

MANPOWER MANAGEMENT POLICIES OF AUTOMAKERS IN TURKEY IN 2008 CRISIS: A CASE OF JAPAN MANUFACTURER IN TURKEY

Tekiner Kaya and Mirac Yazici***

Abstract: *One of the main sectors affected on crisis term is obviously automotive industry in world. Reduction of demand upon the changes on purchasing power of customers and not to be able to predict demand for even coming days makes manpower planning very difficult in automotive industry. In the first part of the study, the feeling of crisis of 7 big automanufacturer of Turkey which have more than 1250 employees (Honda Turkey, Toyota Turkey, Mercedes Benz Turkey, Hyundai Turkey, Tofas Fiat, Renault Oyak and Ford Otosan) and the manpower policies of these companies against 2008 global financial crisis are investigated based on grouping corporate capital, production volume reduction ratio, union membership, total headcount and government support application decisions of these companies. On the second part of the study, the detail information about manpower policies and decisions on crisis term was given for a Japan manufacturer performing in Turkey, Toyota Turkey. The effects of these policies to manpower productivity, safety, quality and inhouse cost were analyzed. Based on the analysis and investigations, it was observed that Japan automanufacturers have continued to perform policies which are human being focused, mutual trust oriented and communication based human resources management even in crisis term. On the other hand, the western companies also continued the cost oriented policies in that term. The policies of Toyota Turkey have showed that the labor cost can be reduced dramatically no lay off and without renouncing safety and member motivation. By implementing the countermeasures on only labor items, totally 1045 operation members' salary have been compensated excluding savings on investment, expenses, materials and maintenance kaizens-improvements. This saving can be converted into more than 500 operation members' 2 years total salary. These policies have strength the Toyota Turkey's foundation and team spirit in long term.*

Keywords: *Automotive industry in Turkey, manpower policies, financial crisis, countermeasures to reduce cost.*

1. INTRODUCTION

In 2008 global financial crisis lots of the automakers were effected dramatically and took some countermeasures in line with corporate culture: long shutdowns, lay off, less working hours, unpaid leaves, less shifts, early retirement packets and even closing plants. Thousands of workers had to use annual leave or unpaid leave at BMW, Daimler, Toyota, Renault, Ford and GM in world.

* Nevsehir University, Faculty of Economic and Administrative Sciences, Department of Business Administration, E-mail: tekiner.kaya@nevsehir.edu.tr

** Nevsehir University, Faculty of Economic and Administrative Sciences, Department of Economics, E-mail: myazici@nevsehir.edu.tr

GM has decided to close 3 facilities in Europe. In addition, GM has closed 13 plants of total 47 plants. By the way, total employee has reduced 21.000. In total, GM has reduced total headcount 47.000 employee worldwide. Toyota-GM joint manufacturing plant NUMMI was closed. NUMMI was one of the biggest production facilities in USA. SAAB laid off 3400 employees in Sweden. Opel has closed the Anvers plant in which had more than 2500 employees. Automakers also revised corporate policies, manufactured models, engines, human resources policies, expenses, promotions and even corporate culture. The financial crisis has also changed the companies' production strategies. Some of the companies changed the production facilities of some models and transport these models production to the eastern countries such as Thailand, China and India in order to take cost advantage.

In this study, first, automotive industry in world and Turkey was investigated considering mainly production volumes, changes on employment, wages and working hours. In other section, the manpower and production policies of 7 big automakers (Honda Turkey, Toyota Turkey, Mercedes Benz Turkey, Hyundai Turkey, Tofas Fiat, Renault Oyak and Ford Otosan) were analyzed based on lay off, unpaid leave applications, shutdown policies, voluntary separation and government support apply policies of companies in crisis term. Based on analysis results, the manpower policy ways of companies were drawn. In fourth section, Japan type of employment approaches and Toyota manpower management concept and understanding in crisis term were reviewed. In same section, the response of Toyota Turkey against crisis and manpower policy for that term was investigated. The countermeasures of Toyota Turkey were evaluated by checking safety, quality, productivity and cost performance indicators comparing before and after taking countermeasures. Finally, the different type of countermeasures of companies and effects were evaluated.

2. AUTOMOTIVE INDUSTRY

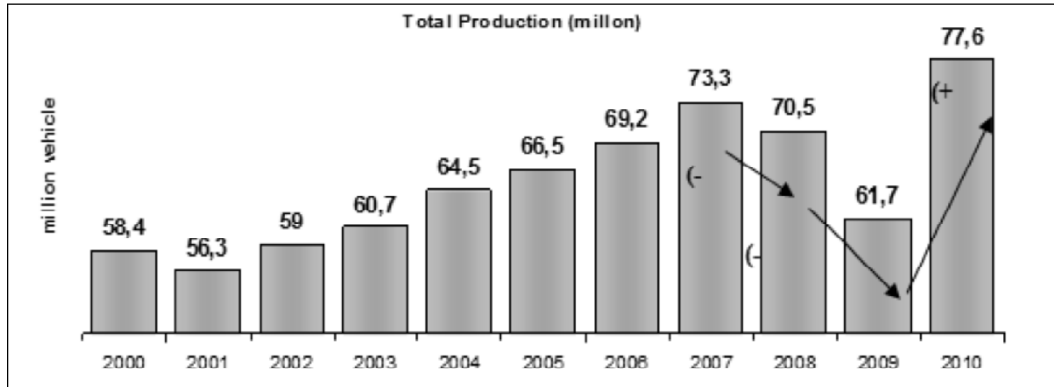
2.1 Automotive Industry in World

World automotive industry shows an increasing trend from 2001 to the end of 2007. In 7 years from 2001 to the end of 2007, world vehicle industry manufacture increased 30% in total. During the global financial crisis in 2008, total amount of world automotive manufacture decreased sharply and recovery started in 2010 in the industry. Automotive market has reached and passed the manufacture amount of 2007, at the end of 2010. Global financial crisis, which started in the last quarter of 2008, has started to recover in the beginning of 2010. It has affected automotive sector deeply and reduced by 3.8% in 2008 and -12.5% in 2009. By the end of 2010, world automotive manufacture amount increased 25.8%. (Fig. 1).

2.2 Automotive Industry In Turkey

During 2007, Turkish automotive manufactures didn't reduce manufacture amount contrarily to world manufacture. Turkish automotive industry made 1,147,110 units of production in 2008 but in 2009, it made 869,605 units which points to 24% reduce

Figure 1: Automotive Production between 2000- 2010 in the World (OSD, 2011)



annually. It made 1,094,557 units of production in 2010 (excluding tractors), which points to 26% annual growth. Turkish automotive industry has reached the manufacture amount of 2007, at the end of 2010. (Table 1.) It is expected to exceed 1.2 million units of motor vehicle production in the end of 2011. (Taysad, 2010).

Automotive industry is a major industry in Turkish Economy. The motor vehicles, parts and accessories sector completed 2010 as leader exporter with \$17.4 bn. exports and 15.6% share in Turkey's overall exports. In 2010, total automotive exports materialized as 754,469 units, which points to 20% annual growth. It is expected to reach 800- 850 thousand units of motor vehicle export at the end of 2011.

Since the vehicle demand has been postponed in crisis term, manufacturers met with the big production losses in Turkey. On the other hand, automotive industry is export oriented manufacturing sector. (Taymaz, 2010) The economical shrinkage in EU countries which are the major market for Turkey allowed industry to be affected crisis more. (Tepav, 2010).

There are 13 automotive manufacturer companies which produced more than 1.000 vehicles per year in Turkey in 2010. In this article we consider automotive manufacturers which employ more than 1250 employees. These companies are Honda Turkey, Toyota Turkey, Mercedes Benz Turkey, Hyundai Turkey, Tofas Fiat, Renault Oyak and Ford Otosan.

During crisis, according to the end of 2009 figures, automotive manufacturers reduced productions sharply in Turkey except Renault Oyak. All manufacturers increased their productions by 2010. (Fig. 2).

In line with demand reduction, the employment has decreased dramatically after 2008. Towards 2010, recovery on employment was started to be seen again. (fig. 3).

3. THE MANPOWER AND PRODUCTION POLICY OF TURKEY AUTOMOTIVE INDUSTRY IN 2008 FINANCIAL CRISIS

In this section, the 7 big scaled automotive manufacturer (Honda Turkey, Toyota Turkey, Mercedes Benz Turkey, Hyundai Turkey, Tofas Fiat, Renault Oyak and Ford

Figure 2 and Table 1: Automotive Production by Companies in Turkey (OSD, 2011)

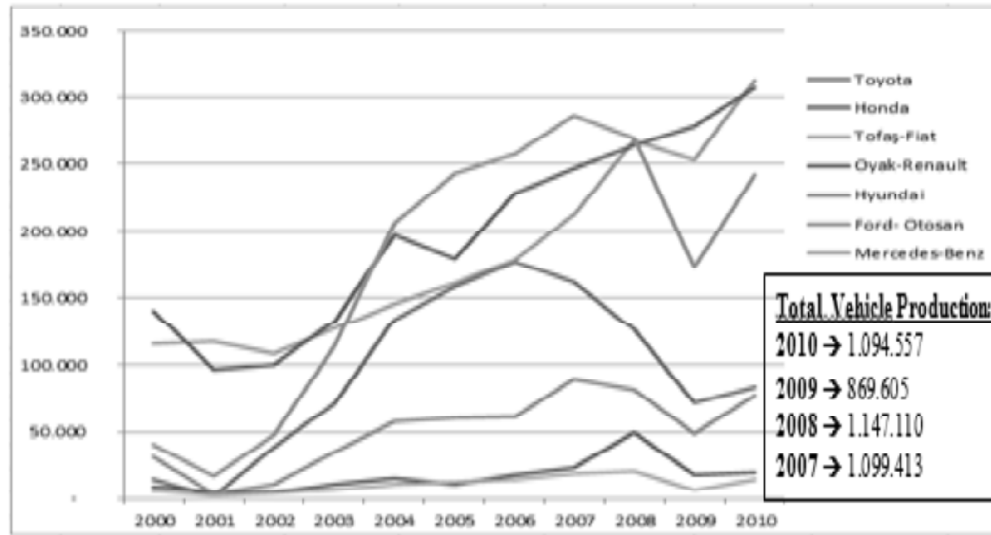
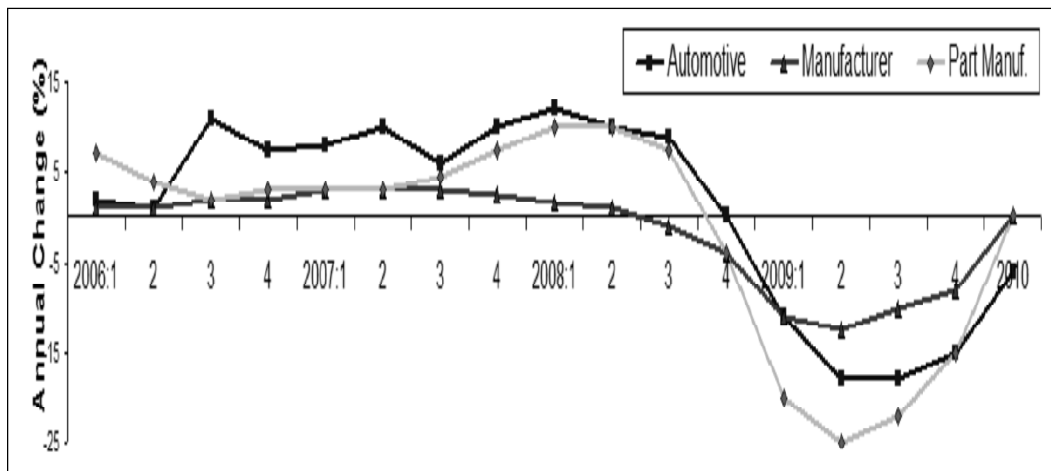


Figure 3: Changes on Employment on Automanufacturers and Suppliers (Taymaz, 2010)



Otosan) which have more than 1250 employees manpower and production policies compared each other for the dates between 2008 January – July term and 2009 January – July term. The periods are determined based on before crisis (2008 January – July) and the most serious time period of crisis (2009 January – July).

On 2009 January – July term, automakers’ policies compared with 2008 January – July term. The comparison was done based on the manufacturers’ basic policies were

extra shutdown (S/D), government support application (short term working allowance), lay off, voluntary separation and unpaid leave.

Government support application means that if the company applied the support programme or not. Government support packet included; 6 months salary payment for companies' excess manpower by government. The total support amount was maximum 2 minimum wage per month per employee in Turkey (max. 525 •/employee/month).

Policies analyzed and compared. The companies are grouped by using matrix which was occurred after analysis, based on corporate capital situation, vehicle type produced, total headcount, volume reduction ratio and union. After than, deductions were made considering the countermeasures and manpower policies on related term.

In general, the countermeasures taken by these 7 big automotive manufacturers, Honda Turkey, Toyota Turkey, Mercedes Benz Turkey, Hyundai Turkey, Tofas Fiat, Renault Oyak and Ford Otosan can be summarized briefly as;

- All companies chose the Shutdown countermeasure. In average, the investigated companies added 7,42 weeks additional S/D to their working calendar.
- The volume are reduced average %50 for 7 automotive manufacturer investigated.
- 4 of these companies have union.
- Only 2 of them applied for government support and 2 of them taken government support which was given 2009.
- 3 of them selected the lay off strategy. The lay off ratio was in average %18,74.
- 3 of them selected the voluntary separation (early retirement) the separation ratio in average %9,26.
- 4 of them applied shutdowns as unpaid leave.

3.1 Volume Reduction

The related 7 automotive manufacturers 2008 January – July and 2009 January – July term production volume loss ratios can be seen on table 2.

The manufacturers are grouped into 3 categories based on volume reduction. Based on these groups, the manufacturers' production and manpower policies are summarized on table 3.

Table 2
Production Volume Loss Ratio (%)
(Between the terms 2008 January – July and 2009 January – July term)

Company	Volume Reduction	Company	Volume Reduction
Renault Oyak	-24%	Hyundai Turkey	-46%
Honda Turkey	-63%	Mercedes Benz Turkey	-75%
Ford Otosan	-60%	Toyota Turkey	-57%
Tofas Fiat	-28%		

Table 3
Manpower Policies of Manufacturers based on Volume Reductions (%)

Manufacturers	Volume Reduction	Extra S/D (week in average)	Government Support Apply	Lay off	Lay off (%)	Voluntary Separation	Voluntary Separation (%)	Unpaid leave
Renault, Fiat	%20-%40	7 weeks	1/2 (Renault)	1/2 (Fiat)	-20%	1/2 (Renault)	-5,30%	1/2 (Renault)
Ford, Hyundai, Toyota	%41-%60	8,7 weeks	0/3	2/3 (Ford, Hyundai)	-18%	0/3	0%	3/3
Mercedes, Honda	%61-%80	6 weeks	1/2 (Mercedes)	0/2	0%	2/2 (Mercedes, Honda)	-13,40%	0/2

When we look at the table which was occurred based on volume reduction ratio, it can be seen that the 2 companies, Mercedes and Honda, which were the most effected companies by crisis, did not apply lay off and unpaid leave policy. However, the expectation is to reduce headcount immediately in line with volume. These 2 companies have focused on voluntary separation. The other interesting point is that the minimum extra shutdown (S/D) duration is again implemented by these companies.

The companies which are affected least from crisis have chosen the reduction of workforce policy. Fiat managed the process via lay off policy instead of unpaid leave. The other group which was affected in average is focused on unpaid leave and also lay off policy. By the way, these companies mainly choose cost oriented approach by implementing both lay off and unpaid leave.

3.2 Total Headcount

Based on headcount, the 7 automotive manufacturers grouped into 3 category. The results of analysis on this group are focused on variability on manpower policies of manufacturers depending on headcounts in crisis term. Manufacturers' employment policy depending on headcount groups can be seen on table 4.

The table of total headcount of companies based group shows that the companies that have 100-3500 employees have met more than %50 volume reduction. The high volume reduction brought the extra S/D, lay off and voluntary separation options

Table 4
Manpower Policies of Manufacturers based on Headcount

Manufacturers	Total Headcount	Extra S/D (week in average)	Government Support Apply	Lay off	Lay off (%)	Voluntary Separation	Voluntary Separation (%)	Unpaid leave
Honda, Hyundai, Toyota	1000-3500	7,3 weeks	0/3	1/3 (Hyundai)	17,10%	1/3 (Honda)	34,90%	2/3 (Toyota, Hyundai)
Mercedes	3500-6000	6 weeks	1/1 (Mercedes)	0/1	0%	1/1 (Mercedes)	7,44%	0/1
Renault, Ford, Fiat	6000-8500	8 weeks	1/3 (Renault)	2/3 (Ford, Fiat)	19%	1/3 (Renault)	5,30%	2/3 (Renault, Ford)

for these companies. On the other hand, in spite of being in the same headcount group, these 3 companies (Honda, Hyundai, Toyota) have chosen the different options on headcount reduction. The common policy on this group is unpaid leave application.

In the second group, Mercedes, has applied paid leave and voluntary separation. Mercedes, which has chosen the way without reducing the motivation and taking the government support, struggled with crisis without lay off although its production reduce 75%.

In third group, when we look at 3 companies, Renault, Ford and Fiat, which have more than 6000 employees, compensated the 40% production volume reduction via unpaid leaves, government support, lay off and voluntary separations. In that group Renault has chosen soft policies with the effect of less volume reduction (-24%). Parallel with Mercedes, Renault has applied the government support, voluntary separation and unpaid leave. The other company in that group has chosen lay off policy since they have big volume loss and high number of employee.

In summary, based on headcount of companies, the higher number of employee and volume loss ratio, the sharper manpower and production policies as expected. On the other hand, Fiat has chosen the lay-off policy before implementing unpaid holiday, government support or voluntary separation although it met 28% volume reduction in that term.

3.3 Corporate Capital

Corporate capital based automakers' manpower policy can be seen on table 5.

In table 5, it can be seen that the Japanese companies' manpower and production policies differ from others. Japanese companies generally prefer to keep employees and try to struggle with crisis together with all stakeholders. Honda's policy on reduction total headcount via voluntary separation is directly related with change in long term production and vehicle assignment projection. In addition, Honda is producing for only domestic market and its production has reduced more than 60%. The other firms focused on the policies which reduce headcount directly.

Table 5
Manpower Policies of Manufacturers based on Corporate Capital

Manufacturers	Corporate Origin	Extra S/D (week in average)	Government Support Apply	Lay off	Lay off (%)	Voluntary Separation	Voluntary Separation (%)	Unpaid Leave
Toyota, Honda	Japan	8 wooke	0/2	0/2	0,0%	1/2 (Honda)	34,9%	1/2 (Toyota)
Renault, Fiat, Mercedes	EU	6,7 weeks	2/3 (Renault, Mercedes)	1/3 (Fiat)	20,0%	2/3 (Renault, Mercedes)	6,2%	1/3 (Renault)
Ford	USA	10 weeks	0/1	1/1	18,4%	0/1	0,0%	1/1
Hyundai	S.Korea	6 weeks	0/1	1/1	17,1%	0/1	0,0%	1/1

3.4 Vehicle Type

The manufacturers' manpower policy based on vehicle type produced on plants can be summarized on table 6.

Table 6
Manpower Policies of Manufacturers based on Produced Vehicle Type

Manufacturers	Vehicle Type	Extra S/D (week in average)	Government Support Apply	Lay Off	Lay off (%)	Voluntary Separation	Voluntary Separation (%)	Unpaid leave
Renault, Honda, Toyota, Hyundai	PC	7,5 weeks	1/4 (Renault)	1/4 (Hyundai)	17,1%	2/4 (Honda, Renault)	10,4%	3/4 (Renault, Toyota, Hyundai)
Ford, Mercedes	CV	8 weeks	1/2 (Mercedes)	1/2 (Ford)	18,4%	1/2 (Mercedes)	7,4%	1/2 (Ford)
Fiat	LCV+PC	6 weeks	0/1	1/1 (Fiat)	19,5%	0/1	0,0%	0/1

The vehicle type categories are directly affected by volume reduction ratio. For instance, on CV (Commercial vehicle) type production companies, Mercedes and Ford, the total production loss is in average 67% and this reduction determines the policies that are going to be implemented by companies. From this point of view, the key point on CV type of production facilities is the headcount reduction.

On PC (Passenger Car) type of production companies, since the production loss of companies on this group varies between 24% and 63%, the manpower policies differed within the group.

3.5 Union

Based on the union existence or not, the manufacturers' manpower policies and countermeasures can be seen on table 7.

When analyzed that if union performs or not in companies, 4 of the companies have union and 3 of have no union. When we look at the companies which have union, although less volume reduction on these companies compared with companies which have no union, the manpower policies on these companies are much shaper. The headcount reduction policy is very obvious. This point is much more distinctive on Ford and Fiat.

When we look at the other 3 companies which have no union, it can be seen that the unpaid leave policy is a common policy. Honda is focused on voluntary separation. On

Table 7
Manpower Policies of Manufacturers based on Union Existence

Manufacturers	Union	Extra S/D (week in average)	Government Support Apply	Lay off	Lay off (%)	Voluntary Separation	Voluntary Separation (%)	Unpaid leave
Renault, Ford, Fiat, Mercedes	yes	7,5 weeks	2/4 (Renault, Mercedes)	2/4 (Ford, Fiat)	19,0%	2/4 (Renault, Mercedes)	6,2%	2/4 (Renault, Ford)
Honda, Hyundai, Toyota	no	7,3 weeks	0/3	1/3 (Hyundai)	17,1%	1/3 (Honda)	34,9%	2/3 (Hyundai, Toyota)

the other hand, Hyundai preferred lay off and unpaid leave batch policy. In that perspective, Toyota struggled to keep employees via focusing on unpaid leave policies while they are thinking labor cost.

4. JAPAN AUTOMOTIVE MANUFACTURERS' SUCCESS FROM MACRO POINT OF VIEW

When the crisis term and adaptation to crisis at automotive industry in Turkey investigated deeply, it can be seen that Japanese manufacturers, especially Toyota, follows a different way. In line with Japanese management approach and culture, these companies' countermeasures and human resources policies focus on productivity, safety, quality and cost by establishing a strong employee relations, communication, respect and mutual trust. Company priorities are structured on top of these. In this section, Japanese companies' employment approach will be investigated and it will be found out the reasons behind these approaches.

To explain Japan's sudden emergence as an economic superstate, many writers, including the futurologist Herman Kahn (1970), attached great importance to the Japanese mindset. They alleged that cultural remnants or feudalistic values – such as group loyalty, a motivation to achieve based on duty and the fear of shame or losing face, and Confucian frugality and a special sense of community or national consensus were the wellsprings of Japan's economic success. (McCormick, 2007).

Much of the literature on Japanese management assumed that the Japanese worker's commitment to work and to his place of work had been integral to the superior performance of the Japanese economy. That commitment was seen as overriding the adverse conditions which many workers had to put up with, including long hours and excessive regimentation. It was commonly argued that Japanese management had worked with and fostered a cultural paradigm that was quite different from the one found in most Western countries. The assumption was that Japanese culture resulted in workers and managers sharing similar values, which underpinned Japanese work practices and an unusually strong commitment to doing work. (McCormick, 2007) This synergy can make 80 to 90 per cent of daily decisions regarding team's business. The team is responsible for its own actions and team results, and thus for the overall product and service provided. Members accept that their job is expanded to include improving the work processes of the team. They also accept more responsibility for problem solving, leadership, and team development as the team matures. Administrative tasks such as scheduling and training are coordinated by the team itself. (Good coaching is required during the maturing process) (Juran and Godfrey, 1998).

4.1 Japanese Working Style and Lifetime Employment Approach

If you wonder how you can describe existence icon for Japanese, "We are a family, therefore we are" can be said in spite of Descartes "I think, therefore I am". The Hesperian describes their existence via their thinking. On the other hand, Japanese describe their existence via feeling and living themselves as a member of a family. While the people's

thinking is the most important one for Hesperian, the thinking and understanding of “we are” is the most important for Japanese. “We are” feeling is the reason of existence for Japanese. (Güvenç, 2002).

So, establishing the sense of “we” is not easy as it can be seen on papers. Like an immediate family, if you want to be a family at working area, the company managements’ attitudes, communication, behavior, aims, fairness and consistency should be as in a family. This requires a long term contract or loyalty as in immediate family.

One of the famous business man IDEMÝTSU Sazo (1972) describes the main difference between Japanese and west society like that: “In west, important ones are organizations, authorization and responsibilities. Juniors are responsible for doing duties which were assigned by seniors. And seniors keep authority on their hands. But for Japanese, there is no sharp discrimination among people. Authority, responsibility and mutuality are the key issues for Japanese. (Güvenç, 2002).

4.1.1 Lifetime Employment

Since it is generally written lifetime employment as a management model on management books, articles etc., in Japanese culture, it is not accepted as a management concept or human resources policy. For instance, none of the Toyota’s written documents contain the expression “lifetime employment”. Employment is, quite simply, a system that Toyota all works to build or stabilizes as a concerned effort of the company and its employees. Many employees perceive Toyota as their own company as well as the society they are a part of. And Toyota’s view of a company values this perspective of employees. (Hata, 2008).

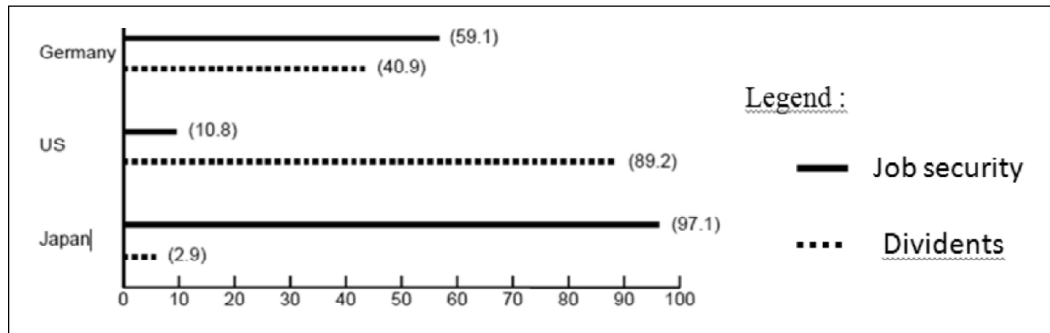
On the other hand, Toyota also concerned about how they can successfully convey message such as “With regard to labor terms and conditions, instead of discussing the mechanism of distribution, the debate shall rather focus on how to make employees think more often of this company as their own company.

Fig. 4 shows that Japanese companies do not prefer lay off as a policy. This is not a model or concept for Japanese companies. This is their thinking. Most of the Japanese corporations think a happy life also entails finding and building relationship with people you want to spend time together with, even outside of working hours. The true characteristic of human resources management should not view employees as merely a tool, but rather view them in strong consideration of their lifestyles and families.

In Japan companies, management level should also have strong technical skills also in addition to human relations, decision making competencies and planning abilities. For Japanese companies, the technical skills and human relations are the most important issues for promotion to top. In order to improve technical skill and human relations within company culture, seniority in that company is a must.

Japanese companies recruit members who have strong personal competencies instead of technical ability or high occupational background. The important criteria for them is if the candidate is able to be developed or shaped. For example, the Toyota competencies

Figure 4: Job Security or Dividents (%)



Notes: Responses to question: Suppose a CEO must choose either to maintain dividends or to lay off a number of employees. In your country which of these alternatives would be chosen? (Hanada, 1989)

for operation members are communication-positive attitude, team work, problem solving, attention to details, creativity, safety, leadership, initiative, perseverance and commitment, responsibility. When you look at these competencies, these are not directly related with occupational or technical issues. Those competencies should be imposed members in line with Toyota Way. This takes time and directly effects employees' social life. In order to strength these competencies and want to set a employee based structure, somehow you need to employ your employees for long time. The basic logic is fairly simple as if production operators are required to take responsibility for a wider repertoire of tasks such as problem solving and continuous improvement activities, then a closer, more co-operative climate is needed within the firm.

Seniority is very important for Japanese firms in general. In order to achieve this, they must keep employees for long term. By the way, these firms have employees who have high seniority and experience. So, Japanese companies do not prefer to lose their employees. Additionally, based on a study done by Hanada (1989), the seniority is the major factor for promotion for Japan manufacturers. Instead of ability, the members to be promoted should have experience enough.

Based on another study done by Robert and Seiichi (2003), successful Japanese corporations are inclined to emphasize long term goals and have a global vision, while US corporations put more emphasis on short-term profit. Based on this study, about %80-90 of large Japanese corporations engage in long-term planning, whereby they plan how they will grow or rationalize over a period of five to 10 years. In order to achieve long term planning, competition oriented strategies, respect among employees and good communication abilities should be established strongly.

Fear of unemployment is a very real and powerful motivator in transplants. Job security in the automobile industry is indeed rare in a world awash in excess capacity, and the Japanese transplants have to date provided a higher degree of job security than the American Big Three. The 1985 contract between NUMMI and U.A.W. Local 2244

states that the company agrees it will not lay off employees unless compelled to do so by severe economic conditions that threaten the long-term financial viability of the company. The company will further take affirmative measures before laying off any employees, including such measures as the reduction of salaries of officers and management, assigning previously subcontracted work to bargaining unit employees, seeking voluntary layoffs, and other cost-saving measures. In the minds of NUMMI's employees, job security is closely tied to continued high levels of productivity, quality, and constant improvement. (Rehder, 1990).

Because of their dramatic Nova model sales drop in 1988, when the plant was operating at 60 per cent capacity, roughly one-tenth of the work force would have been laid off without this commitment to job security. Rebalancing the line quickly picks up any system slack, and the work pace only increases in the minds of many assembly line workers. With the new team system, the team members clearly contribute to productivity improvements, but they also have more job demands and pressure. Management's view of the impact of this system on the team members is that they "work smarter, not harder." Studies to date indicate that team members and managers work both harder and smarter. (Rehder, 1990).

Toyota has structured a strong human resource management system in line with Toyota way at NUMMI plant which was one of the worst performing plants in the General Motors system. After that, NUMMI turned into a successful operation. This was done with 80 per cent of the original workforce from GM. The secret to Toyota's success is getting extraordinary results from ordinary people.

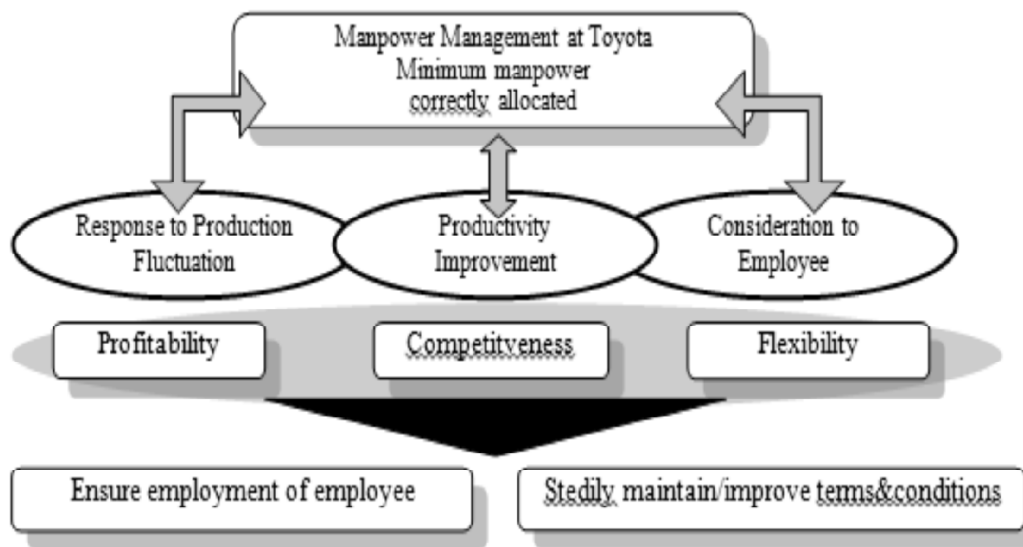
4.2 Manpower Management Approach of Toyota in Crisis Term

There are various of coping with lower demand for man-hours: cutting overtime, transferring workers from departments with surplus labor to other departments or subsidiaries, freeze hiring, offering voluntary early retirement, introducing temporary paid leave, unpaid leave policy, reduction on expense expenditure, off set bonus payments, off set promotions. Termination is used only as a last resort. (For example, in 2009, Toyota made a risk calendar and analyzed that it has capital reserve to meet labor cost for coming 3 years if the crisis continue) Toyota's phenomenal success is a business story known the world over. Toyota continues to be successful through good and bad times. Information on Toyota's production system has been widely available for over 30 years, but no other company has been able to completely duplicate Toyota's results. The main reasons behind Toyota success may be summarized as great people, supported by a system that mandates the need for such talent. It is the knowledge and capability of people that distinguishes any company from another. For the most part, organizations have access to the same technology, machinery, raw materials, and even the same pool of potential employees (in any free market economy) as Toyota. The automaker's success lies partially in these areas, but the full benefit is from the people at Toyota who cultivate their success. These individuals work to develop highly dependable suppliers. They strive to create specific technology that will benefit Toyota. (Liker and Meier, 2007).

A common expression heard around Toyota is, “We do not just build cars; we build people.” Every new product development program, every prototype, every quality defect in the factory, and every kaizen activity is an opportunity to develop people. When former Toyota Motor Manufacturing North American president Atushi (Art) Niimi was asked about his greatest challenge when trying to teach the Toyota Way to his American managers, his response was that “They want to be managers, not teachers.” He explained that every manager at Toyota must be a teacher. Developing exceptional people is Toyota’s number one priority. This has become ingrained throughout the company as a cultural value of the Toyota Way. It is a concept frequently talked about in other companies, but it is one that is rarely practiced. (Liker and Meier, 2007).

The human resources management is key for Toyota. When manpower management system is investigated deeply at Toyota, it can be seen that it is established as a key stone among production, productivity and employee (fig. 5).

Figure 5: Manpower Management System Structure at Toyota



Manpower management at Toyota aims at stable employment and improving competitiveness through the following 3 factors, which are implemented based on genchi genbutsu:

- To promote and support productivity improvement.
- To respond flexibility towards production fluctuation: to estimate necessary manpower and increase/decrease those in line with production fluctuation through securing flexibility of headcount and working hours all the time.
- To obtain employees’ understanding and take care of the burden on them: To consider not to put excessive burden on employee as well as to obtain their

understanding and cooperation towards productivity and production fluctuation countermeasure.

Especially after drastic production reduction in the global automobile manufacturing market in 2008, the recognition of “Manpower Management as the base of Toyota Production System embodiment” was enhanced and pursuing its ideal activities becomes indispensable.

As a matter of course, securing “profitability”, “competitiveness” and “flexibility” through those above is the foundation of “ensure employment of employees” and “steadily maintain and improve terms & conditions”. While doing that, Toyota focuses on not to place excessive burden upon employees in line with respect to people.

Cost reduction must be the goal of consumer products manufacturer trying to survive in today’s market place. In low-growth period, to achieve any form of cost reduction is difficult. There is no magic method. Rather, a total management system is needed that develops human ability to its fullest capability to best enhance creativity and fruitfulness, to utilize facilities and machines well, and to eliminate waste. (Ohno, 1978) This can be achieved only if you respect your employee. The main pillar of this success is development which is a Long-Term Commitment. This commitment can be given with only the experienced team members who have high seniority.

Mutual trust was something that Toyota Motor Corporation (TMC) accepted as a basis principle in labor management relations, in the wake of labor disputes of 1950, and has since been practiced in unbroken tradition. The spirit of mutual trust and respect means:

- The improvements of employees’ standard of living will only be realized through the prosperity of the company. Both labor and management should share the common goal of attaining company prosperity.
- The employees should render maximum cooperation to attain corporate prosperity

(The Toyota Way in Human Resources Management, 2002).

4.2.1 2008 Crisis at Toyota Turkey

In this section, firstly information about Toyota Turkey is given. Then, it is summarized the crisis at Toyota Turkey and the response of Toyota Turkey. In next section, the outputs of these strategies are presented via productivity, quality, safety and cost KPI’s. Finally the effects of these countermeasures were commented.

Toyota Motor Manufacturing Turkey is one of Toyota’s vehicle production bases in Europe. Majority of the production is exported to over 30 countries, which are located mainly in Europe. Today, with an annual production capacity of 150,000 units, Toyota Motor Manufacturing Turkey (Toyota Turkey) is one of the ten biggest overseas manufacturing operations of Toyota, and one of the biggest manufacturing companies of Turkey.

The company established in 1990 and produced more than one million vehicle till today. Currently Toyota Turkey has 3000 employees and continues to produce vehicles in line with Toyota Production System (TPS). Toyota Manufacturing Turkey plant is one of the most qualified plants among 56 Toyota manufacturing plants in world.

The crisis was showed itself at Toyota at the first month of 2008. The production started to reduce slightly (%5,8). On that time, interestingly, other automakers in Turkey were increasing their capacity by investing new plants or production lines. Ford increased number of shift from 2 to 3. Honda made an investment for new line and model and increased number of employee %100. Hyundai, Tofas and Renault were increasing their capacity also. It can be said that it was difficult to find employee because of new investments on sector.

After august 2008, the effect of crisis started to be seen dramatically. The production of Toyota reduced %20 on August 2008 again compared to 3 months ago. After 3 months it reduced again another %22. Those days were hard times. It is very difficult to see next week's condition. It is not possible to estimate production demand, customer behavior and Toyota could not plan which countermeasure can be taken for crisis. On April 2009, the crisis effect Toyota manufacturing %6. After 6 months, another %4,2 reduction came.

From the second part of 2008 and till 2010 end, Toyota struggled with both crisis and gas pedal problem related volume reductions. For this period, Toyota has not swerved Toyota Way. Respect people, employee rights, management-employee relations, and corporate values. None of the employee has been laid off although the total production reduced %57.

4.2.1.1 The Strategy of Toyota Turkey. In 2007, Toyota had more than 3500 permanent and temporary headcount in total. After economical crisis, 500 temporary members have been released month by month. And the comparing the total production volume 2007 vs. 2009, the total volume reduced %57. This means that total number of employee should reduce %57 which is equal to 1995 employee in theory. However, Toyota Turkey has just reduced 500 temporary team members and 106 permanent team members who have resigned in that term. If you compare 2007 vs. 2010, it can be easily said that Toyota Turkey has still 1072 excess employees who are not required to produce 83.286 vehicles in 2010 in theory. On the other hand, it is difficult to follow production volume by total headcount. Because of layout, process restrictions, line positions, job description related restrictions and vehicle types, total headcount cannot be reduced as same as production volume reduction percentage. When we look at the total flexibility on headcount reduction vs. volume down, it is in average %75.

Instead of lay off, Toyota has launched lots of cost reduction and kaizen activities in all worldwide plants. For Turkey, based on Toyota Motor Europe, EPIC (European Productivity Improvement Committee) activities launched and year 2008 has closed without any loss.

In order to cover production loss without lay off, Toyota compensate the volume loss via, tact time down, utilization of paid/unpaid leave and idle time utilization (fig. 7).

Figure 6: The Steps of Achievement of Cost Reduction at Toyota

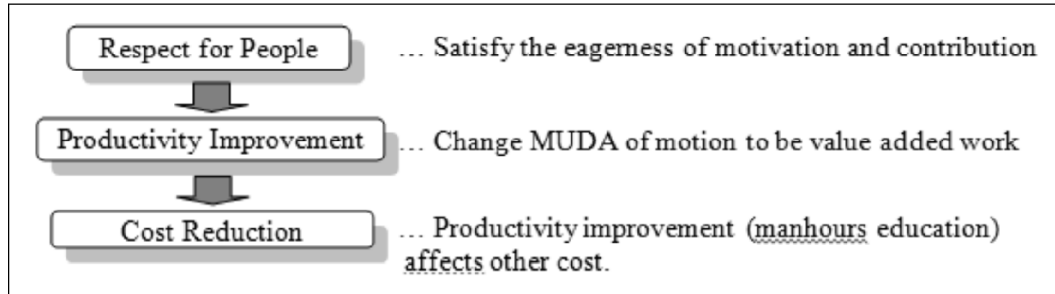
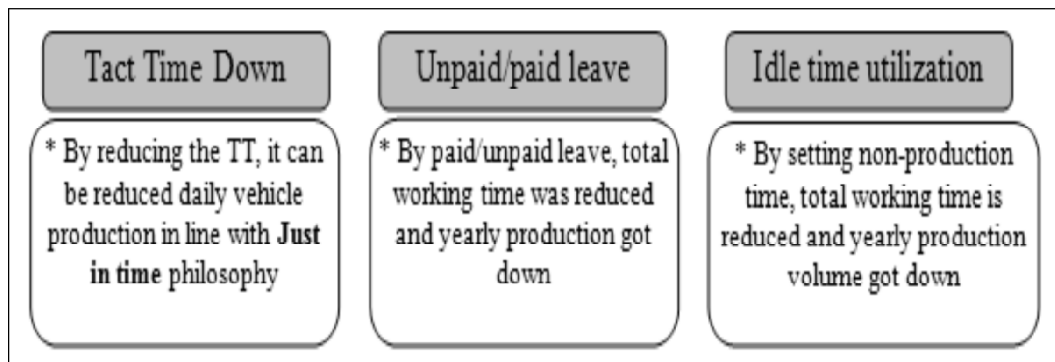


Figure 7: Volume Down Production Countermeasure of Toyota Turkey



The cost reduction/ saving countermeasures for crisis term were maintained in five category: Labor, material, maintenance, investment and expense. The labor item was the biggest share of all cost reduction activities (apprx. %56 of total cost reduction came from labor items). If we investigate the main items on labor in order to reduce labor cost;

- **Salary Cut:** By taking approval of whole employees, total salaries of employees were cut about %18 (Including executive committee, managerial level, engineers, specialist and operation members). The effect of this cost reduction is equal to apprx. 300 operation members' salary for one year.
- **Salary Increase Once a Year:** Before crisis, the salary increase was done one at 6 months. The cost saving with this countermeasure was equal to 86 operation members' salary per year.
- **Social Allowance Increase Cancellation:** By approval of all employees, the social allowance increase which was being done once a year was cancelled. The cost saving with this countermeasure was equal to 3 operation members' salary per year.
- **Temporary Team Member Reduction:** Totally 500 temporary employees were released in 6 months (In fact, no new temporary employees instead of temporary employees whose 6 months contracts ended).

- **No Replacement In Case of Turnover:** In case of turnover, it is not covered by hiring new ones. The cost saving with this countermeasure was equal to 88 operation members' salary per year.
- **In sourcing:** After volume reduction, Toyota has in average 320 direct excess manpower monthly. These excess manpower assigned into different kind of jobs. These were in house manufacturing assignments, in sourcing and intercompany transfers. The cost saving by this countermeasure was equal to 80 operation members' salary per year.
- **Offset Overtime Payment:** Instead of salary for overtime, annual leave right was given to the employees for over time. By the way, total cost saving by this countermeasure was equal to 103 operation members' salary per year.
- **Offset Bonus Payment:** The cost saving by this countermeasure in 2009 was equal to 178 operation members' salary per year.
- **Offset Merit Increase: By cancelling 2009 merit increase, total** cost saving by this countermeasure was equal to 77 operation members' salary per year.
- **Offset promotion cost:** The planned amount of promotion was reduced and it is extended to next 10 years.
- **Idle Time Utilization:** Within shifts, in order to cover production loss, idle time was set. In these times, employees focused on the activities in order to strength foundation. The main activities were safety, quality and productivity related kaizen activities.
- **Seniority Leave Provision:** Based on labor law, companies should have enough cash money to meet accumulated total annual leave right of total employees. By adding shutdowns to working calendar, total accumulated annual leave rights of employees reduced and required cash Money to be kept on hand was dropped. The total saving on this item was equal to 124 operation members' salary per year.
- **Indemnity Amount:** Because of resignations, company's obligation of keeping cash money of employees' indemnity amount on its accounts was reduced. The cost saving by this countermeasure in 2009 was equal to 6 operation members' salary per year.

By implementing the countermeasures above, totally 1045 operation members' salary have been compensated excluding savings on investment, expenses, materials and maintenance kaizens-improvements. This saving can be converted into more than 500 operation members' 2 years total salary.

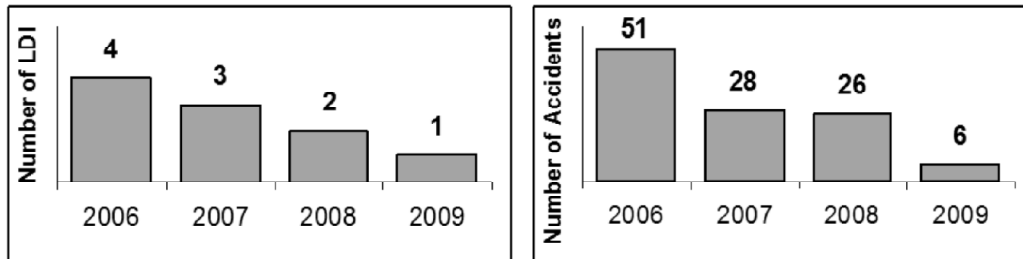
4.2.2 Results of Countermeasures Taken

Although Toyota's employment understanding is , quite simply, a system that Toyota all Works to build or stabilize as a concerned effort of the company and its employees, keeping all employees, this approach brings corporate risks herewith. Company's quality, safety, productivity and foundation may be effected by countermeasures that were taken

in crisis term. Salary cuts, offsetting overtime, unpaid leave applications may reduce motivation. In this part, the corporate main production, quality, safety and productivity KPI's were compared before and after crisis and the variations evaluated.

4.2.2.1 Safety: The most important issue for Toyota is safety. So, before a henkaten (change), the impact of this henkaten should be analyzed if it has potential to effect safety. For the countermeasures taken in crisis term, Toyota made a big effort on countermeasure in order to not to effect safety. As a result, comparing with 2008 and 2009 safety KPI, it can be summarize that the countermeasures did not effect the safety KPI's. However, because of the reduction of working days and core working hours, number of accidents and LDI (lost day injury) reduced (fig. 8). No major concern on motivation and attention were observed.

**Figure 8: Safety Statistics of Toyota Turkey LDI (cumulative):
Cumulative Lost day Injury and Number of Accidents**



4.2.2.2 Quality: In 2009, on Quality KPI, there is increase on defects per unit. Since it can be thought that motivation related problems increased the defects, the main reason on increase, the audit standardization has been changed and revised strictly. On the other hand, in 2009, the new model was started to produce. This also affected the quality KPI.

4.2.2.3 Productivity: There are 2 kinds of main productivity KPI at Toyota Turkey. First one is operational productivity ratio (OPR). The OPR is the ratio between actual working time and planned working time. It shows the real production time percentage without problems (line stops, machine breakdowns, equipment failure etc.) for one shift. It can be seen from the fig. 10. OPR has reduced approximately %1,5 comparing 2008. When we analyzed the main reason on reduction, launching new model production and planned line stop for safety, team member communication meetings and QCC (Quality Control Circle). For each month, 4 hours allocated for QCC and 1 hour allocated to TM communication meetings. These meetings were realized in real production time.

The other productivity KPI is production efficiency. The manpower productivity at Toyota is calculated based on standard time (kijun jikan) of each process. System shows how efficient Toyota plants are in producing products compared to the benchmark (standard time or kijun jikan). The system considers, automation ratio, new projects, countries' working conditions (daily working time, break time, core job hour ratio, shops internal condition etc.).

Figure 9: Yearly Assembly Inspection Defect per unit (DPU) Results

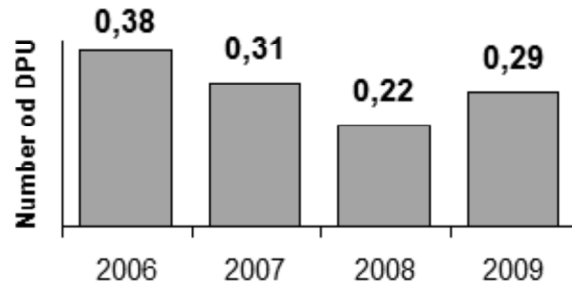
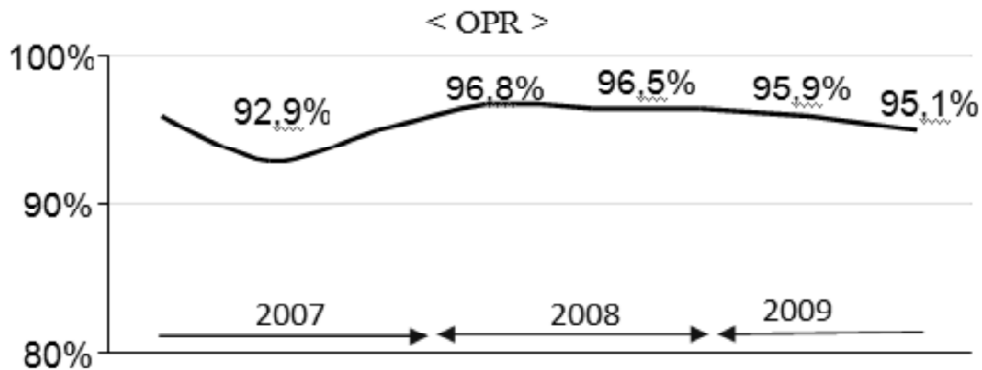


Figure 10: Operational Productivity Ratio (OPR) based on Years



Productivity is calculated as a ratio between total ideal time that considers standard time of each process and real production time which considers each members attendance minutely basis. This measurement is done by a programme, AS400, and it is calculated hourly basis.

As can be seen fig. 11, after crisis, a clear decrease on manpower productivity can be observed. On the other hand, when we look at the main reasons of this reduction, it was not directly related with excess manpower. The main reasons are layout related concerns, inflexible line allocations, equipment system. Since the plant focused on basically volume up and capacity increase, it is difficult to re allocate processes efficiently. On the other hand, the excess manpower is allocated on different jobs, they have no direct effect to productivity.

4.2.2.4 Cost: For Toyota, labor cost is one of the main cost item additional to material, maintenance, investment and general expenses. Since the strategy in crisis term is no lay off, the portion of labor cost increased. On the other hand, lots of countermeasures implemented in order to reduce labor cost and total cost. The interaction among labor cost, headcount and production volume can be seen at fig. 12. Since the headcount reduced %18 per cent, labor cost increased %48 from 2007 to 2009. On the other hand, volume reduction is %54.

Figure 11: Manpower Productivity at Toyota (before and after crisis)

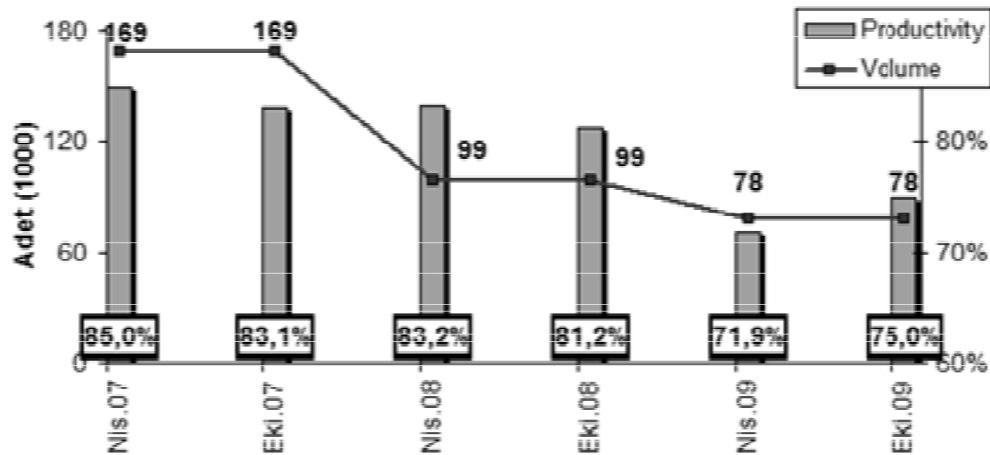
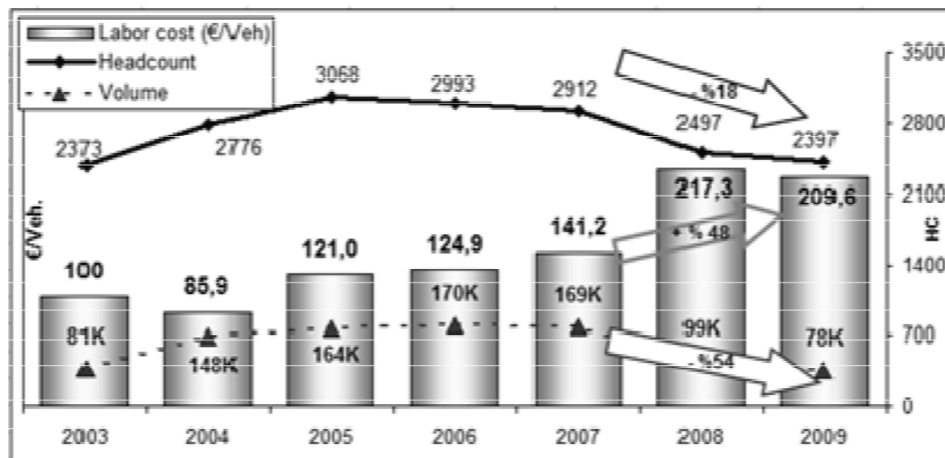


Figure 12: Toyota Turkey Production Volume, Headcount and Labor Cost Progress

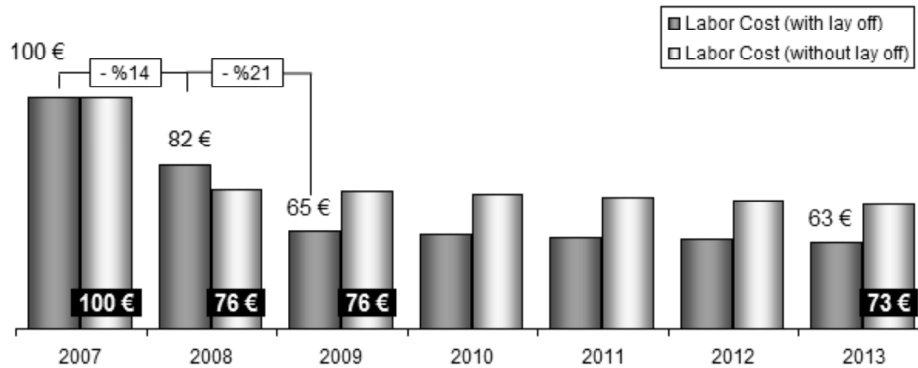


(Note: Labor cost considered as index. 2003 → 100 €/veh)

For west side companies, the quick response against crisis is lay off strategy. However, no lay off strategy brings a huge cost burden for companies in crisis terms. Toyota Turkey's no lay off strategy has also the advantages on some topics, but also has some cost. In fig. 13, it is analyzed that total labor cost of Toyota Turkey in case lay off and without lay off. The real labor cost data were used for without lay off strategy. In case lay off in spite of without layoff, the labor cost simulated considering headcount reduction, indemnity, salary, benefits, salary increase, merit, shutdown related cost savings, hiring, in sourcing, overtime cost, promotion, provision amounts and trainings.

When you look at fig. 13, it can be easily seen that, the lay off strategy is starting to be beneficial after 2 years. The total cost before crisis (2007) was considered as 100 •

Figure 13: Labor Cost Simulation of Toyota Turkey in Case of Lay off and without lay off



Based on this index, total labor cost reduces 35% with the effect of lay off after second year. Because of indemnity payment in case lay off, the direct labor cost reduction on labor cost can not be reflected at first year. On the other hand, with the effect of salary cut, salary increase policy revisions, social allowance revision, company travel policy revision, energy savings, shutdown related savings (energy, meal and transportation), assignment of excess manpower to the in-house jobs, overtime payment policy revision, bonus payment revision, promotion cost savings, annual leave provision related savings, kaizens on communication, travels, celebrations, meals etc., training policy revision and transportation related kaizens, labor cost was reduced 19,2% at the end of first year after crisis. Of course, this way takes more time and requires detail planning.

At the end of 5 years after crisis, when you compare two strategies, lay off strategy takes 36,6 million • labor cost advantage in total in 5 years for Toyota Turkey.

5. CONCLUSIONS

The severe reduction on demand has been thought the automakers reconsider their corporate plans and corporate culture. For instance, Toyota started to think that they need to learn something from Hyundai about inhouse cost. Certainly, there are lots of policy alternatives or compositions that can be adapted in crisis for companies. Based on the country culture, legal regulations and financial situation of companies, these policies are determined and composed. In that respect, the common manpower policies of 7 big automanufacturers that investigated in this study may be summarized as shutdown applications as in the world and unpaid leave since the legal regulations allow companies to cut salaries of employees in Turkey.

The manpower policies of 7 big manufacturers differ based on corporate capital and union structure. On the other hand, manpower policies do not differ sharply depending on total headcount, volume reduction ratios and vehicle types produced. While Japan manufacturers generally prefer to keep employees and try to struggle with crisis together including all stakeholders, western companies were focusing on cost.

As a result of investigations for Toyota Turkey's manpower policies, it is very obvious that Toyota prefers to walk consistently as a family on both upsizing and downsizing terms. On the other hand, when we look at the effects of Toyota Turkey's manpower policies on quality, productivity and safety, there are no specific negative direct effects on them. The negative changes on productivity and quality were related to manufacturing and layout design of manufacturing lines based on analysis done at Toyota Turkey. For the labor cost, it has been reduced dramatically with no severe effect on employee motivation by performing minimum livelihood studies at corporate wide. Although the lay off policy simulation showed that it takes advantage quantitatively, this advantage can be reflected to corporate financial statement after 2 years because of indemnity payments. In addition, more importantly, ignoring employees by looking only in short term perspective can be discussed how rational. It is very obvious that vehicles types and total yearly volume allocations of plants have big roles on corporate manpower strategies, long term thinking and planning approaches of Japanese companies make manpower planning easy, proactively and efficiently.

By implementing the countermeasures on only labor items, totally 1045 operation members' salary have been compensated excluding savings on investment, expenses, materials and maintenance kaizens-improvements. This saving can be converted into more than 500 operation members' 2 years total salary. Thus, in addition to labor, investment, maintenance, material and expense costs were also able to be reduced. This results show that Toyota Turkey's manpower policies on crisis term has big achievements in line with Toyota Way and corporate culture. These results have reflected to the corporate financial statements. In these results, there are big contributions of two way communication, respect for people and mutual trust approaches. Compared to competitors, via considering the employees, Toyota Turkey will have big achievements on mutual trust, employee loyalty and member motivation in long term while they reduce cost and strength foundations.

ACKNOWLEDGEMENT

The information for this work and research environment was supported by Toyota Turkey.

REFERENCES

- Güvenç, B. (2002), *Japan kültürü*. İstanbul: İş Bankası Yayınları.
- Hanada, K. (1989), The Principle of Competition in Japan's Personnel System, *Japanese Economic Studies*, 17, 32–43.
- Hata, T. (2008), *My Insight into the Toyota Way, Interviews with Takashi Hata*. Toyota Motor Corporation.
- Juran, M. J. & Godfrey, A. B. (1998), *Juran's Quality Handbook*. New York, McGraw-Hill.
- Kono, T. & Clegg, S. (2001), *Trends in Japanese Management: Continuing Strengths, current Problems and Changing Priorities*. London: Palgrave Macmillan.
- Liker, J. K. & Meier, D. P. (2007), *Toyota talent*. New York: McGraw-Hill.

- McCormick, K. (2007), *Sociologists and the Japanese Model: a Passing Enthusiasm?* Work Employment Society 21, 751-771.
- Ohno, T. (1978), *Toyota Production System – beyond Large Scale Production*. US: Diamond Inc.
- Rehder, R. R. (1990), Japanese Transplants: After the Honeymoon. *Business Horizons*, 13.
- Robert, A. H. & Seiichi, K. (2003), *Work and pay*, New York: Cambridge University Press.
- TAYSAD (2011), *Nisan 2011 Aylık Sektör Raporu* (Tech. Rep.) Istanbul: TAYSAD.
- Taymaz, Erol (2010), *Kriz ve Türkiye: kriz tedbirlerinin etki değerlendirmesi, kriz tedbirlerinin etkinliği: Motorlu kara taşıtları sanayii örneği*. Ankara: ILO, 43-74.
- TEPAV (2010), *2008 Krizi: Sektörlerdeki Asimetrik Toparlanma, TEPAV Politika Notu* (Tech. Rep.). Ankara: TEPAV.
- Toyota Motor Corporation. (2002), *The Toyota way in human resources management*, Japan: Toyota Institute.