

CHAPTER V

CONCLUSION AND SUGGESTION

5.1. Conclusion

From results of observe analysis, it can be concluded as follows:

1) Identification and evaluation (frequency and impact) of risk:

- a. From all three ready mix company observed, it shows that financial sector has the greatest risk among production sector, logistic sector and marketing sector. PT Jaya Alam Sarana Beton has frequency = 1.17 and impact = 2.55, while PT Jaya Ready Mix Beton has frequency = 1.65 and impact = 3.03, and PT Karya Beton Beton has frequency = 0.92 and impact = 3.00.
- b. PT Jaya Alam Sarana Beton considers that marketing sector has the greatest risk (frequency = 1.31 and impact = 3.13) among production sector, logistic sector and financial sector.
- c. PT Jaya Ready Mix considers that financial sector has the greatest risk (frequency = 1.65 and impact = 3.03) among production sector, logistic sector and marketing sector.
- d. PT Karya Beton considers that financial sector has the greatest risk (frequency = 0.92 and impact = 3.00) among production sector, logistic sector and marketing sector.

- e. Compared with PT Jaya Alam Sarana Beton and PT Karya Beton, PT Jaya Ready Mix, with frequency = 1.47 and impact = 2.90, considers risks that occur as a whole extremely affect the company.

2) Method selection and implementation

Both PT Jaya Alam Sarana, PT Jaya Ready Mix, and PT Karya Beton handle problem about contract type with loss prevention method (check the contract carefully), risk assumption method (replace concrete), and retention method (make agreement letter)

3) Controlling

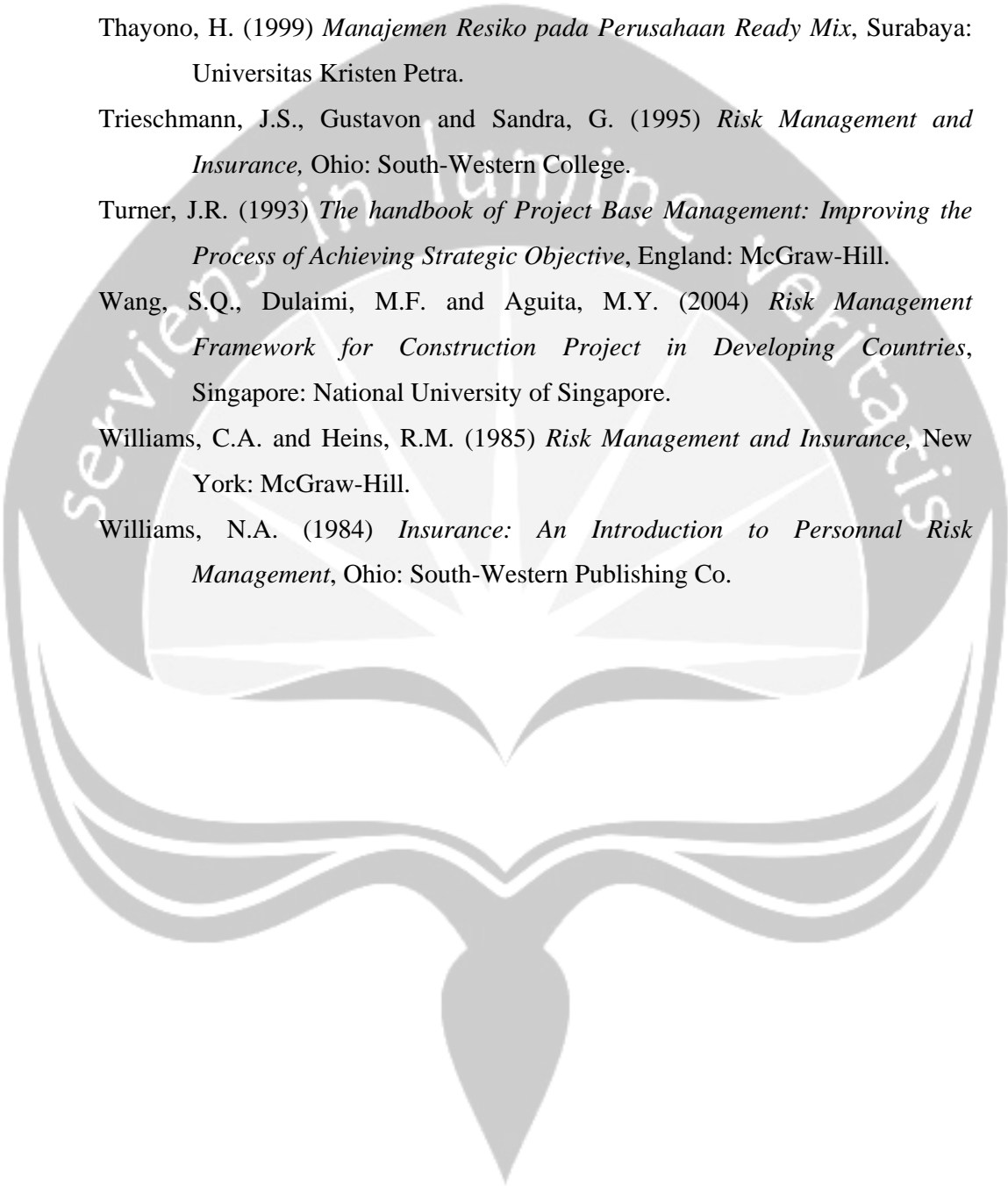
Both PT Jaya Alam Sarana, PT Jaya Ready Mix, and PT Karya Beton control problem about contract type, with a number of complaints from customer, that occur as a result of a difference between volume, slump and quality of concrete in actual and what it is in the contract.

5.2. Suggestion

In the future, this kind of study can be continued with more specified sector which is financial sector, so that specific results could be obtained. The other things that can be developed are the amount of the respondent from different ready mix concrete company, and area of distribution of questionnaire. Hopefully with more complete and specific research, the ready mix concrete company will learn more about risks that might occur, how to manage and to control the risks, so that the risks that might occur can be minimized.

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APPENDICES

**QUESTIONNAIRE OF
RISK MANAGEMENT OF OPERATIONAL SECTOR
AT READY MIX CONCRETE COMPANY
IN YOGYAKARTA**

1. Introduction

I am a student of Civil Engineering Department - University of Atma Jaya Yogyakarta, which is doing a thesis about risk management at ready mix concrete company. Hopefully through this research, it could be obtained how far risk management is applied at ready mix concrete company. On that account, I am looking forward for your assist to fill the questionnaire below, since your answers are very important to this research.

Thank you very much for your participation.

Company Name	: Jaxa Alam Sarana Beton, PT
Company Address	: Jl. Ringroad Selatan
Established Since	: 2003
Name (who fills this questionnaire)	: Ahmad Mudhofir, ST
Job Position	: QC
Date (of questionnaire filling)	: Nov 2009, 17 th

2. Questionnaire

At pages followed, there are tables which include columns, which are:

First column is for number.

Second column is for risk identification, consists of various types of risks we have already arranged.

Third column is for description, which gives more explanation about various types of risks on previous column.

The Fourth column is a frequency (*tingkat keseringan*) column. You can give mark (✓) off the corresponding circle, which those numbers refer to:

0 = Never happened

1 = Very rarely

2 = Seldom

3 = Often

4 = Very often

The Fifth column is a severity (*tingkat dampak / kerugian yang ditimbulkan*) column. You can give mark (✓) off the corresponding circle, which those numbers refer to:

0 = It doesn't have any impact

1 = Very small impact

2 = Small Impact

3 = Big impact

4 = Very big / huge impact

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No	ITEM	RISK IDENTIFICATION <i>(IDENTIFIKASI RESIKO)</i>	FREQUENCY <i>(FREKUENSI)</i>	IMPACT <i>(DAMPAK)</i>
			0 1 2 3 4	0 1 2 3 4
3	Material Using Accuracy <i>(Ketepatan Penggunaan Material)</i>			
3.1	Material Using <i>(Penggunaan Material)</i>	Admixture using error occurs <i>(Terjadinya kesalahan dalam penggunaan admixture)</i> Raw material using error <i>(Terjadinya kesalahan dalam penggunaan bahan baku)</i> Risk that happens as a result of testing error <i>(Resiko yang terjadi akibat kesalahan pengtesan)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
3.2	Testing Error <i>(Kesalahan Pengetesan)</i>	Risk that happens as a result of testing error <i>(Resiko yang terjadi akibat kesalahan pengtesan)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
4	Production Process System <i>(Sistem Proses Produksi)</i>	Loss risk as a result of production process that is used <i>(Resiko kerugian dari proses produksi yang digunakan)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
5	Weather Problems <i>(Permasalahan Cuaca)</i>			
5.1	Rainy Season <i>(Musim Hujan)</i>	Moisture degree error occurs as a result of raining <i>(Terjadinya kesalahan kadar air pada beton akibat adanya hujan)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
5.2	Drought Season <i>(Musim Kemarau)</i>	Moisture degree error occurs as a result of hot weather <i>(Terjadinya kesalahan kadar air pada beton akibat cuaca yang panas)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
6	Unforeseen Disaster <i>(Bencana Tak terduga)</i>			
6.1	Flood <i>(Banjir)</i>	The mixer truck is stall as a result of flood <i>(Kejadian mogoknya truk mixer akibat banjir)</i> Plant operational activity is disturbed as a result of flood <i>(Terganggunya kegiatan operasional plant)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
6.2	Fire <i>(Kebakaran)</i>	Plant operational activity is disturbed as a result of fire <i>(Terganggunya kegiatan operasional plant akibat kebakaran)</i>	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input checked="" type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

[illegible]

No	ITEM	RISK IDENTIFICATION <i>(IDENTIFIKASI RESIKO)</i>	FREQUENCY <i>(FREKUENSI)</i>	IMPACT <i>(DAMPAK)</i>
			0 1 2 3 4	0 1 2 3 4
2.3	Fuel Tank <i>(Tangki BBM)</i>	Leakage on fuel tank occurs <i>(Terjadinya kebocoran pada tangki BBM)</i>	0 ✓ 0 0 0 0	0 0 0 0 ✓ 0
2.4	Admixture Storage <i>(Tempat Penyimpanan Admixture)</i>	Fuel volume are accomodated inappropriately <i>(Kesalahan dari volume BBM yang ditampung)</i>	✓ 0 0 0 0 0	0 ✓ 0 0 0 0
		Admixture defect occurs <i>(Terjadi kerusakan pada admixture)</i>	✓ 0 0 0 0 0	0 ✓ 0 0 0 0
		Insufficient admixture storage <i>(Tempat penyimpanan admixture yang tidak memadai)</i>	✓ 0 0 0 0 0	0 ✓ 0 0 0 0
3	Material Loss <i>(Kehilangan Material)</i>			
3.1	Cement <i>(Semen)</i>	Loss occurs at production process <i>(Terjadinya kehilangan pada saat proses produksi)</i>	0 ✓ 0 0 0 0	0 0 0 0 ✓ 0
		Loss occurs when cement is being poured into silo <i>(Terjadinya kehilangan akibat pemasukan semen ke silo)</i>	0 ✓ 0 0 0 0	0 ✓ 0 0 0 0
		Loss as a result of concrete refusal from project <i>(Kehilangan akibat penolakan beton dari proyek)</i>	0 ✓ 0 0 0 0	0 ✓ 0 0 0 0

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)	IMPACT (DAMPAK)
			0 1 2 3 4	0 1 2 3 4
4	Procurement Planning (Perencanaan Pengadaan Material)			
4.1	Material Procurement Method (Cara Pengadaan Material)	Error in material procurement (Terjadinya kesalahan dalam pengadaan material)	0 1 2 3 4	0 1 2 3 4
4.2	Connection with Supplier (Hubungan dengan Supplier)	Error in scheduling with supplier (Terjadinya kesalahan penjadwalan dengan supplier) Error in supplier selection (Kesalahan pemilihan supplier)	0 1 2 3 4	0 1 2 3 4
4.3	Material Survey (Survei Material)	Error in survey (Terjadi kesalahan dalam survei) Error in material quality that are ordered (Terjadi kesalahan mutu material yang diminta)	0 1 2 3 4	0 1 2 3 4

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No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)	IMPACT (DAMPAK)
			0 1 2 3 4	0 1 2 3 4
		MARKETING SECTOR		
1	Plant Environment Location (Lokasi Lingkungan Plant)			
1.1	Plant Location (Letak Plant)	Plant location that is far from supplier (<i>Letak plant yang jauh dari supplier</i>)	o	o
		Plant location doesn't support marketing (<i>Letak plant yang tidak mendukung pemasaran</i>)	o	o
1.2	Surroundings Environment Influence (Pengaruh Lingkungan Sekitar)	Community warning consequent of dust pollution (<i>Teguran masyarakat akibat polusi debu</i>)	o	o
		Community warning consequent of noisiness (<i>Teguran dari masyarakat akibat kebisingan</i>)	o	o
2	Marketing System (Sistem Pemasaran)			
2.1	Marketing Method (Cara Pemasaran)	Error occurs in promotion (<i>Terjadi kesalahan dalam promosi</i>)	o	o
		Thin market occurs (<i>Terjadi keadaan pasar yang sedang lesu</i>)	o	o
2.2	Market Segment (Pangsa Pasar)	Error in selecting market segment situation (<i>Kejadian kesalahan dalam memilih pangsa pasar</i>)	o	o
3	Mobility Licensing (Perijinan Mobilitas)	Risk as a result of time management of truck mobility (<i>Resiko akibat pengaturan waktu mobilitas truk</i>)	o	o
		Far away travel distance situation (<i>Kejadian jarak tempuh yang terlalu jauh</i>)	o	o

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Thank you very much for your participation.

Company Name	: PT JAYA READYMIX .
Company Address	: Jl. RINGROAD SELATAN, DS WIROKERTEN . BANTUL . YK .
Established Since	: 2004 .
Name (who fills this questionnaire)	: HIMAWAN JATI SAPUTRO .
Job Position	: PRODUKSI .
Date (of questionnaire filling)	: 12 DESEMBER 2009

2. Questionnaire

At pages followed, there are tables which include columns, which are:

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1 = Very rarely jarang agak sering

2 = Seldom jarang agak peruch -

3 = Often sering

4 = Very often

The Fifth column is a severity (*tingkat dampak / kerugian yang ditimbulkan*) column. You can give mark (✓) off the corresponding circle, which those numbers refer to:

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			0 1 2 3 4	0 1 2 3 4
3	Material Using Accuracy (Ketepatan Penggunaan Material)			
3.1	Material Using (Penggunaan Material)	Admixture using error occurs (Terjadinya kesalahan dalam penggunaan admixture) Raw material using error (Terjadinya kesalahan dalam penggunaan bahan baku) Risk that happens as a result of testing error (Resiko yang terjadi akibat kesalahan pengtesan)	O O O O O O O O O O O O O O O O O O O O	O O O O O O O O O O O O O O O O O O O O
3.2	Testing Error (Kesalahan Pengetesan)	Risk that happens as a result of testing error (Resiko yang terjadi akibat kesalahan pengtesan)	O O O O O	O O O O O
4	Production Process System (Sistem Proses Produksi)	Loss risk as a result of production process that is used (Resiko kerugian dari proses produksi yang digunakan)	O O O O O	O O O O O
5	Weather Problems (Permasalahan Cuaca)			
5.1	Rainy Season (Musim Hujan)	Moisture degree error occurs as a result of raining (Terjadinya kesalahan kadar air pada beton akibat adanya hujan)	O O O O O	O O O O O
5.2	Drought Season (Musim Kemarau)	Moisture degree error occurs as a result of hot weather (Terjadinya kesalahan kadar air pada beton akibat cuaca yang panas)	O O O O O	O O O O O
6	Unforeseen Disaster (Bencana Tak terduga)			
6.1	Flood (Banjir)	The mixer truck is stall as a result of flood (Kejadian mogoknya truk mixer akibat banjir)	O O O O O	O O O O O
		Plant operational activity is disturbed as a result of flood (Terganggunya kegiatan operasional plant)	O O O O O	O O O O O
6.2	Fire (Kebakaran)	Plant operational activity is disturbed as a result of fire (Terganggunya kegiatan operasional plant akibat kebakaran)	O O O O O	O O O O O

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No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)							
			0	1	2	3	4	0	1	2	3	4		
2.3	Fuel Tank (Tangki BBM)	Leakage on fuel tank occurs (Terjadinya kebocoran pada tangki BBM) Fuel volume are accomodated inappropriately (Kesalahan dari volume BBM yang ditampung)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2.4	Admixture Storage (Tempat Penyimpanan Admixture)	Admixture defect occurs (Terjadi kerusakan pada admixture) Insufficient admixture storage (Tempat penyimpanan admixture yang tidak memadai)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3	Material Loss (Kehilangan Material)													
3.1	Cement (Semen)	Loss occurs at production process (Terjadinya kehilangan pada saat proses produksi) Loss occurs when cement is being poured into silo (Terjadinya kehilangan akibat pemasukan semen ke silo) Loss as a result of concrete refusal from project (Kehilangan akibat penolakan beton dari proyek)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

[illegible]

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)						
			0	1	2	3	4	0	1	2	3	4	
4	Procurement Planning (Perencanaan Pengadaan Material)												
4.1	Material Procurement Method (Cara Pengadaan Material)	Error in material procurement (Terjadinya kesalahan dalam pengadaan material)	<input checked="" type="checkbox"/>	0	0	0	0	0	0	0	<input checked="" type="checkbox"/>	0	0
4.2	Connection with Supplier (Hubungan dengan Supplier)	Error in scheduling with supplier (Terjadinya kesalahan penjadwalan dengan supplier)	0	0	<input checked="" type="checkbox"/>	0	0	0	0	0	<input checked="" type="checkbox"/>	0	0
		Error in supplier selection (Kesalahan pemilihan supplier)	<input checked="" type="checkbox"/>	0	0	0	0	0	0	0	0	<input checked="" type="checkbox"/>	0
4.3	Material Survey (Survei Material)	Error in survey (Terjadi kesalahan dalam survei)	0	0	<input checked="" type="checkbox"/>	0	0	0	0	0	0	<input checked="" type="checkbox"/>	0
		Error in material quality that are ordered (Terjadi kesalahan mutu material yang diminta)	0	0	<input checked="" type="checkbox"/>	0	0	0	0	0	0	<input checked="" type="checkbox"/>	0

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)	IMPACT (DAMPAK)
			0 1 2 3 4	0 1 2 3 4
		FINANCIAL SECTOR		
1	Contract Type (Jenis Kontrak)			
1.1	Contract Error (Kesalahan Kontrak)	Error of concrete amount on contract <i>(Adanya kesalahan jumlah beton yang tertera dalam kontrak)</i> Error of concrete quality on contract <i>(Adanya kesalahan mutu yang tertera dalam kontrak)</i> Error of slump on contract <i>(Adanya kesalahan slump yang tertera dalam kontrak)</i> Error of price on contract <i>(Adanya kesalahan harga yang tertera dalam kontrak)</i> Failure occurs as a result of contractor bankruptcy <i>(Terjadinya kegagalan akibat bangkrutnya kontraktor)</i> Risk of payment postponement <i>(Resiko terjadinya penundaan pembayaran)</i>	0 0	0 0
1.2	Payment Failure (Kegagalan Pembayaran)			
2	Capital (Modal)	Error in capital allocation <i>(Terjadinya kesalahan alokasi modal)</i> Error in cost controlling <i>(Terjadinya kesalahan dalam pengontrolan biaya)</i> Error in goods purchasing system <i>(Terjadinya kesalahan dalam sistem pembelian barang)</i>	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

No	ITEM	RISK IDENTIFICATION <i>(IDENTIFIKASI RESIKO)</i>	FREQUENCY <i>(FREKUENSI)</i>	IMPACT <i>(DAMPAK)</i>
			0 1 2 3 4	0 1 2 3 4
3	Monetary <i>(Moneter)</i>	<p>Risk as a result of increasing fuel price <i>(Resiko yang terjadi akibat kenaikan harga BBM)</i></p> <p>Risk as a result of increasing raw material price <i>(Resiko yang terjadi akibat kenaikan harga bahan baku)</i></p> <p>Risk as a result of foreign currency change <i>(Resiko yang terjadi akibat perubahan kurs mata uang asing)</i></p> <p><i>(Terjadi kesalahan kebijaksanaan harga berkaitan dengan sistem pembayaran)</i></p>	<p>0 0 <input checked="" type="radio"/> 0 0</p> <p>0 0 <input checked="" type="radio"/> 0 0</p> <p>0 0 <input checked="" type="radio"/> 0 0</p> <p><input checked="" type="radio"/> 0 0 0 0 0</p>	<p>0 0 0 0 0</p> <p>0 0 0 0 0</p> <p>0 0 0 0 0</p> <p>0 0 0 0 0</p>
4	Price Policy <i>(Kebijaksanaan Harga)</i>	<p>Price policy error occurs related to travel distance <i>(Terjadi kesalahan kebijaksanaan harga berkaitan dengan jarak tempuh)</i></p>	<p><input checked="" type="radio"/> 0 0 0 0 0</p>	<p>0 0 0 0 0</p>

[illegible]

No	ITEM	RISK IDENTIFICATION <i>(IDENTIFIKASI RESIKO)</i>	FREQUENCY <i>(FREKUENSI)</i>	IMPACT <i>(DAMPAK)</i>
			0 1 2 3 4	0 1 2 3 4
4	Project Environment Location (Lokasi Lingkungan Proyek)	Shipping failure because of indistinct project location (<i>Kegagalan pengiriman ke proyek akibat lokasi proyek kurang jelas</i>)	O ✓ O O O	O O O O O
		Shipping failure because of the road is hard to be passed through (<i>Kegagalan pengiriman ke proyek akibat jalan yang sulit dilalui</i>)	O ✓ O O O	O O O O O
		Mixer truck cannot penetrate into project since it is too small (<i>Keadaan proyek kecil yang tidak mungkin dimasuki truk mixer</i>)	O ✓ O O O	O O O O O
		Error occurs at location survey (<i>Terjadi kesalahan pada saat survei lokasi</i>)	O ✓ O O O	O O O O O

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1. Introduction

I am a student of Civil Engineering Department - University of Atma Jaya Yogyakarta, which is doing a thesis about risk management at ready mix concrete company. Hopefully through this research, it could be obtained how far risk management is applied at ready mix concrete company. On that account, I am looking forward for your assist to fill the questionnaire below, since your answers are very important to this research.

Thank you very much for your participation.

Company Name	: PT. KARYA BETON
Company Address	: Jl. Jogja solo km. 12,5 Kalasan
Established Since	: 2003
Name (who fills this questionnaire)	: Parjito
Job Position	: Produksi
Date (of questionnaire filling)	: 15 NOVEMBER 2009

2. Questionnaire

At pages followed, there are tables which include columns, which are:

First column is for number.

Second column is for risk identification, consists of various types of risks we have already arranged.

Third column is for description, which gives more explanation about various types of risks on previous column.

The Fourth column is a frequency (*tingkat keseringan*) column. You can give mark (✓) off the corresponding circle, which those numbers refer to:

0 = Never happened

1 = Very rarely

2 = Seldom

3 = Often

4 = Very often

The Fifth column is a severity (*tingkat dampak / kerugian yang ditimbulkan*) column. You can give mark (✓) off the corresponding circle, which those numbers refer to:

0 = It doesn't have any impact

1 = Very small impact

2 = Small Impact

3 = Big impact

4 = Very big / huge impact

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)								
			0	1	2	3	4	0	1	2	3	4			
		PRODUCTION SECTOR (BIDANG PRODUKSI)													
1	Means and Facility Complement (Sarana dan Pelengkap Fasilitas)														
1.1	Mixer Truck (Truk Pengaduk)	Truck selection error (Kesalahan pemilihan truk)	0	✓	0	0	0	0	0	0	0	0	✓	0	0
		Truck amount allocation error (Kesalahan pengalokasian jumlah truk)	0	✓	0	0	0	0	0	0	0	0	0	✓	0
		Time losing as a result of no spare part stocked in plant (Kehilangan waktu akibat tidak adanya stok spare part di plant)	0	✓	0	0	0	0	0	0	0	0	0	0	✓
		Tire damage occurs (Terjadinya kerusakan pada ban)	0	0	✓	0	0	0	0	0	0	0	0	0	✓
		Leakage on mixer occurs (Terjadinya kebocoran pada mixer)	✓	0	0	0	0	0	0	0	0	0	0	0	✓
		Mixer truck accident in travelling (Kecelakaan di perjalanan pada truk mixer)	0	✓	0	0	0	0	0	0	0	0	0	0	✓
1.2	Loader	Loader brand selection error (Kesalahan dalam pemilihan merk loader)	✓	0	0	0	0	0	0	0	0	0	✓	0	0
		Engine damage occurs (Terjadinya kerusakan mesin)	0	✓	0	0	0	0	0	0	0	0	0	0	✓

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)					
			0	1	2	3	4	0	1	2	3	4
1.3	Batching Plant											
1.3.1	Hopper	Leakage on hopper occurs (Terjadinya kebocoran pada hopper)	0	0	✓	0	0	0	0	0	0	0
		Engine damage occurs (Terjadinya kerusakan mesin)	0	✓	0	0	0	0	0	0	0	0
1.3.2	Scaling Tool (Alat Penimbang)	Weight measuring tool damage occurs (Rusaknya pengukur berat pada alat penimbang)	0	0	✓	0	0	0	0	0	0	0
		Scales hanger is broken (Terjadinya patah pada gantungan timbangan)	0	✓	0	0	0	0	0	0	0	0
1.3.3	Conveyor Belt	Engine damage occurs (Terjadinya kerusakan mesin)	0	0	✓	0	0	0	0	0	0	0
		The belt is torn / broken off (Kejadian sobek / putusnya pita)	0	0	✓	0	0	0	0	0	0	0
2	Work Planning and Scheduling (Perencanaan dan Penjadwalan Pekerjaan)											
2.1	Schedule Management (Pengaturan Jadwal)	Material procurement planning error (Kesalahan dalam perencanaan pendatangan material)	✓	0	0	0	0	0	0	0	0	0
		Error in order planning (Kesalahan dalam perencanaan pemesanan)	✓	0	0	0	0	0	0	0	0	0
2.2	Project Postponement (Penundaan dari Proyek)	Project schedule postponement situation (Adanya penundaan jadwal dari proyek)	0	0	✓	0	0	0	0	0	0	0

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)					IMPACT (DAMPAK)					
			0	1	2	3	4	0	1	2	3	4	
3	Material Using Accuracy (Ketepatan Penggunaan Material)												
3.1	Material Using (Penggunaan Material)	Admixture using error occurs (Terjadinya kesalahan dalam penggunaan admixture) Raw material using error (Terjadinya kesalahan dalam penggunaan bahan baku) Risk that happens as a result of testing error (Resiko yang terjadi akibat kesalahan pengtesan)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.2	Testing Error (Kesalahan Pengetesan)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Production Process System (Sistem Proses Produksi)	Loss risk as a result of production process that is used (Resiko kerugian dari proses produksi yang digunakan)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5	Weather Problems (Permasalahan Cuaca)												
5.1	Rainy Season (Musim Hujan)	Moisture degree error occurs as a result of raining (Terjadinya kesalahan kadar air pada beton akibat adanya hujan)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.2	Drought Season (Musim Kemarau)	Moisture degree error occurs as a result of hot weather (Terjadinya kesalahan kadar air pada beton akibat cuaca yang panas)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Unforeseen Disaster (Bencana Tak terduga)												
6.1	Flood (Banjir)	The mixer truck is stall as a result of flood (Kejadian mogoknya truk mixer akibat banjir) Plant operational activity is disturbed as a result of flood (Terganggunya kegiatan operasional plant)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.2	Fire (Kebakaran)	Plant operational activity is disturbed as a result of fire (Terganggunya kegiatan operasional plant akibat kebakaran)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI) 0 1 2 3 4	IMPACT (DAMPAK) 0 1 2 3 4
		LOGISTIC SECTOR (BIDANG LOGISTIK)		
1	Material Using Cycle (Siklus Pemakaian Material)	Out of material stock occurs <i>(Terjadinya kehabisan stok material)</i> Location allocation error for material arrived occurs <i>(Terjadinya kesalahan pengalokasian tempat untuk kedatangan material)</i> Material using cycle error occurs <i>(Terjadinya kesalahan dalam perputaran penggunaan material)</i>	✓ ○ ○ ○ ○	○ ○ ○ ○ ○
2	Raw Material Storage (Penyimpanan Bahan Baku)			
2.1	Water Resistant Silo (Silo Kedap Air)	Leakage on silo occurs <i>(Terjadinya kebocoran pada silo)</i> Silo amount allocation error occurs <i>(Terjadinya kesalahan dalam pengalokasian jumlah silo)</i>	✓ ○ ○	○ ○ ○
2.2	Water Tank (Tangki Air)	Leakage on water tank occurs <i>(Terjadinya kebocoran pada tangki air)</i> Inappropriate water that are used <i>(Terjadinya kesalahan pada air yang digunakan)</i> Water volume are accommodated inappropriately <i>(Kesalahan dari volume air yang ditampung)</i>	✓ ○ ○ ○ ○	○ ○ ○ ○ ○

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)	IMPACT (DAMPAK)
			0 1 2 3 4	0 1 2 3 4
2.3	Fuel Tank (Tangki BBM)	Leakage on fuel tank occurs (Terjadinya kebocoran pada tangki BBM) Fuel volume are accommodated inappropriately (Kesalahan dari volume BBM yang ditampung) Admixture defect occurs (Terjadi kerusakan pada admixture) Insufficient admixture storage (Tempat penyimpanan admixture yang tidak memadai)	✓ ✓ ✓ ✓ ✓	 ○ ○ ○ ○ ○
2.4	Admixture Storage (Tempat Penyimpanan Admixture)			
3	Material Loss (Kehilangan Material)			
3.1	Cement (Semen)	Loss occurs at production process (Terjadinya kehilangan pada saat proses produksi) Loss occurs when cement is being poured into silo (Terjadinya kehilangan akibat pemasukan semen ke silo) Loss as a result of concrete refusal from project (Kehilangan akibat penolakan beton dari proyek)	✓ ○ ○ ○	 ○ ○ ○ ○

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)						
			0	1	2	3	4	0	1	2	3	4	
3.2	Sand (Pasir)	Loss occurs as a result of raining (Terjadinya kehilangan akibat terjadinya hujan)	0	✓	0	0	0	0	0	0	0	0	0
		Loss occurs as a result of wheel running over (Terjadinya kehilangan akibat lindasan roda)	0	✓	0	0	0	0	0	0	0	0	0
		Loss occurs as a result of equipment using (Terjadinya kehilangan akibat penggunaan alat)	0	✓	0	0	0	0	0	0	0	0	0
		Loss occurs at production process (Terjadinya kehilangan pada saat proses produksi)	0	✓	0	0	0	0	0	0	0	0	0
		Loss as a result of concrete refusal from project (Kehilangan akibat penolakan beton dari proyek)	0	✓	0	0	0	0	0	0	0	0	0
3.3	Gravel (Kerikil)	Loss occurs as a result of raining (Terjadinya kehilangan akibat terjadinya hujan)	0	✓	0	0	0	0	0	0	0	0	0
		Loss occurs as a result of wheel running over (Terjadinya kehilangan akibat lindasan roda)	0	✓	0	0	0	0	0	0	0	0	0
		Loss occurs as a result of equipment using (Terjadinya kehilangan akibat penggunaan alat)	0	✓	0	0	0	0	0	0	0	0	0
		Loss occurs at production process (Terjadinya kehilangan pada saat proses produksi)	0	✓	0	0	0	0	0	0	0	0	0
		Loss as a result of concrete refusal from project (Kehilangan akibat penolakan beton dari proyek)	0	✓	0	0	0	0	0	0	0	0	0
3.4	Admixture	Loss as a result of concrete refusal from project (Kehilangan akibat penolakan beton dari proyek)	0	✓	0	0	0	0	0	0	0	0	0

No	ITEM	RISK IDENTIFICATION <i>(IDENTIFIKASI RESIKO)</i>	FREQUENCY <i>(FREKUENSI)</i>	IMPACT <i>(DAMPAK)</i>
			0 1 2 3 4	0 1 2 3 4
4	Procurement Planning <i>(Perencanaan Pengadaan Material)</i>			
4.1	Material Procurement Method <i>((Cara Pengadaan Material))</i>	Error in material procurement <i>(Terjadinya kesalahan dalam pengadaan material)</i>	✓ 0 0 0 0	✓ 0 0 0 0
4.2	Connection with Supplier <i>(Hubungan dengan Supplier)</i>	Error in scheduling with supplier <i>(Terjadinya kesalahan penjadwalan dengan supplier)</i>	✓ 0 0 0 0	✓ 0 0 0 0
		Error in supplier selection <i>(Kesalahan pemilihan supplier)</i>	0 ✓ 0 0 0	0 ✓ 0 0 0
4.3	Material Survey <i>(Survei Material)</i>	Error in survey <i>(Terjadi kesalahan dalam survei)</i>	0 ✓ 0 0 0	0 ✓ 0 0 0
		Error in material quality that are ordered <i>(Terjadi kesalahan mutu material yang diminta)</i>	0 ✓ 0 0 0	0 ✓ 0 0 0

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)						
			0	1	2	3	4	0	1	2	3	4	
		FINANCIAL SECTOR											
1	Contract Type (Jenis Kontrak)												
1.1	Contract Error (Kesalahan Kontrak)	Error of concrete amount on contract (Adanya kesalahan jumlah beton yang tertera dalam kontrak)	✓	0	0	0	0	0	0	0	0	0	✓
		Error of concrete quality on contract (Adanya kesalahan mutu yang tertera dalam kontrak)	0	0	✓	0	0	0	0	0	0	0	0
		Error of slump on contract (Adanya kesalahan slump yang tertera dalam kontrak)	0	0	✓	0	0	0	0	0	0	0	0
		Error of price on contract (Adanya kesalahan harga yang tertera dalam kontrak)	✓	0	0	0	0	0	0	0	0	0	✓
1.2	Payment Failure (Kegagalan Pembayaran)	Failure occurs as a result of contractor bankruptcy (Terjadinya kegagalan akibat bangkrutnya kontraktor)	0	0	0	✓	0	0	0	0	0	0	0
		Risk of payment postponement (Resiko terjadinya penundaan pembayaran)	0	0	0	✓	0	0	0	0	0	0	0
2	Capital (Modal)	Error in capital allocation (Terjadinya kesalahan alokasi modal)	✓	0	0	0	0	0	0	0	0	0	0
		Error in cost controlling (Terjadinya kesalahan dalam pengontrolan biaya)	✓	0	0	0	0	0	0	0	0	0	0
		Error in goods purchasing system (Terjadinya kesalahan dalam sistem pembelian barang)	0	✓	0	0	0	0	0	0	0	0	0

No	ITEM	RISK IDENTIFICATION (IDENTIFIKASI RESIKO)	FREQUENCY (FREKUENSI)				IMPACT (DAMPAK)				
			0	1	2	3	4	0	1	2	3
	MARKETING SECTOR										
1	Plant Environment Location (Lokasi Lingkungan Plant)										
1.1	Plant Location (Letak Plant)	Plant location that is far from supplier (Letak plant yang jauh dari supplier)	✓	0	0	0	0	0	0	0	0
		Plant location doesn't support marketing (Letak plant yang tidak mendukung pemasaran)	✓	0	0	0	0	0	0	0	0
1.2	Surroundings Environment Influence (Pengaruh Lingkungan Sekitar)	Community warning consequent of dust pollution (Teguran masyarakat akibat polusi debu)	✓	0	0	0	0	0	0	0	0
		Community warning consequent of noisiness (Teguran dari masyarakat akibat kebisingan)	✓	0	0	0	0	0	0	0	0
2	Marketing System (Sistem Pemasaran)										
2.1	Marketing Method (Cara Pemasaran)	Error occurs in promotion (Terjadi kesalahan dalam promosi)	✓	0	0	0	0	0	0	0	0
		Thin market occurs (Terjadi keadaan pasar yang sedang lesu)	0	✓	0	0	0	0	0	0	0
2.2	Market Segment (Pangsa Pasar)	Error in selecting market segment situation (Kejadian kesalahan dalam memilih pangsa pasar)	0	✓	0	0	0	0	0	0	0
3	Mobility Licensing (Perijinan Mobilitas)	Risk as a result of time management of truck mobility (Resiko akibat pengaturan waktu mobilitas truk)	0	✓	0	0	0	0	0	0	0
		Far away travel distance situation (Kejadian jarak tempuh yang terlalu jauh)	0	✓	0	0	0	0	0	0	0

