japanese concept of *sassuru* - traditional habit of teaching and learning non-verbal information by observing and following every move of the master (Monden *et al.* 2013, p. 152). Explicitness is considered as something which hinders effective learning and development of future leaders. Therefore the student should be proactive in his learning process and constantly think about his actions.

Liker (2004) presents 14 principles that constitute the Toyota Way. His perception is based on a 4-pillar model shown in Appendix C. The principles he summarizes are as follows:

1. Base your management decisions on a long-term philosophy, even at the expense of short-term financial goals
2. Create a continuous process flow to bring problems to the surface.
3. Use ‘pull’ systems to avoid overproduction.
4. Level out the workload (work like the tortoise, not the hare).
5. Build a culture of stopping to fix problems, to get quality right the first time.
6. Standardized tasks and processes are the foundation for continuous improvement and employee empowerment.
7. Use visual controls so no problems are hidden.
8. Use only reliable, thoroughly tested technology that serves your people and process.
9. Grow leaders who thoroughly understand the work, live the philosophy, and teach it to others.
10. Develop exceptional people and teams who follow your company’s philosophy.
11. Respect your extended network of partners and suppliers by challenging them and helping them improve.
12. Go and see for yourself to thoroughly understand the situation.
13. Make decisions slowly by consensus, thoroughly considering all options; implement decisions rapidly.
14. Become a learning organization through relentless reflection and continuous improvement.

2.1.7 Management system transmission

Research on management system transmission related to Japan and conflicts associated with cross-cultural exchange in MNCs has focused on three distinct regions: transmission of Japanese management systems to the USA (Schonberger 1982; Liker *et al.* 1999), transmission of Japanese management systems to western Europe (Dipak *et al.* 2001; 2011), transmission of Japanese management systems to South-East Asian countries (Shaari 2010; Kiyokawa *et al.* 2006). There has been little research conducted in the context of Central Europe.

According to Kiyokawa *et al.* (2006, p. 88), “the transplant of so-called Japanese-style management is being slowly but steadily implemented in India”. The result of such a transplant in Japanese-Indian joint ventures is a gradual shift in job-consciousness, ultimately creating a “sense of unity in the organization” (Kiyokawa *et al.* 2006, p. 88) with a strong effect on job-related motivation and higher labor-productivity both among workers and management class when compared to other Indian companies. On the other hand, the way how managerial tools typical for the “Japanese-style management” work in these joint ventures was found to be inadequate and below the standard output found in Japanese companies. The study did not compare the level of acceptance for egalitarianism, time or space related orientation or other cultural values.

The problem of the cultural fit of an individual within a company was researched by Harrison & Carroll (1991), who assumed that the potential of how an individual is likely to accept the values of an organizational culture can be represented by one variable that indicates the degree of fit with a cultural ideal (Harrison & Carroll 1991, p. 557). This degree of fit is often understood as the degree of enculturation (Selmer & De Leon 1996) and it includes factors such as knowledge, qualification or willingness to comply with a certain culture. Harrison & Carroll’s model uses the following variables as inputs for their model: entry rate and exit rate of workers, growth rate of the organization, selectiveness of organizational recruiting, intensity of socialization by managers and by co-workers and rate at which socialization decays, if not reinforced.

Transplantation of a complex management system encompasses many variables and aspects that are not easy to deconstruct and move easily. Rother (2010, pp. 4–9) states that in the case of adopting Toyota practices, this becomes even more difficult due to following three reasons:

1. Critical aspects of Toyota are not visible
2. Reverse engineering does not make an organization adaptive and continuously improving
3. Trying to reverse engineer puts the managers in an implementing mode

Especially the first reason is supported by Liker (2004, p. 10), when he argues that “companies have mistaken a particular set of lean tools for deep lean thinking.” It is natural to presume that people have a tendency to firstly adopt tools or rules. Compared to thinking (values), tools and written rules are visible, and therefore easy to identify and adopt.

Based on examples from other countries, a large number of conflicts and problematic performance can be expected (Holliday 1992; Tung 1993; Aycan 1997).

Chapter 3

Problem statement

The increased number of Japanese subsidiaries in the Czech Republic indicates the importance of these companies to the Czech economy. Performance of these companies is based not only on a macro-environment and international strategy of the organization, but on the smoothness of local operations as well. Thus, it is crucial to analyze methods to mitigate possible friction and how to improve management efficiency in these companies. The author focuses on two main problem areas.

The first consideration is the area of cultural fit of values within the TPS and cultural values of Czech managers, who are responsible for implementation of these management and manufacturing techniques into daily operations together with the Japanese expatriates. The TPS is often used as a synonym for “lean production” (Fujimoto 1999) and many companies understand it as a set of tools to improve their performance (Swamidass 2007). The prerequisite for successful implementation of this system is to understand a broader philosophy. This philosophy is based on values, which are more strictly defined as the Toyota Way (Liker 2004). There exist cases of the establishment of Toyota Institutes in the USA and Thailand, where the rules and values of the Toyota Way are taught in an explicit fashion (Gertner 2007). No such activity is done in the Czech environment.

Therefore, the first questions this thesis addresses is: Without a well-defined prior TPS training, does there exist a natural fit of values inherent to Czech managers and values typical for TPS? Without sufficient training, is TPS applicable within a Czech working environment?

The second area of research is the question of usability of TPS knowledge in terms of performance improvement. Research identifies two basic approaches to

improve the overall performance of cross-cultural management: cultural awareness, intercultural effectiveness, experimental or cognitive cross-cultural training (Ward *et al.* 2001; Kohls & Brussow 1995; Ptak *et al.* 1995) and language-management (Feely & Harzing 2003; Tietze 2013). The cross-cultural training does not automatically provide successful outcomes (Zakaria 2000). It is often concluded within an insufficient time-frame (Ward *et al.* 2001), or in an inadequate manner (Ptak *et al.* 1995). The pre-requisite requirement for a successful language-management strategy is a long-term oriented effort (Feely & Harzing 2003). In the case of Japanese companies with a large ratio of Japanese-only speaking managers (Yoshihara 1999), this effort is ignored, and in most cases, the official working language is Japanese (Harzing & Pudelko 2013).

The Toyota Production System could potentially combine these two approaches, and serve as a “common language” for both sides of the cross-cultural conflict. In doing so, thus foster cross-cultural awareness, smoothen daily operations and establish a basic platform for communication, problem solving and setting of priorities. On one side of the cross-cultural conflict is the local managers’ position, who becomes frustrated because of the centralized decision-making and lack of understanding (Legewie 2002). The other side of the conflict consists of the Japanese expatriates, who struggle to express the reasons for the behavior (Legewie 2002) because of cultural or language differences.

The second question of the thesis is: Do the rules and principles of TPS provide a basic platform for comprehension between two cultures, and therefore improve the satisfaction of employees and lower the amount of conflicts?

From these two questions, three hypotheses are tested:

- H1: Values inherent to Japanese management are closer to the values proposed by the TPS than the values inherent to Czech management.
- H2: If a company has Czech management trained in the area of TPS, the company enjoys a lesser degree of conflict between Czech and Japanese management
- H3: If a company has Czech management trained in the area of TPS, the company realizes a higher level of Czech employee job satisfaction

To approach both areas of research and all three hypotheses, a qualitative and quantitative survey was conducted.

Chapter 4

Methodology and data

4.1 Survey overview

The hypotheses were tested using data collected from a survey. The survey was constructed based on the literature review and author's previous experience as a translator in Japanese companies.

The SAQ structure is as follows:

- General instructions, confidentiality statement
- Basic information
- Personal views about bipolar values (six questions with a five point Likert scale)
- Personal views about statements (four questions with a five point Likert scale)
- Job satisfaction (4 questions regarding work-time, wage, training and overall satisfaction)
- Conflicts within company (5 questions regarding severity of conflicts between various nationalities and positions within the company and problem solving)
- Experience related to working in Japanese companies (overall working experience in Japanese companies, experience with cross-cultural seminars, and TPS seminars)
- Comments

Overall, the SAQ consists of 19 short questions related to cultural values and 9 questions providing information about the respondent. Required time to fill-in one SAQ was calculated to be five minutes. Complete list of questions

used in the SAQs in all three languages (English, Czech and Japanese) are attached in appendix.

First, an electronic version of the SAQ was created in MS Word in English, Czech, and Japanese language. Then an online version was created.

4.2 Survey study sample

This study assesses the situation in a sample of Japanese companies mainly from the manufacturing industry. The survey sample database was constructed in four steps:

1. Personal network was analyzed and manually summarized into a database
2. Additional company contacts were researched through freely available online resources (press releases by Czech Invest, Japanese Chamber of Commerce and Industry, and Japan Business Solutions online list of companies)
3. Further companies were added to the database based on feedback from companies contacted from steps 1 and 2

4.3 Survey distribution

Prior to the distribution, a beta-run was conducted. One company with five Czech and five Japanese managers was contacted and the SAQs were distributed with the help of an HR-assistant. The beta version of the SAQ asked for comments or suggestions if any unclear or ambiguous questions were found. The SAQs were then scanned and sent back to the author. As there were no comments, the SAQ distribution continued without any changes made to the questions. After the beta-run, survey was distributed through three separate channels:

1. Scanned pdf files sent and collected through email
2. Online survey through specialized platform
3. Physical distribution of printed surveys

After the list of companies was built, missing contact information (email addresses) were manually researched. First, the companies were contacted through

email. Whenever possible, the contact email address of the HR manager or the HR department was used. If neither was to be found, a job-position related address (i.e. jobs@companyname.cz) or a generic contact address (i.e. info@companyname.cz) was used. After the first email, three reminder emails were sent, once every seven to nine days on average. These emails were timed to maximize the potential to be read by the email account users, therefore no emails were sent on public holidays, Friday afternoons, or similar days.

Email recipients were informed about the survey purpose and were provided with two URL links – one to Czech and one to Japanese version of the survey. Pdf files of both language versions were attached as well. Text of the email is in appendix. Online survey distribution was accomplished through a paid subscription to an online survey platform. The URL links to these online surveys were provided in the email body. Physical distribution of printed surveys was done manually with help of personal contacts. Online survey was launched on October 14th, 2014 (Tuesday) and was ended 30 days later on November 14th, 2014.

4.4 Researched companies and respondents overview

Based on steps described in section 4.2, a list of 89 Japanese companies was constructed. Some companies in this list had more than one division registered as a separate organization; therefore these double-entries had to be removed. The final list of contacted companies consisted of 79 entries. The overview of these companies can be found in appendix. The survey targeted both Czech and Japanese Managers relevant to HR and production, such as plant managers, quality managers, managers of various production processes, maintenance managers, or process improvement managers. Table 4.1 summarizes number of respondents and other data regarding responses collected through various distribution channels.

Out of these 129 responses, 107 are fully filled and relevant. Two responses altogether from one Slovak and one Belgium manager were collected, but these were not included in the analysis due to different cultural backgrounds. The reply rate is 82.9%. Altogether, 45 responses from Czech managers (86.5%) and 63 responses from Japanese managers (84%) were used in the consequent analysis. The sample used in this survey is large enough to be used for statistical purposes.

Out of the 79 companies listed in the company database, responses were col-

Table 4.1: Overview of responses collected through various distribution channels

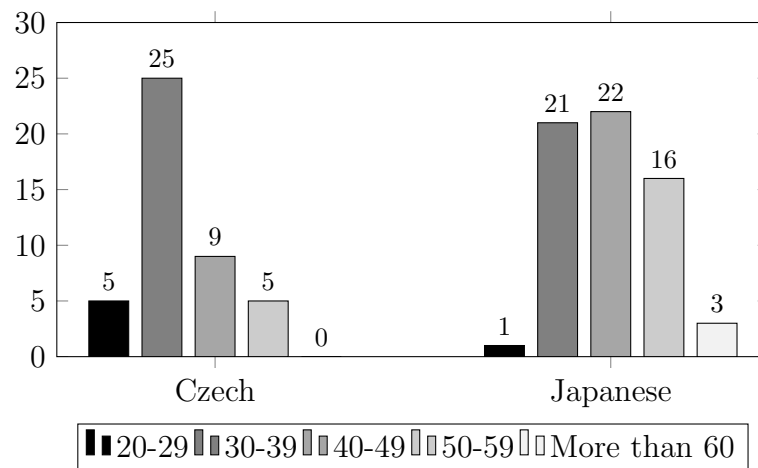
	Czech	Japanese	Other
Scanned PDFs	8	7	0
Online surveys	44	30	2
Printed surveys	0	38	0
Total	52	75	2

Source: author's own

lected from at least 42 different companies. More than one third of respondents (35%, $n=45$) chose not to reveal the name of the company they are working for, therefore the precise number of companies which responded is unclear. Most of the companies were from the manufacturing industry, but real estate and bank companies replied as well.

Figure 4.1 shows the age distribution of respondents. One Czech respondent chose not to reveal his age. Japanese respondents were older than their Czech counterparts. Under the assumption that the age of respondents falling under the age categories was of the median value (i.e. 25 years old if the respondent falls in the 20-29 category etc.), the average age of Czech respondents was 38 years and the age of Japanese respondents was 45 years.

Figure 4.1: Respondent age distribution



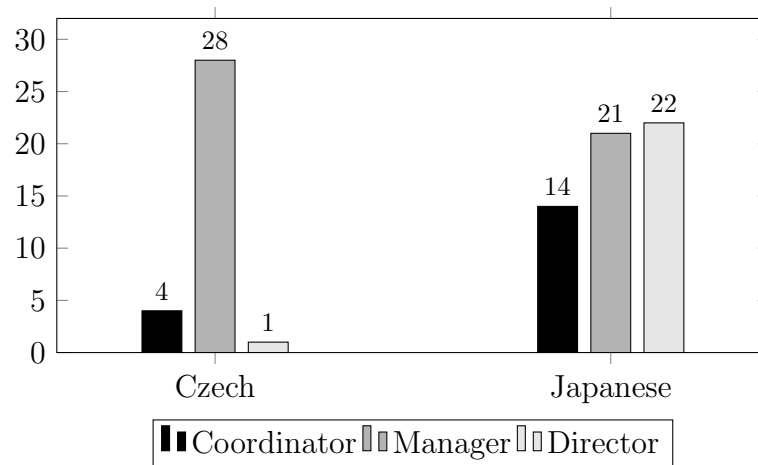
Source: author's own

These differences can be at least partly explained by the distribution of positions. Most of Czech replies came from employees on the Manager position (32 replies). Japanese respondents had a much more balanced distribution,

with an almost equal number of coordinators (15 replies), managers (22 replies) and directors (chief of division, vice-president or president position, 26 replies). Remaining respondents did not choose to reveal their job titles.

Each company chooses a different job title and job description for a certain position, thus it is difficult to evaluate the actual effects of this data on the survey results. It is possible that a person on a coordinator level might have more responsibilities or competence than a manager, or that a manager might have smaller power than a coordinator.

Figure 4.2: Respondent job title distribution



Source: author's own

Average time spent in current company was similar – 7.2 years for Czech respondents and 5.8 years for Japanese respondents. This reflects the fact that many Japanese employees come to assignments in foreign countries for a few years, and only a small amount of them stay longer in a certain country.

4.5 Survey construction

The survey was constructed based on literature covered in chapter 2. In order to quantify the respondent's values, only semantic differential scales, 5-scale Likert scales and single numeric value fields were used. Except for the name of company, name of position and comments (all three were optional fields used only for statistical purposes), no other qualitative data were collected.

The main questions were constructed in a way to describe the respondents' values related to pillars and principles introduced in chapter 2 (TMC 2003; Liker 2004). Toyota Way pillars and Liker's 14 principles were compared and analyzed. Out of Liker's 14 principles mentioned in subsection 2.1.6, six were

identified as technical tools and principles (items number 2, 3, 4, 5, 7 and 12), thus not taken into account when creating the survey. Two principles fall under the category of corporate strategy (items number 11 and 14). The remaining six principles were merged together with observations from Spear & Bowen (1999). As a result, five different values were identified: Long-term orientation in thinking, innovation perception, development of human resources, respect for rules and respect for supervisors. Table 4.2 summarizes these values and questions used in the survey (numbers of sections and questions refer to proprietary parts of the survey, as the order was randomized).

Table 4.2: Overview of measured values and questions used for their quantification

Values	Questions used
Long-term orientation in thinking	"If a solution does not solve a problem, it is important to try something else because it might be a wrong solution" vs "If a solution does not solve a problem, it is important to continue with it, because the effects may take some time to occur" (Section 1/Question 2) "Persistent effort is the best way to achieve results" (Section 2/Question 1)
Innovation perception	"In order to be competitive, it is better to stick with current technology because it is proven" vs "In order to be competitive, it is important to seek new technology because it is better" (Section 1/Question 1) "It is more efficient to improve things radically, than to improve them gradually over time (with the same outcome)." (Section 2/Question 4)
Development of human resources	"In determining how to achieve goals, employees should have a certain degree of freedom" vs "In determining how to achieve goals, employees should be provided with detailed instructions" (Section 1/Question 4) "It is more efficient to hire a manager from external sources who knows 'new approaches' " vs "It is more efficient to train a manager from internal sources who knows 'how things are' " (Section 1/Question 5)
Respect for rules	"In real life circumstances, the occasional adjustment of rules to overcome problems is unavoidable" (Section 2/Question 2) "A company's rules should not be broken, even when the employee thinks breaking the rule would be in the company's best interest." (Section 2/Question 3)
Respect for supervisors	"If supervisor's ideas do not make sense, subordinates should at least try them out" vs "If supervisor's ideas do not make sense, subordinates should challenge them" (Section 1/Question 6) "If the supervisors' requests are not clear, it is my fault because I do not understand them enough" vs "If the supervisor's requests are not clear, it is his fault because he did not explain them sufficiently." (Section 1/Question 3)

Source: author's own

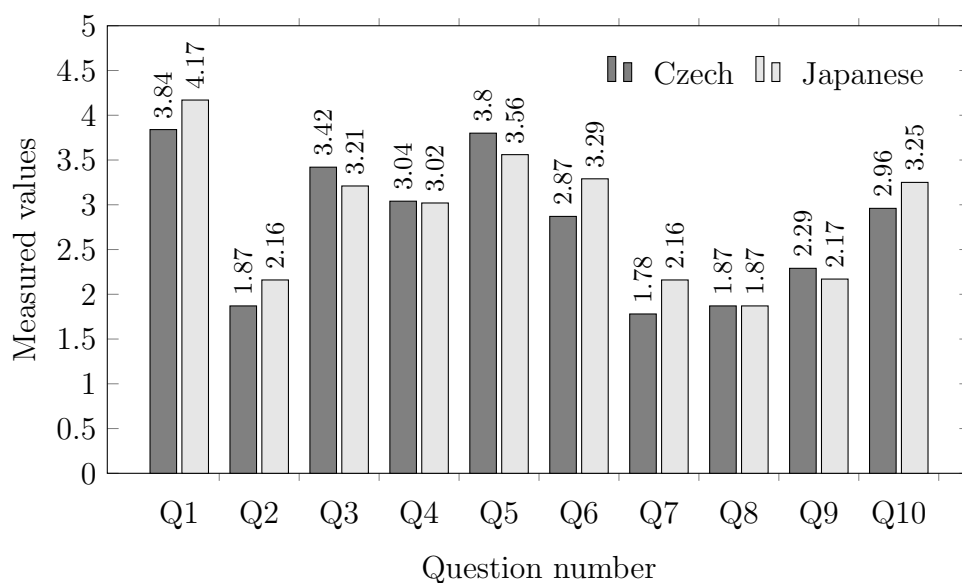
Chapter 5

Results analysis

5.1 Overview of value-related questions

Collected data was summarized and averages for respective values were calculated. Figure 5.1 summarizes these values.

Figure 5.1: Average values for value-related questions



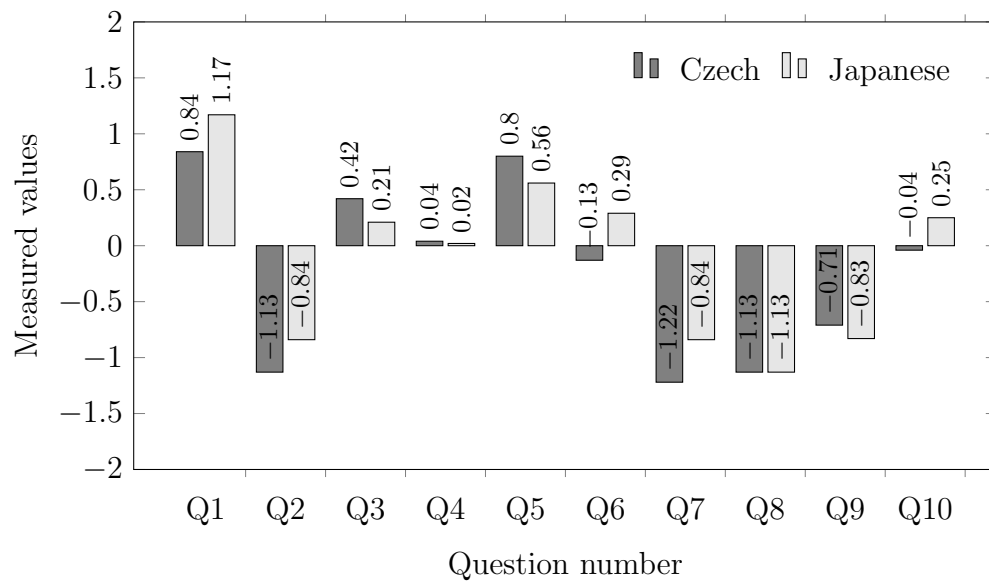
Source: author's own

The x-axis shows the number of questions measuring respondents' values (section 1 with questions 1-6 and section two with questions 7-10). The left y-axis shows average values for respective question and nation – dark gray for Czech and light gray for Japanese. Two observations can be concluded from this figure:

1. Replies from both Czech and Japanese populations have a similar trend
2. The answers have a tendency to be close to the middle value

Figure 5.2 shows a different view of the same data. It is calculated as the difference of each nationality between its average value and the middle value (3) used in the 5-point Likert scales and the 5-point semantic differential scales.

Figure 5.2: Differences between average and middle values



Source: author's own

This illustration shows a much clearer difference between the two groups. Questions 1, 2, 5, 7, 8, and 9 deviate most from the medium value. Questions 3, 4, 6, and 10 are the closest to the medium value. Biggest differences between various questions are in questions 1, 2, 3, 5, 6, 7, and 10. Questions one through six are semantic differential scales, questions seven through ten are 5-point Likert scales. Research shows that various types of surveys can bring slightly different results (Friborg *et al.* 2006).

The following analysis describes these differences more in detail. First six question graphs are showed as deviations from the medium value (3) of the 5-point semantic differential scale to better illustrate the differences. Last four questions (using a 5-point Likert scale) are showed normally.

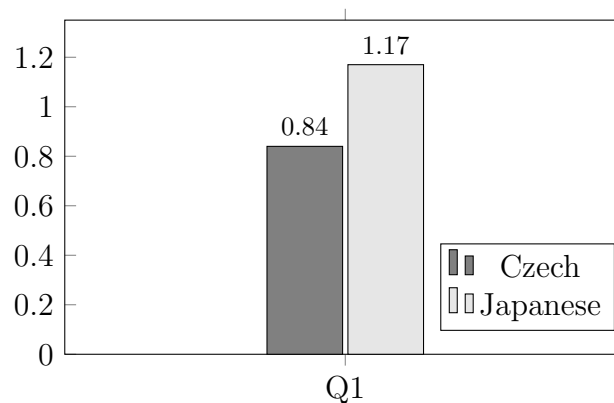
5.2 Value-related questions analysis

The first set of six questions use semantic scales. Lower values show that respondents' values are closer to the first statement, higher values show that respondents' values are closer to the second statement.

5.2.1 Question 1

Which statement does better reflect your beliefs? “In order to be competitive, it is better to stick with current technology because it is proven” or “In order to be competitive, it is important to seek new technology because it is better”

Figure 5.3: Values question 1



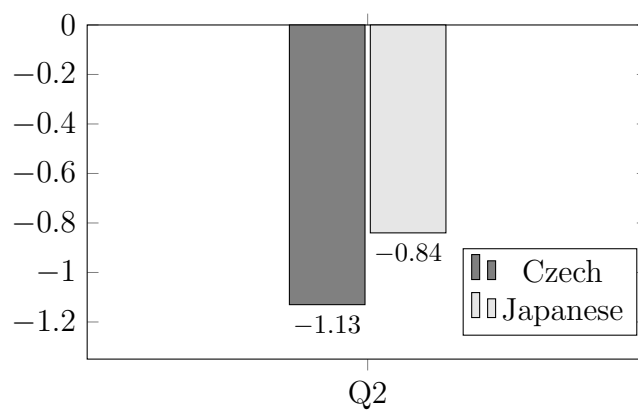
Source: author's own

Question 1 shows a relative large difference between the two groups. Moreover, the values contradict the expectations set by the literature review. According to Hofstede *et al.* (2010), Japan's higher uncertainty index (92 compared to 74 of Czech Republic) implies that Japanese managers have a tendency to work with current, working technology without necessary upgrades or investments, but it seems that from the competitiveness point of view their Czech counterparts are even less willing to seek for new technology (despite the lower UAI). It is possible that the Japanese managers see the importance of new technology as something more crucial in the context of foreign subsidiaries, or that they see technology as a way to improve structure and rules within an organization (Cardon & Marshall 2008).

5.2.2 Question 2

Which statement does better reflect your beliefs? “If a solution doesn’t solve a problem, it is important to try something else because it might be a wrong solution” or “If a solution doesn’t solve a problem, it is important to continue with it, because the effects may take some time to occur”

Figure 5.4: Values question 2



Source: author's own

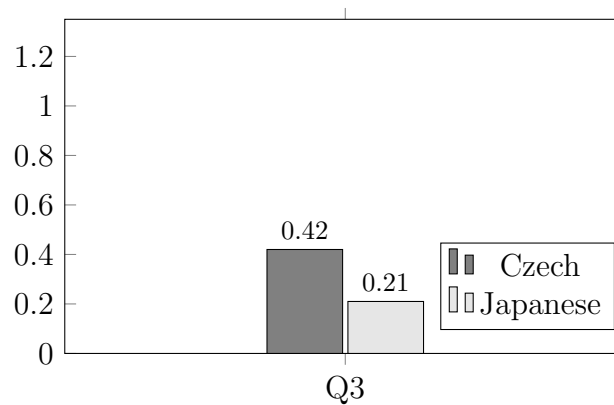
The results for this question are in line with the expectations set by the literature review (Liker 2004). Czech managers' average is 1.87; Japanese managers' average is 2.16, higher by 0.31, therefore inclining to the second statement. In a case that a process doesn't bring expected results, Czech respondents have a stronger tendency to try out “something new” – change the process or adjust the parameters. On the other hand, their Japanese counterparts tend to stick to the current solution, under the premise that the changes are not reflected yet, and take time until they come into effect.

5.2.3 Question 3

Which statement does better reflect your beliefs? “If the supervisors' requests are not clear, it is my fault because I do not understand them enough” or “If the supervisor's requests are not clear, it is his fault because he did not explain them sufficiently.”

Czech managers scores higher values than the Japanese respondents, meaning that they feel that the responsibility of possible misunderstandings lies

Figure 5.5: Values question 3



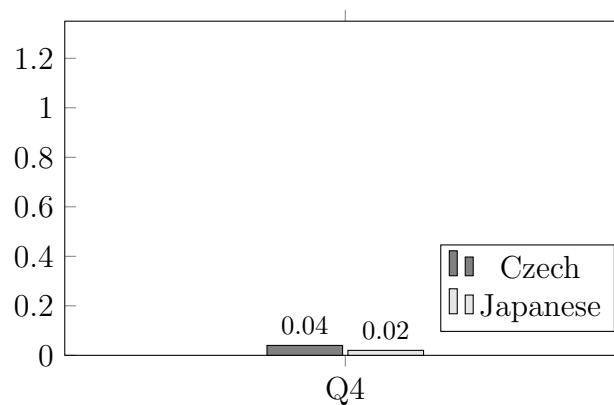
Source: author's own

more in the hands of the supervisor (superior). This result is in accordance with expectations set by findings from other research – Japanese form a society with strong vertical connections. In the business environment, superiors are viewed as mentors (*senpai*), who paternalistically take care of younger (in the Japanese context thus more subordinate) employees (Lincoln *et al.* 1995, p. 428).

5.2.4 Question 4

Which statement does better reflect your beliefs? “In determining how to achieve goals, employees should have a certain degree of freedom” or “In determining how to achieve goals, employees should be provided with detailed instructions”

Figure 5.6: Values question 4



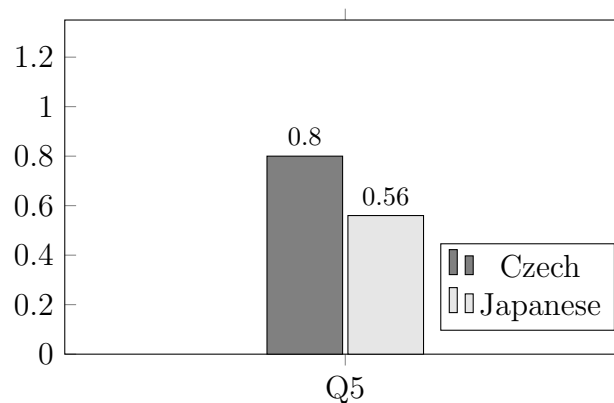
Source: author's own

Answers show an almost unanimous result. The difference accounts to less than 0.03 points. Most interestingly, the variance for this question was the highest among all value-related questions (1.35 compared to an average variance of 0.93). One possible explanation is that the setting of goals depends on the position of employees – it can be different for operators or manual workers and different for managers or leaders, therefore the expectations are related to the position, which the respondent works most often with.

5.2.5 Question 5

Which statement does better reflect your beliefs? “It is more efficient to hire a manager from external sources who knows ‘new approaches’” or “It is more efficient to train a manager from internal sources who knows ‘how things are’”

Figure 5.7: Values question 5



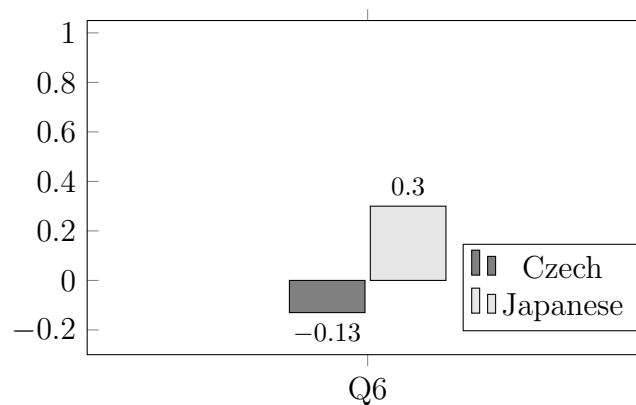
Source: author's own

Czech managers score higher than their Japanese counterparts (3.80 to 3.56), which signifies that they find it more important to hire and develop managers from internal resources. This finding contradicts the expectations. Contrary to Czech Republic, which is a country with a highly external job market, Japan is a coordinated market economy with participative labor relations, skill formation based on intensive training and a strong internal labor market (Olcott 2009, p. 19). Especially Japan is famous for its “implicit code of restraint on the part of larger firms in the hiring of employees, particularly skilled ones, from other firms” (Olcott 2009, p. 97).

5.2.6 Question 6

Which statement does better reflect your beliefs? “If supervisor’s ideas don’t make sense, subordinates should at least try them out” or “If supervisor’s ideas don’t make sense, subordinates should challenge them”

Figure 5.8: Values question 6



Source: author's own

Czech managers scored higher than their Japanese counterparts (3.30 vs 2.87, a difference of 0.43). Based on this data it seems that Czech managers have a stronger tendency to try out supervisors ideas, even if they do not understand them completely, or do not think that they make sense. The reason for this might be in the “Švejk” characteristic of the Czech culture (Brunet-Thornton & Bureš 2012). This expression is often used to describe the adaptability and flexibility of Czech people. Moreover, the communist regime might be responsible for the shaping of a system, where the “average person complies” (Brunet-Thornton & Bureš 2012, p. 55).

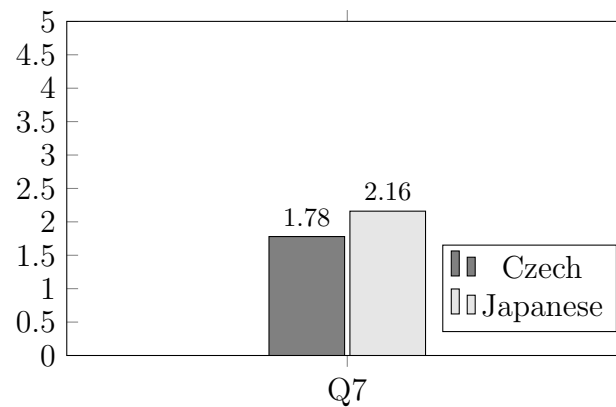
Questions 7 to 10 used a 5-point Likert scale. The survey asked the degree of agreement with various statements (1=strongly agree, 5=strongly disagree).

5.2.7 Question 7

To what extent do you agree or disagree with the following statements? “Persistent effort is the best way to achieve results”

This question measures the pragmatic orientation of respondents. Both Czech and Japan score high on Hofstede’s Pragmatism Index (70 and 88). This means that both countries have an ability to adapt their traditions to current

Figure 5.9: Values question 7



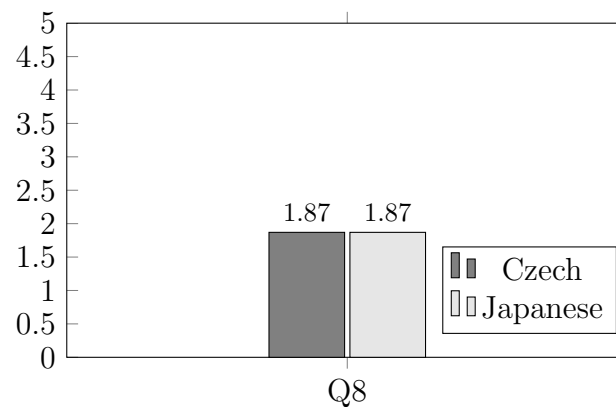
Source: author's own

trends or new conditions. According to this question, Czech respondents show a stronger tendency towards long-term orientation.

5.2.8 Question 8

To what extent do you agree or disagree with the following statements? “In real life circumstances, the occasional adjustment of rules to overcome problems is unavoidable”

Figure 5.10: Values question 8



Source: author's own

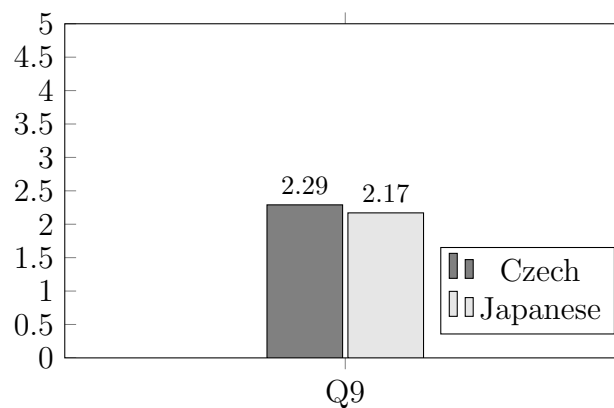
Question 8 measures the openness to adjust rules and improvise. Countries with high Uncertainty Avoidance scores exhibit strong emotional need for rules and try to implement strong behavioral codes and laws (Hofstede 2011, p. 10). Both Czech Republic and Japan have a high UAI, but as there is a considerable

difference between these two countries (74 vs. 92), the virtually non-existing difference in the responses is surprising.

5.2.9 Question 9

To what extent do you agree or disagree with the following statements? “A company’s rules should not be broken, even when the employee thinks breaking the rule would be in the company’s best interest.”

Figure 5.11: Values question 9



Source: author's own

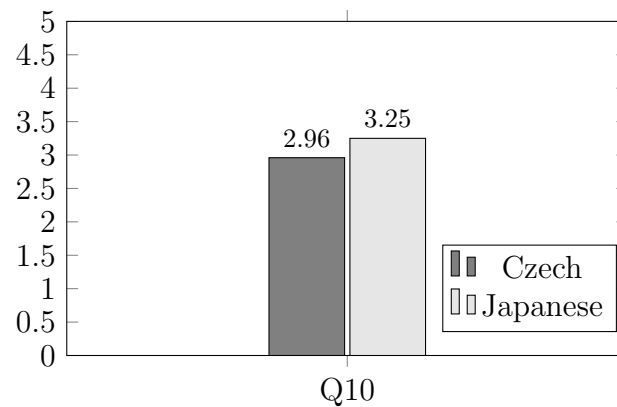
This question shows a different view on a similar topic covered by question 8. Japanese managers stress the importance of “doing what is decided to be done”, even if the individual thinks that changing the rules might help the company. Similarly to question 8, the results are almost the same as well, but compared to the previous question, a very interesting difference is noticeable. The average values are higher for both groups, meaning that both Czech and Japanese managers tend to disagree with this statement slightly more.

5.2.10 Question 10

To what extent do you agree or disagree with the following statements? “It is more efficient to improve things radically, than to improve them gradually over time (with the same outcome).”

Japanese respondents show a slightly stronger tendency of improving things gradually (2.96 vs 3.25, a difference of 0.29). Although the difference is rather

Figure 5.12: Values question 10



Source: author's own

small, the results are in line with Liker (2004), who stresses the importance of improving continuously over a longer period of time.

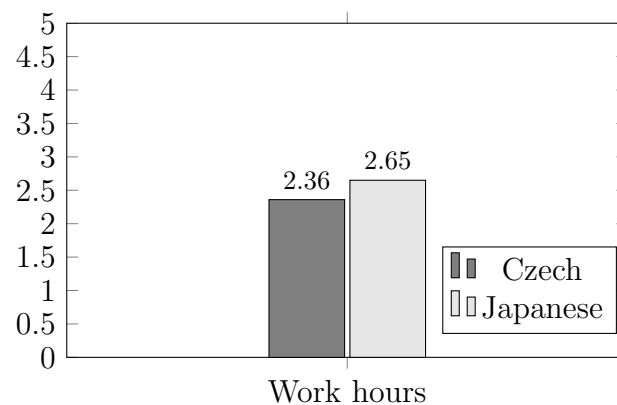
5.3 Analysis of satisfaction-related results

Questions were measured with a 5-point Likert scale (1 for “very satisfied” and 5 for “very dissatisfied”).

5.3.1 Question 1

How satisfied are you with the following aspects of your job: “Number of hours spent working”

Figure 5.13: Satisfaction question 1



Source: author's own

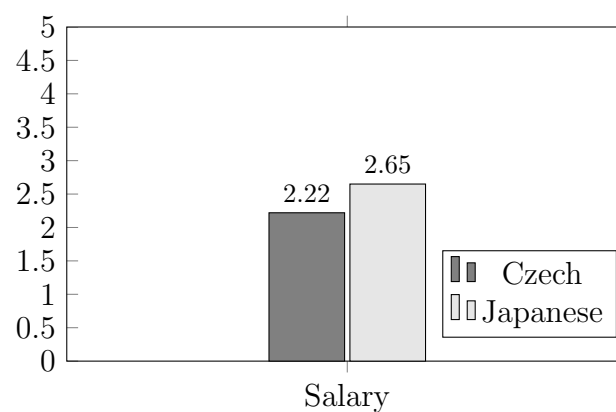
Both groups are rather satisfied with number of hours spent working. Although Czech companies have a standard 8 hour long work day, many Japanese workers seem to stay at work longer even in Czech Republic. Official statistics show that average annual working time in Japan is 1785 hours, which is lower than Czech or Slovak Republic (OECD 2014), but as this number considers part-time workers as well (making up 24.5% in 2006, more than 7 times than Czech Republic), it is difficult to use this absolute number for comparison (Ogura 2009).

According to Fukuda (2012), 28% of Japanese employees work more than 50 hours per week (10 hours of overtime per week), positioning on the world second place only behind South Korea (45%). The reason for this behavior is more complicated than just showing diligence – research shows (Marsden 1999, pp. 165–166), that this behavior reflects the stress on the quality of cooperation in job rotation and skill development, i.e. the within-group dynamics as well.

5.3.2 Question 2

How satisfied are you with the following aspects of your job: “Wage (monetary reward)”

Figure 5.14: Satisfaction question 2



Source: author's own

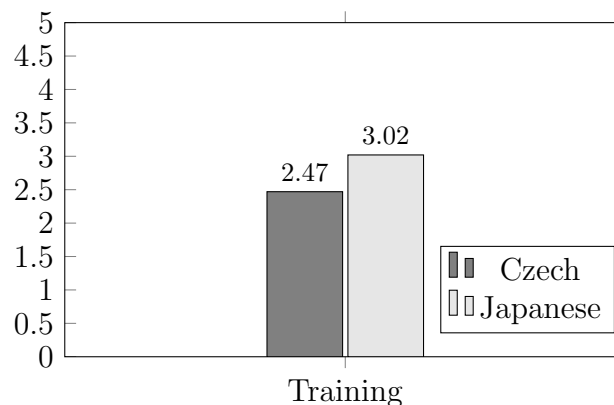
Again, both groups show satisfaction with the monetary reward. Compared to the number of hours spent in work, Czech managers seem to be more satisfied with their salaries. Japanese managers show the same amount of satisfaction as in the previous question. Although compensation strategies differ by company, research shows that Japanese expats receive on average a remuneration package

consisting of various bonuses, which add up to 2.8 times of the salary of local employees at the same grade and position (Wong & Hendry 1999).

5.3.3 Question 3

How satisfied are you with the following aspects of your job: “Training and education”

Figure 5.15: Satisfaction question 3



Source: author's own

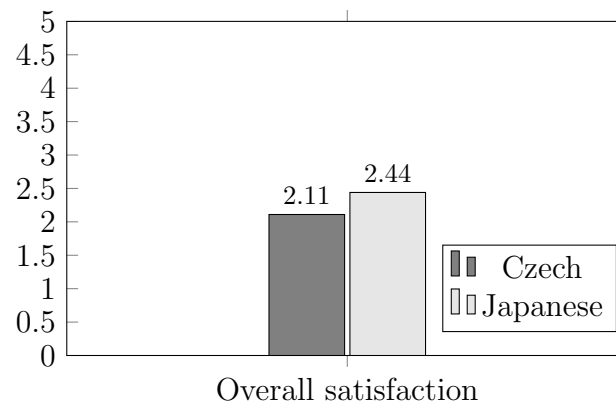
Both groups show highest dissatisfaction with training and education. The result is most notable with Japanese managers, showing a mean value of 3.02, 0.55 higher than their Czech counterparts. The role of Japanese expats in foreign countries is often two-fold (Delios & Bjorkman 2000). First role is to control the activities of the subsidiary and align them with the goals of the mother company. The second role is to function as a knowledge base for local employees. It is possible that serving as a source of knowledge lowers the number of opportunities for further official education of expats. As a result, they might find themselves unprepared for new challenges they meet abroad.

5.3.4 Question 4

How satisfied are you with the following aspects of your job: “Overall satisfaction”

Data from all previous questions and the final satisfaction-related question show that the overall level of satisfaction in Czech managers is clearly higher. This does not necessarily mean that Japanese workers are less satisfied in foreign environments than in their home country. Even though it is

Figure 5.16: Satisfaction question 4



Source: author's own

most likely possible that the workload, interpersonal relationships and overall working conditions in foreign countries are more demanding than in Japan, the survey did not explore differences between Czech and Japanese environments. Nevertheless, what can be concluded is that the perception of working conditions between these two groups is different.

5.4 Analysis of conflicts-related results

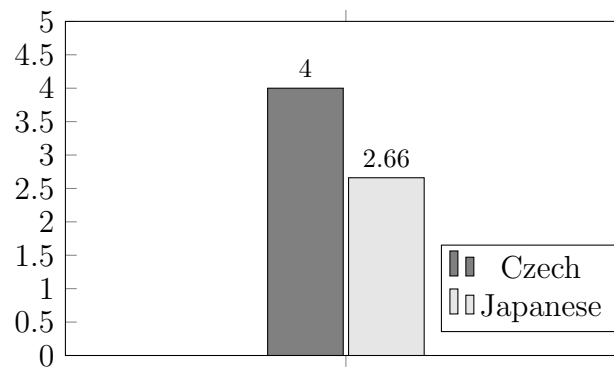
Questions were constructed with a 5-point Likert scale (1 for “absolutely true” and 5 for “absolutely not true”).

5.4.1 Question 1

Please state what you think about the following statement: “There exist many conflicts between you and management of other than your own nation.”

This question measures the amount of conflicts between the respondent and the management of the other culture, i.e. between Czech respondent and Japanese management and vice versa. The difference between the two groups is large. Japanese respondents seem to perceive much more conflicts between them, and their Czech counterparts, than the other way around. One possible explanation is the high-contextual Japanese culture. People coming from these cultures express and understand messages while taking much more into account. It is possible that the frustration and complexity of problems on the side of Japanese managers ends up completely unnoticed by their Czech counterparts.

Figure 5.17: Conflict question 1



Conflicts between respondent and management of other culture

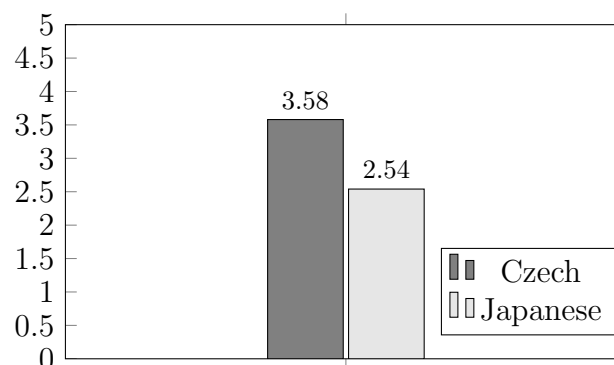
Source: author's own

Another way to explain this difference is the concept of *hansei* (contemplation), the reflection-reviews introduced to TPS (Adler *et al.* 1999). These reviews serve the employees to self-reflect on their approaches during a process or an activity, and think about ways how to improve them in future, both for their own good, and for the good of others. This might develop into a relatively larger-than-real feeling of friction between the individual and the group from the other culture.

5.4.2 Question 2

Please state what you think about the following statement: “There exist many conflicts between Japanese management and Czech management.”

Figure 5.18: Conflict question 2



Conflicts between Japanese and Czech management

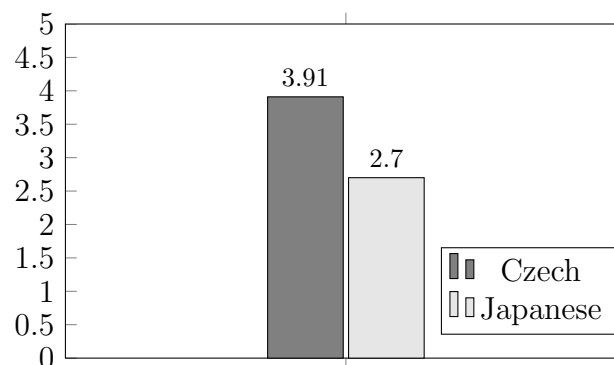
Source: author's own

This question measures almost the same issues as the previous question, with one difference – here, the survey asks for the general situation between Japanese and Czech management. Interestingly, the findings indicate that Czech managers seem to estimate the tensions between the two groups to be larger than between themselves as individuals and the Japanese managers. Overall, both groups show lower score than in the previous question. Smaller values mean that subjectively, the managers might have an “others are worse off” syndrome – they might think that their level of conflicts is lower than normally, therefore not see the real shape of problems.

5.4.3 Question 3

Please state what you think about the following statement: “There exist many conflicts between Japanese management and Czech operators.”

Figure 5.19: Conflict question 3



Conflicts between Japanese management and Czech operators

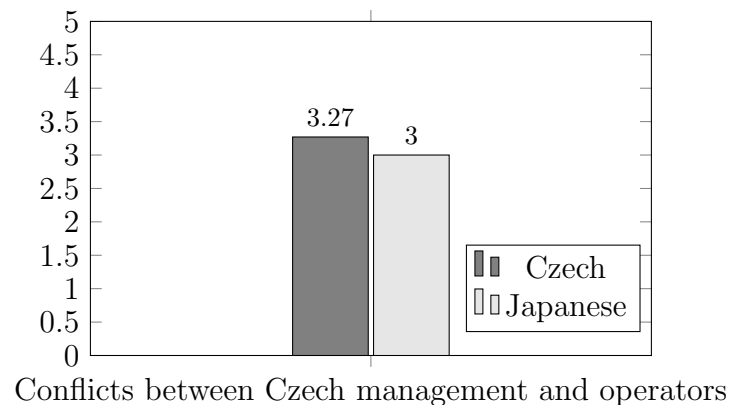
Source: author's own

The difference in conflict perception is obvious in this question as well. Japanese managers perceive the amount of conflicts between them and the Czech operators to be much larger than the Czech management thinks. The reasons might be similar, if not the same as in the previous question.

5.4.4 Question 4

Please state what you think about the following statement: “There exist many conflicts between Czech management and Czech operators.”

Figure 5.20: Conflict question 4



Source: author's own

The difference between answers for this question is much smaller than in the previous three questions. Two insights can be concluded. First, when compared to previous questions, Japanese managers are much closer to their Czech colleagues at estimating the amount of conflict between Czech managers and Czech operators. Second, the amount of conflict between Czech managers and operators (manual workers) is presumably lower, than between Czech and Japanese management, but not as low as between Czech managers as “individuals” and Japanese management.

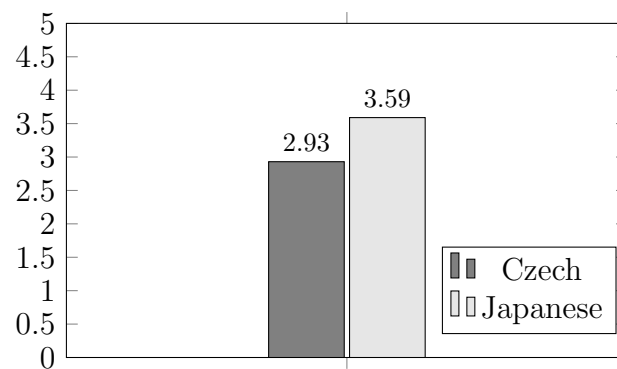
5.4.5 Question 5

Please state what you think about the following statement: “It is more effective to solve work-related problems without the presence of managers from another nationality.”

One of many definitions of culture describes it as “the method of solving problems” (Schein 1985). According to the results, Japanese managers see solving problems *with* the other culture as more effective, than their Czech counterparts do. In Japan, decision making and solving problems with all members of a group is a part of *nemawashi* (literally “going around the roots”, as in “preparing the groundwork”), a typical bottom-up process of creating mutual understanding, thorough consideration in decision making, or behind-the-scenes consensus (Kageyama 2010).

Even though this practice is slowly changing, and the process of decision making in Japanese companies is getting faster (Olcott 2009, p. 206), Figure 5.21 shows that the employees in Japanese companies still find it crucial

Figure 5.21: Conflict question 5



Problem-solving efficiency without managers of other culture

Source: author's own

to solve problems together with the other culture. On the other hand, Czech managers can potentially feel that “the most important thing is to have the things done and over with”, without looking on the long-term implications of problem solving.

Chapter 6

Testing of hypotheses

6.1 Hypothesis 1

H1: Values inherent to Japanese management are closer to the values proposed by the TPS than the values inherent to Czech management.

It is not possible to completely confirm nor deny the first hypothesis. Out of the ten questions measuring values, which were identified as related to TPS, four were identified as “against expectations”, i.e. Czech managers exhibited characteristics closer to values which were expected to be closer Japanese managers. Four questions were in line with expectations, and two questions brought unanimous results, therefore could not be taken into account. A waged average approach (i.e. multiplying the absolute differences by 1, -1, or 0) doesn’t bring unequivocal results as well. Table 6.1 shows the differences for each measured variable, and results for questions connected with these variables.

Table 6.1: Overview of measured values and variables

	First question	Second question	Sum
Long term	-0.38	0.29	-0.09
Innovation perception	0.3	-0.33	-0.03
Supervisor respect	-0.42	0.22	-0.2
HR development	-0.24	0	-0.24
Rules respect	0.11	0	0.11

Source: author’s own

A positive number means that the difference is in accordance with expectations. A negative number means, that the difference contradicts expectations. Zero means, that the difference is insignificant. Sum for four out of five variables is negative and total sum of all variables is negative as well (-0.45), but this does not necessarily mean that the hypothesis can be unambiguously denied. In order to do so, the variables would need respective wages, based on multiple observations and in multiple environments. The actual relevance of these variables to TPS is unknown (no other quantifying research was done yet), hence it is impossible to clearly answer this issue. What can be concluded, though, is that for each measured variable, there exist contradictions that can be explained both ways. Further discussion follows in chapter 7.

6.2 Hypothesis 2

H2: If a company has Czech management trained in the area of TPS, the company enjoys a lesser degree of conflict between Czech and Japanese management.

Hypothesis 2 is unanswered as well. In order to assess the second hypothesis, TPS-related training for each employee was divided into three groups. Group “0” consists of employees that did not receive any official or unofficial training. Employees in group “1” have noted that they have received some training (i.e. employees that either didn’t write exactly how many days of education they received, or employees that filled in exact number of days that they have spent in training). To measure the amount of conflict, results for the first conflict-related question was used (“There exist many conflicts between you and management of other than your own nation”). Summary of the findings can be found in Table 6.2.

Table 6.2: Average conflicts divided by level of TPS training

Level of training	Official TPS training				Non-official TPS training			
	Czech	(n)	Japanese	(n)	Czech	(n)	Japanese	(n)
0	4.03	32	2.76	46	4.18	17	2.86	37
1	3.92	13	2.47	17	3.89	28	2.42	26

Source: author’s own

As the table shows, it is difficult to accept or decline the second hypothesis as well. There exists almost none difference in the amount of conflict between Czech managers with or without official TPS training (difference of 0.11). The difference between Czech managers with or without non-official training is larger, but still not large enough (0.27). In the case of Japanese managers, the differences are much larger – 0.29 for official training and 0.44 for non-official training.

It seems that with the growing amount of training, the amount of conflict rises (the lower the number, the higher the perception of conflict), both in the case of official and non-official training. In the case of Japanese management, it seems that the lowest amount of conflict is enjoyed with employees that didn't fill in the specific number of days spent on training.

6.3 Hypothesis 3

H3: If a company has Czech management trained in the area of TPS, the company realizes a higher level of Czech employee job satisfaction

The third hypothesis cannot be proved or refused as well. Hypothesis 3 was assessed on a similar basis than hypothesis 2. First, two groups for TPS-related training were identified ("0" for no training and "1" for at least some training). Based on these groups, satisfaction for all four sub-questions was averaged separately (Working hours, Salary, Training and Overall satisfaction). A lower number means a higher satisfaction and vice versa. Results are summarized in Table 6.3. Amounts of responses (n) for respective TPS-related education groups are the same as in hypothesis 2, therefore are omitted.

Czech managers with official or unofficial TPS training show lower satisfaction with length of working hours. The existence of official TPS training does not seem to have any effect on satisfaction related to training as well, but Czech managers with experience of unofficial TPS show higher satisfaction levels. A clear difference shows the correlation between TPS training and salary. Managers with both official and unofficial TPS training background show higher satisfaction with salary. Overall satisfaction levels for Czech managers show again a weak positive correlation (managers with official or unofficial training are more satisfied than managers without training).

Table 6.3: Average job satisfaction by level of TPS training

	Official TPS training		Unofficial TPS training	
	Czech	Japanese	Czech	Japanese
Working hours				
0	2.22	2.78	2.06	2.59
1	2.69	2.29	2.54	2.73
Training				
0	2.22	2.76	2.41	2.68
1	2.23	2.35	2.11	2.62
Salary				
0	2.66	3.11	2.71	2.95
1	2.00	2.76	2.32	3.12
Overall				
0	2.13	2.5	2.24	2.35
1	2.08	2.29	2.04	2.58

Source: author's own

Although Japanese managers show similar trends in some of the satisfaction subgroups, the results are slightly different. For example, Japanese employees with official training show better satisfaction with working hours, but Japanese employees with unofficial TPS training show opposite trends. Official TPS training shows higher satisfaction levels with training, salary, and overall satisfaction. On the other hand, employees with a background unofficial training show an almost non-existent difference in training satisfaction, but lower satisfaction in both salary and overall satisfaction.

Overall, background in TPS training seems to be connected to overall satisfaction but the trends are impossible to state clearly.

Chapter 7

Conclusion

Many aspects make it difficult to implement a foreign management system into a new cultural environment. One of these aspects, different cultural base-lines, was the topic of this thesis.

Based on previous research, three hypotheses were formulated and tested. Reflecting on study of relevant literature reviewed suggests that hypothesis 1 (Values inherent to Japanese management are closer to the values proposed by TPS than the values inherent to Czech management) was likely to be accepted, because the TPS was created in Japan and most probably the Japanese managers received intensive training on TPS tools and values prior to starting their professional careers. This statement could be further substantiated by accepting hypotheses 2-3.

The values measured in the survey both confirmed many expectations, as well as surprised with interesting findings. Largest surprise was the value-based testing used in hypothesis 1. The TPS is created and developed in Japan, therefore it is highly probable that it is based on at least some cultural aspect of Japanese society. Yet, based on the results of the SAQ, it is impossible to definitely tell whether the values identified as inherent and native to TPS are closer to Czech or Japanese managers. The following paragraphs discuss the issues related to the survey results and possible explanations.

Using surveys to measure cross-cultural values has its restrictions and limitations. Nasif *et al.* (1991) identifies seven problems with methodological research in cross-cultural studies: criterion problem (there does not exist an operational definition of culture), methodological simplicity (ethnocentricity, functional equivalence and time frame of studies), sampling issues (number of cultures included in a study, using a nation as a one study unit), instrumenta-

tion (translation, equivalence of variables and scales), data collection (research setting, timing equivalence), data analysis (use of qualitative vs. quantitative data, simple statistical analyses), and level of analysis (confusing country level correlations with individual correlations).

Another wave of criticism is directed towards Hofstede's research as well (Roberts & Boyacigiller 1984; McSweeney 2002). Most of the issues focus on methodological simplicity, sampling issues and level of analysis. Hofstede (2002, p. 2) addresses these problems and provides explanations for most of these problems:

1. Surveys are not the most suitable way of measuring cultural difficulties, but they shouldn't be the only source of information for cross-cultural studies
2. Nations are currently the only kind of units available for studying the cross-cultural differences
3. Studying subsidiaries of one company might not provide information about qualities of various cultures, but it shows clear differences between cultures
4. Data collected from Hofstede's study are not new, but they are based on values that have been forming through many centuries, therefore do not change quickly
5. Five dimensions are not enough to comprehensively describe a culture, but it is meaningful to introduce other dimensions only if they are not correlating with the existing ones

This argumentation can be applied to the results of this survey as a framework for analyzing possible problems and points for improvement within this study.

First, the survey was concluded without a qualitative analysis. No discussions with HR departments or managers were concluded and respective inter-personal, economic or strategic backgrounds within companies were not accounted for. The research is based solely on quantitative data with all its risks and benefits. Benefits stand for the possibility to compare two datasets and measure and analyze hard data with simple statistical tools. Risks include all factors that might affect the measured variables (namely the values and the TPS-related data), thus producing a bias. These have to be discussed and understood to correctly interpret the results of the analysis.

Within the risks related to qualitative analysis, it is crucial to understand that various Japanese subsidiaries in Czech Republic might have slightly dif-

ferent company values, education and training standards, or official working relationships/structures between Czech and Japanese managers. The same applies to the background of various employees – as only Japanese companies were contacted, the amount of experience of each employee within the company might affect the results as well. It is possible to mitigate this complication by using a large enough dataset and a qualitative analysis of each company to account for differences between the companies.

Second, the survey focused on values hidden within a managerial system. Figure 11 shows that it is possible that these values are shared between the two cultures to a certain degree. The problem might be with the application of the values in real life situations. The literature states the importance of clear TPS rules (Liker 2004) and the survey was constructed based on this premise, but the actual application of these rules during actual problem solving process can be highly depending on the context, i.e. the values might be affected by specific conditions of certain situations. The research of these circumstances related to application of the rules was not a part of the survey, and therefore their effect is not accounted for.

Third, there exist various complications at the side of TPS training definition. The expression “TPS training” is rather general and the education and training quality at various companies is naturally not unified. Further differences emerge from the difference between the form of the actual TPS training and perceived TPS training, i.e. what kind of training does the respondent see and understand as TPS training, and what not. This can be improved by changing the TPS training questionnaire from self-reporting to assessed-by-survey (i.e. a short test), which will eventually lead into a longer questionnaire with lower response rates, but much clearer answers.

Fourth, it is crucial to distinguish between correlation and causation. This issue affects the research in two possible ways. First, TPS training might not have an influence on the values of the people contacted through the questionnaire. The reason for the values indexes of the respondents might be related to the positions they hold at the company. For example, a person, who thinks that value X is important, might be attracted to position Y and apply for it. If the position Y provides TPS training to all its workers, the training itself might not have any effect on the values of the worker, as they are defined by the position. Second way how correlation and causation might affect the survey is the connection between the variables (conflict, satisfaction) and a specific position. In this case, attention has to be paid especially when analyzing hypotheses 2

and 3. Certain positions are prone to higher conflict or lower satisfaction, and TPS training provided compulsory for these positions will not have any effect on the variable numbers.

Finally, satisfaction might be connected with specific positions. As Japanese workers often have to work as a communication hub for both the Czech subsidiary and the Japanese mother company, their Czech counterparts might not be aware of various problems (solved without any, or only partial involvement), thus enjoying higher job satisfaction. The same applies to conflicts. The reason for different conflict values might be in different perception of situation or in different perception of “how things should be” – Czechs might not think of certain conflicts as conflicts while Japanese might do. On the other hand, a very important observation can be concluded from Figure 5.1. Even though the values and questions had some differences, the overall results displayed a very similar trend. This means that both Czech and Japanese managers share many values and tend to see a problem situation in a similar way, but they have different preferences and approach them differently. These difference in preferences and approach together with different amount of attention (perception) paid to problems are validly explained by the Hall’s concept of high/low context cultures. The Toyota Production System was developed as a high-context system in a high-context society, and therefore members of the Czech society (a low-context culture) behave differently than expected from the system.

Nevertheless, to conclude, the survey provided valuable insight into Japanese subsidiaries located in Czech Republic. First, when comparing the groups of Czech and Japanese managers, there exist many similarities in values and attitudes towards problem-solving. Strongest similarities have been found in values related to defining of goals and adjusting rules. Largest differences were found to exist between challenging ideas, persistent effort and perceiving competitiveness.

Second, Czech managers seem to be more satisfied with their jobs than their Japanese counterparts. Largest difference lies in training, where Japanese managers are “neither satisfied, nor dissatisfied”. This might mean that they feel insufficient support from the side of their company. Moreover, additional training could help improve the situation in other aspects of satisfaction as well (conflicts due to improved communication skills or working hours due to improved effectiveness).

Third, perception of conflict shows largest differences. Japanese managers seem to perceive conflicts as much more frequent than their Czech counterparts.

This can mean that Japanese managers see minor misunderstandings as problems (and try to solve issues that Czech managers do not see as important) or that Czech managers do not perceive problems with their Japanese colleagues as conflicts (and therefore prefer not to solve them, possibly leading to further increase of conflicts). This different standard of conflict classification can be mitigated with the help of frequent communication (assisted by a translator) on a variety of different topics related not only to work-related technical issues.

This thesis introduced many new questions as well. How is the TPS taught in various countries? How much are training standards different between mother companies and their subsidiaries? What is the impact of TPS on various job positions and companies? How is TPS perceived and trained across subsidiaries of the same company located in various countries? Do the values across subsidiaries differ?

These open issues show that there is ample space for further research. Both a quantitative survey-based analysis with a larger sample group and a quantitative oriented case-study analysis within a smaller number of companies will help to clarify and further explore many issues, which were identified in this thesis. Furthermore, a longitudinal study of companies can yield even more interesting results, bringing further insight into development and impacts of various variables.

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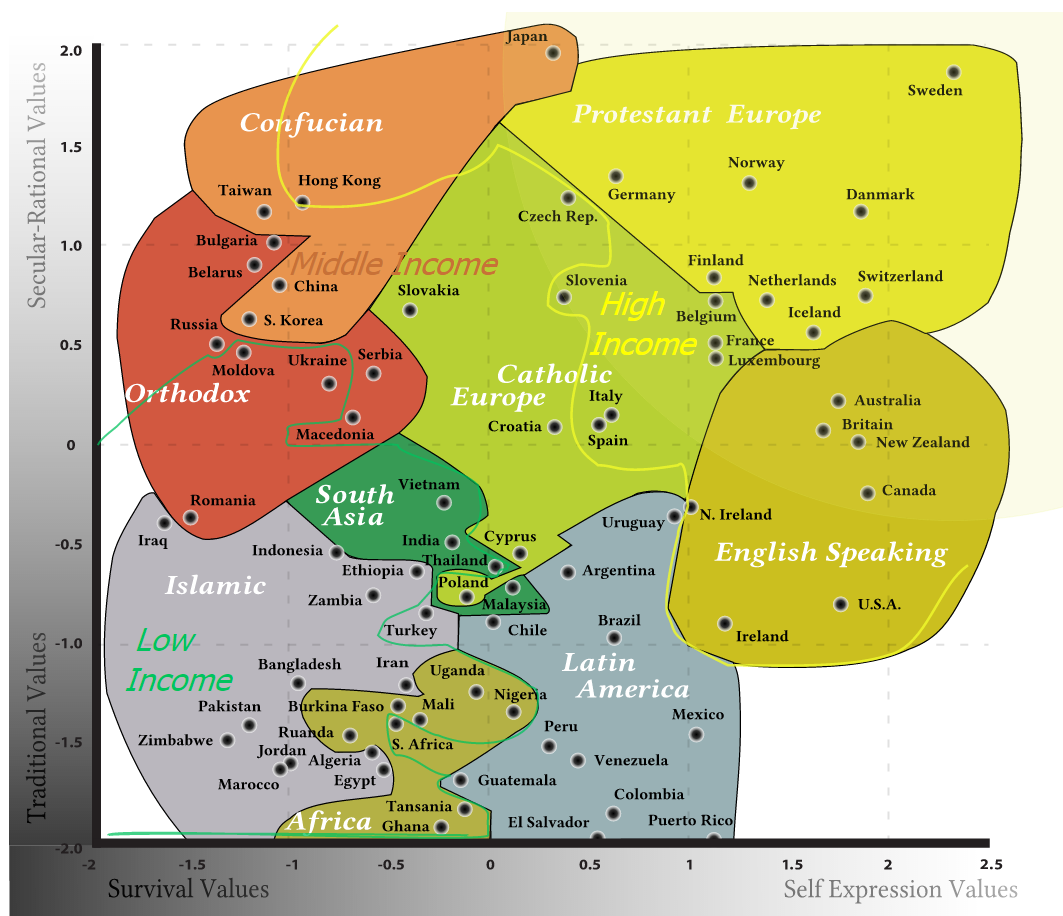
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Appendix A

Inglehart-Welzel map

Figure A.1: Inglehart-Welzel cultural map of the world



Source: adapted from Inglehart (2012)

Appendix B

Cultural distances

Normalized values show the percentage of a certain distance within this sample (0% is the lowest possible distance, besides Czech Republic itself, and 100% is the highest possible distance). As Yeganeh's distance index can result in negative values as well, the normalized values were calculated based on an absolute value of the distance index. The table shows that according to Kogut and Singh's cultural distance index, the cultural difference between Czech Republic and Japan is even smaller than between Czech Republic and Slovakia. This results might be due to estimates used when cultural dimensions for Slovakia were calculated.

Table B.1: Cultural distances between Czech Republic and selected countries

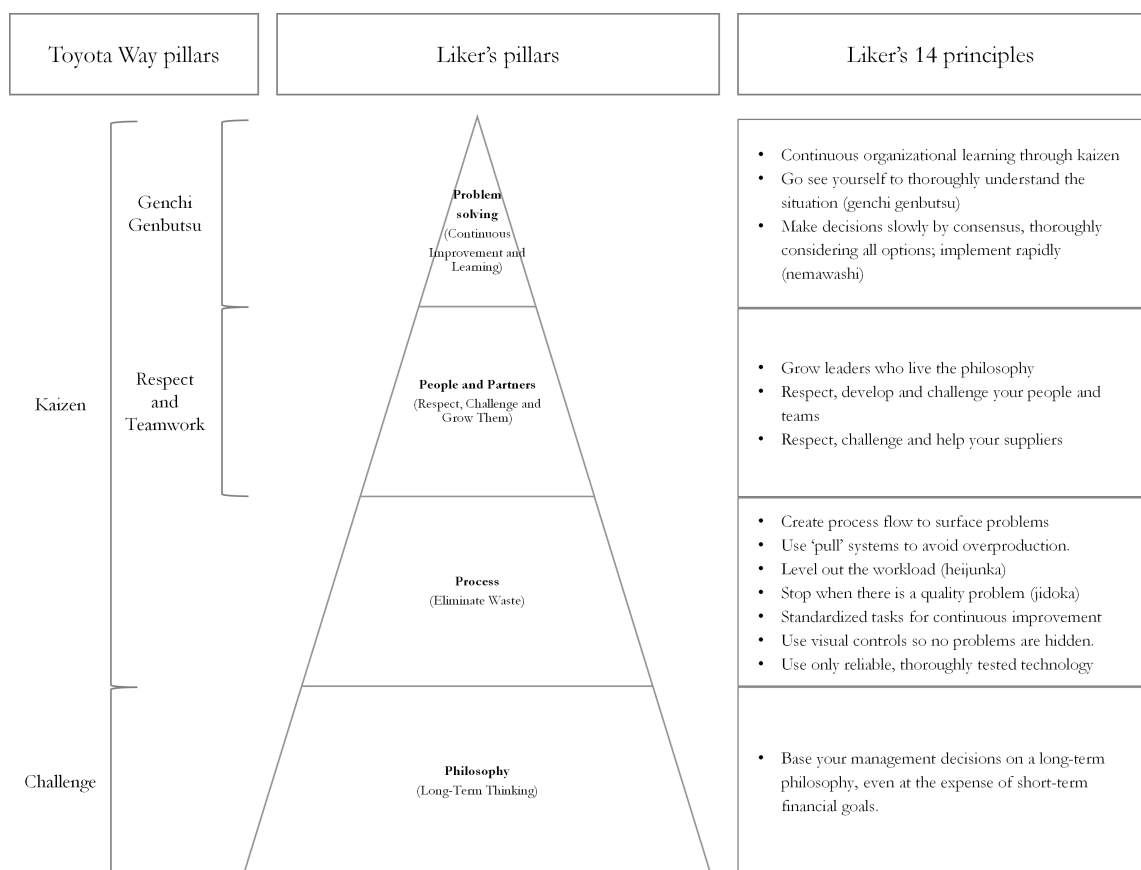
Country	Kogut and Singh distance	Yeganeh distance	Kogut and Singh normalized	Yeganeh normalized
Austria	1.4	-11	54%	7%
China	2.4	141.8	100%	100%
France	0.3	-28.9	5%	20%
Germany	0.4	22.1	8%	15%
Hungary	0.7	-25.3	23%	17%
Italy	0.2	-0.7	1%	0%
Japan	0.9	-67.4	31%	47%
Poland	0.4	-57.2	6%	40%
Russia	1.4	-58.1	54%	40%
Slovakia	2.2	91.8	91%	64%
Spain	0.2	-41.4	0%	29%
UK	1.9	129.2	75%	91%
USA	1.2	96.2	46%	67%
Vietnam	2.3	138.5	95%	97%

Source: author's own

Appendix C

Toyota Way pillars

Figure C.1: Comparison of Liker's and official Toyota Way pillars



Source: adapted from TMC (2003) and Liker (2004)

Appendix D

List of contacted companies

List of contacted companies

- | | |
|---|--|
| 1. AGC Automotive Czech a.s. | 21. Denso Air Systems Czech s.r.o |
| 2. AGC Fenestra a.s. | 22. Denso Manufacturing Czech s.r.o |
| 3. Aichi Magfine Czech s.r.o. | 23. Electric Powersteering Components Europe s.r.o |
| 4. Aisan Industry Czech s.r.o. | 24. Fuji Koyo Czech s.r.o |
| 5. Aisin Europe manufacturing Czech s.r.o. | 25. Fujikoki Czech s.r.o |
| 6. Alps Electric Czech s.r.o. | 26. Furukawa Electric Autoparts Central Europe s.r.o |
| 7. Amagasaki Pipe Czech s.r.o. | 27. Futaba Czech, s.r.o. |
| 8. Amcon Europe s.r.o. | 28. Green Metal Czech s.r.o. |
| 9. Anvis AVT s.r.o. | 29. Harimatec Czech, s.r.o. |
| 10. Aoyama Automotive Fasteners Czech s.r.o | 30. Hitachi Automotive Systems Czech, s.r.o. |
| 11. ASMO Czech s.r.o | 31. Hitachi Cable Europe s.r.o. |
| 12. AVX Czech Republic s.r.o | 32. Horiba Europe GmbH |
| 13. BBH Tsuchiya s.r.o | 33. Indet Safety Systems, a.s. |
| 14. Boshoku Automotive Czech s.r.o | 34. Interpharma Praha, a.s. |
| 15. CELCO CZ s.r.o | 35. Ishimitsu Manufacturing Czech s.r.o. |
| 16. COMCO EUROPE s.r.o | 36. JCEE, s.r.o. |
| 17. Czech Republic Onamba s.r.o | 37. JTEKT Automotive Czech Plzeň s.r.o. |
| 18. Daido Metal Czech s.r.o | 38. KD TEC s.r.o. |
| 19. Daikin Device Czech Republic s.r.o | |
| 20. Daikin Industries Czech Republic s.r.o | |

-
- | | |
|---|---|
| 39. Keihin Thermal Technology Czech, s.r.o. | 60. Panasonic Electric Works Czech, s.r.o. |
| 40. Koito Czech, s.r.o. | 61. PC International Czech s.r.o. |
| 41. Koyo Bearings Česká republika s.r.o. | 62. PST CLC, a.s. |
| 42. KYB Manufacturing Czech s.r.o. | 63. Rexam Czech s.r.o. |
| 43. KYOCERA Solar Europe s.r.o. | 64. SANKYO Oiles Industry, spol. s r.o. |
| 44. LIPLASTEC s.r.o. | 65. Shimano Czech Republic, s.r.o. |
| 45. Mektec CZ s.r.o. | 66. SMC Industrial Automation CZ s.r.o. |
| 46. Mi - King s.r.o. | 67. Steel Center Europe, s.r.o. |
| 47. Mitsubishi Electric Automotive Czech s.r.o. | 68. T.Rad Czech s.r.o. |
| 48. Muramoto Manufacturing Europe s.r.o. | 69. Takada Industries Czech Republic, s.r.o. |
| 49. Myonic s.r.o. | 70. Takata Parts, s.r.o. |
| 50. Nachi Czech s.r.o. | 71. Tamura-Europe Limited |
| 51. Neturen Czech s.r.o. | 72. Tatsuno Europe, a.s. |
| 52. Nichias Czech s.r.o. | 73. Three Bond Czech s.r.o. |
| 53. Nippon PGM Europe s.r.o. | 74. Toyoda Gosei Czech, s.r.o. |
| 54. Nissin Czech Republic s.r.o. | 75. Toray Textiles Central Europe s.r.o. |
| 55. NPK Europe Mfg. s.r.o. | 76. Toyota Peugeot Citroen Automobile Czech, s.r.o. |
| 56. Oiles Czech Manufacturing s.r.o. | 77. TRCZ, s.r.o. |
| 57. Oshitani Czech s.r.o. | 78. UACJ Extrusion Czech s.r.o. |
| 58. Otsuka Brano s.r.o. | 79. Yazaki Wiring Technologies Czech, s.r.o. |
| 59. Panasonic AVC Networks Czech, s.r.o. | |

Appendix E

Text of email sent out to companies

Dobrý den,

jmenuji se Michal Koža, jsem student na Vysoké škole ekonomické v Praze, a momentálně vedu výzkum v rámci diplomové práce, která zkoumá vliv kulturních hodnot na pracovní proces se zaměřením na japonské firmy v Čechách.

Jedná se o první výzkum svého druhu v tomhle regionu s cílem zjistit, které faktory vedou k zlepšení pracovní efektivity a spokojenosti, a jaký mají vliv na množství konfliktů mezi japonskými a českými zaměstnanci. V případě zájmu Vám výsledky výzkumu po jeho ukončení (prosinec 2014) rád zprostředkuji.

V rámci sběru dat pro analýzu bych Vás chtěl poprosit o spolupráci. Společně s učiteli na VŠE a experty z Japonska jsme vyvinuli dotazník v českém a japonském jazyce, a tímhle emailem bych Vás chtěl požádat o přeposlání odkazů na tento dotazník českým a japonským manažerům a koordinátorům ve Vaší firmě.

Odkaz pro českou verzi: (link)

Odkaz pro japonskou verzi: (link)

Dotazník má celkem 19 otázek a jeho vyplnění trvá v průměru 4-5 minut. V příloze Vám posílám obě verze ve formátu pdf. V případě jakýchkoliv dotazů mě prosím neváhejte kontaktovat.

Předem Vám děkuji za spolupráci.

S pozdravem,

Michal Koža

Appendix F

Additional information about TMC and TPS

F.1 Brief history of the Toyota Motor Corporation

Roots of today's Toyota Motor Corporation start in the beginning of 20th century. In 1918, Sakichi Toyoda has established the Toyoda Spinning and Weaving Company. Eleven years later in 1929, the patent for his looming machine design was sold to the Platt brothers, a British company for £100,000. This money was given to the Sakichi's son, Kiichiro Toyoda, who became the first president of the Toyota Motor Corporation (TMC). The name of the company was changed to Toyota because of the number of strokes needed to write the name in the Japanese katakana alphabet. "Toyota" can be written with eight strokes – the number is considered lucky in the Asian culture.

Soon, research and development of a small gasoline-powered engine began, and in 1933, a new division within Toyoda Spinning and Weaving Company was established – the Automobile Departments (TMC homepage 2014).

The very first car TMC has ever built was the Model G1 truck in 1935. Only 20 cars were produced during the first year. Next year, in 1936, the Kariya plant was built, and the first passenger car was launched. In the first year of entering the passenger car segment, 1142 cars were produced. The Toyota Motor Co., Ltd. was officially established as a separate entity in 1937 (TMC chronology 2014). The first cars were basically reverse-engineered models of Chevrolet cars, adjusted to the needs of Japan's bumpy roads and small market. Production was based on the Ford production system modified for a small-volume production, which was approximately ten times smaller than in the U.S.

In comparison with Nissan at that time, Toyota had a much stronger tendency to combine various production techniques, rather than to accept them as a bundle.

Following the next 10 years of existence, Toyota built a new factory (the Koromo plant, which exists until today under the name Honsha plant) and celebrated its 100,000th car produced in Japan. But the situation changed dramatically with the first five post-war years.

It is important to mention that during this time, American companies were present at that time in Japan as well. General Motors have established their subsidiary in Osaka in 1927, and employed approximately 700 in production in 1935. The whole period between 1925 and 1935 was dominated by American cars and trucks – more than 92 percent of the domestic demand (33000 cars per year) was provided by knockdown kits imported from USA and assembled in Japanese factories. In the mid-1930s, Ford started to plan to build a larger factory in Japan, but the situation changed dramatically in 1936, when the Japanese government launched the so-called Automobile Manufacturing Enterprise Law. Partially influenced by the at that time military authority, the U.S. companies had to practically shut down their factories and exit the Japanese market. The gap was quickly filled by three Japanese manufacturers: Toyota, Nissan and Isuzu (Fujimoto 1999).

The favorable protected market was eventually hit by the war. In 1950, TMC was on the brink of bankruptcy. Besides local economic situation, TMC had to face both financial problems with raising capital and labour problems with continuing strikes over the layoffs. As one of the requirements in order to obtain a loan from a consortium of banks, Toyota Motor Sales Company was established as a separate, independent company.

The responsibility for the layoffs resulted in the resignation of Kiichiro Toyoda from his post as the company president. Taizo Ishida, the CEO of Toyota Automatic Loom Company stepped in as his successor and led TMC for the following 2 years. Ultimately, Toyota managed to recover its operations and continued on its road to become the largest manufacturer of automobiles in the world 58 years later.

Toyota quickly understood the strategic importance of expanding to foreign markets and diversifying its product portfolio. In the mid-1950s, Toyota started to produce industry vehicles (forklifts), and one year later, it expanded its sales division to Thailand, Bangkok and the USA. In the same year, 1957, first car ever was exported to the USA – the Toyota Crown. Toyota continued with

expansion of sales offices to Australia (which became one of its main markets during the 1960s) and constructing its first foreign factory in Sao Paulo, Brazil.

Today, TMC has more than 50 factories in 27 countries besides Japan and produces almost 10 million cars every year (TMC homepage 2014). It is the same amount of cars as the cumulative automotive production during the first 27 years of its existence. In the terms of number of cars sold, Toyota managed to overcome General Motors in 2008, and kept its first place since then, except for when it suffered losses following the tsunami in 2011 (Nick 2014).

F.2 Toyota Production System – Overview of principles

This chapter explains the basics underlying the Toyota Production System (TPS). The TPS was originally created by a group of engineers at Toyota led by Taichi Ohno in the 1950s as a set of manufacturing principles and tools for the Toyota Motor Company (Ohno 1988). According to Liker & Meier (2006, p. 5) and Ikemoto (2007, p. 99), it was developed as a system based on implicit know-how and common knowledge among employees. The rules are based on the premise of sharing tacit values within the group of the engineers (which strongly reflects the concepts of *uchi* and high-context culture, introduced in literature review). Thus in the order to understand the TPS, understanding of cultural context within the organization, and especially the working group is crucial.

From the purely production (manufacturing) point of view, Toyota Production System uses various tools seen in other production oriented frameworks as well, such as Total Quality Management (Liker *et al.* 1999), Kanban-based pull production, 5S, Just-in-time production. Ultimately, the main purpose of the TPS is “to eliminate through improvement activities various kinds of waste lying concealed within a company” (Monden *et al.* 2013, p. 3). It is “the basis for much of the lean production movement that has dominated manufacturing trends (..) for the last 10 years” (Liker 2004). These tools by themselves do not create the backbone of the TPS, they are just one part of the whole system used. The aim of this short summary is to introduce these tools and demonstrate some basic management related ideas behind the Toyota Production System.

- Just in time Origins of this management approach date back to the be-

ginnings of TPS to the 1950s. The basics of this approach is to produce and deliver the right amount of goods, at the right time, and to the right place (Farahani & Elahipanah 2008). This rule is bounding both for suppliers and for sub-parts of production processes (a production line). The ultimate idea is to reduce waste through minimizing inventory, which then helps with discovering problems and further optimization of various processes. According to Lai & Cheng (2009, p. 9), Toyota managed to survive the oil crisis in 1973 which led to a critical shortage in resources. Because of this success, JIT was further developed and formalized.

JIT works on a pull system, as opposed to a push system. Parts are delivered only when there is need for them, thus minimizing overproduction (and more importantly, waste related to overproduction). When a process needs restocking, it uses a kanban (signboard) to show that it needs new parts. This information is used as a signal to the previous process to deliver new parts when it is needed and in the amount that it is needed.

In past years, JIT was successfully implemented in many other industries and fields beyond automotive – quality of logistics Lai & Cheng (2009, p. 119), hospitals (Epstein & Dexter 2000) or other services (Canel *et al.* 2000).

- Kaizen The words kaizen means “continuous improvement involving everyone – managers and workers alike” (Imai 1986). The kaizen activities contrast with the result-oriented thinking of many Western people. It promotes process-oriented thinking, thus therefore enables people to think in the long run and deeper understand the process, which is responsible for the final results (Wittenberg 1994).
- 5S This shortcut stands for five Japanese words: *Seiri* (sort things out and do not keep anything unnecessary lying around), *Seiton* (set and arrange all needed things so that are close and can be used efficiently), *Seiso* (shine, i.e. clean and keep clean), *Seiketsu* (Standardize in order to make apparent when things are not in their places), and *Shitsuke* (sustain, or discipline – educate people to maintain and foster rules).

The ultimate goal of these rules is to improve productivity, safety and employee satisfaction through continuous improvement of the workplace (Chapman 2005).

These tools and principles are cited in various literature on TPS or lean production, but the actual basis of TPS lies somewhere else. After studying more than 40 Toyota factories in the USA, Europe and Japan, Spear & Bowen (1999, p. 98) define these four rules:

1. How People Work

All work should be specified as to content, sequence, timing and outcome.

2. How People Connect

Every customer-supplier connection must be direct, and there must be an unambiguous yes-or-no way to send requests and receive responses.

3. How the Production Line is Constructed

The pathway for every product and service must be simple and direct.

4. How to Improve

Any improvement must be made in accordance with the scientific method, under the guidance of a teacher, at the lowest possible level in the organization.

These four rules provide a one of many frameworks for creating, organizing and viewing work. When compared with previously mentioned tools, these rules make it much clearer that true implementation of these ideas is impossible without a thorough process aimed at both horizontal and vertical structures of the company.

Another study done by professors at Hitotsubashi University (Osono *et al.* 2008) identified six contradictions that are the drivers of Toyota's success:

1. Moving gradually but also taking big leaps.
2. Cultivating frugality while spending huge sums.
3. Operating efficiently as well as redundantly.
4. Cultivating stability and a paranoid mindset.
5. Respecting bureaucratic hierarchy and allowing freedom to dissent.
6. Maintaining simplified and complex communication.

Appendix G

Survey questions