6.2 Recommendations

So to achieve the objectives of proper implementation and proper practice of IS Auditing in the Insurance industry following two guidelines have to be established.

1) A general guideline to implement Information Systems Auditing in an Insurance Organization in Sri Lanka

- a) Responsibility, Authority and Accountability of the IS Auditor has to be decided by the CEO or the Audit Committee or both of the insurance organization.
- b) In all matters related to IS Auditing the IS Auditor has to be independent form the audited from attitude and appearance in insurance organizations
- c) The IS Audit function has to be sufficiently independent from the area being audited to achieve it's audit objectives in insurance organizations
- d) All the IS Auditors in insurance organizations have to adhere to the code of professional ethics published by ISACA (USA) and should give due professional care for all his IS Audit assignments in insurance organizations
- e) IS Auditor in an insurance organization should be Competent, Skilful and Knowledgeable to handle IS Audit assignments relevant to the insurance organization and should always engage in continuous professional education
- f) It is the sole responsibility and the duty of the IS Auditor in an insurance organization to audit and report on areas mentioned in The general guideline to practice Information Systems Auditing in an Insurance Organization in Sri Lanka" which is given in the following recommendation in addition to assignments handover by the management of the insurance organization in time to time
- g) Please refer the Standards published by the Information Systems Audit and Control Association of USA (ISACA) for further reference.

2) A general guideline to practice Information Systems Auditing in an Insurance Organization in Sri Lanka

It is the sole responsibility and the duty of the IS Auditor to audit and report on areas mentioned in "The general guideline to practice Information Systems Auditing in an Insurance Organization in Sri Lanka" in addition to assignments handover by the management of the organization in time to time

- a) Organization and Management Policies
- b) Segregation of duties in the IT function
- c) Logical Access Controls to IT resources
- d) Physical Access Controls to IT resources
- e) System Development Controls and Change Controls
- f) Business continuity
- g) Computer Operations
- h) User Management
- i) Communication
- j) System Soft Ware

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- k) Database
- 1) End User Computing
- m) Application Systems

Appendix A

A.1 An IT Level Evaluation questionnaire for Insurance Organizations in Sri Lanka

A Questionnaire to evaluate the existing Information Technology Level of Sri Lankan Insurance Organisations in order to identify the relevance of IS Auditing to the sector.

Target group: CIO's/IT Managers/IT staff in Sri Lankan Insurance Companies

I am a postgraduate student of Moratuwa University, engaged in a research study on "IT Readiness of Insurance Organisations in Sri Lanka for Information Systems Auditing" as a partial fulfillment of the Master of Business Administration (MBA in IT) degree program.

This questionnaire has been prepared to evaluate the existing Information Technology level of Sri Lankan Insurance Organisations, in order to identify the relevance of IS Auditing to the sector. You are kindly requested to answer all the relevant questions. The questions are of general nature and may not entail confidential information. However, you have the choice of not responding to any question, which you may consider that it contains confidential information.

The purpose of this research study is purely academic and will have no bearing on any originations or persons. Your response and the name of the organization will be kept strictly confidential.

Thank you,

P. U. C. Pathinagoda (MBA in IT 2003/2005)
Name of the Company

1. General Information of the organization (Please select the appropriate answer)

1.1 Category of the insurance:

Life Insurance	
General Insurance	
Both	

1.2 No of years in business

More than 2 years		
More than 5 years		
More than 10 years		
More than 20 years		

2. Internal IT level of the organization

2.1 Who is/are taking information technology decisions in your organization (Please select the appropriate answer)

IT Committee (Including CE	O & CIO)	A
CEO & CIO	Electronic Theses & Dissertations	В
Chief Executive Officer (CE	O) www.lib.mrt.ac.lk	C
Chief Information Officer (C	IO)	D
Any Other (Please specify)		E

2.2 Do you have separate department for handling & managing IT operations

Yes	Α
No	Е

If "Yes",

2.2.1 No of staff members in IT department (Including executives & operational staff)

More than 40 people	A
More than 20 people	В
More than 10 people	С
More than 5 people	D
Less than 5 people	Е

2.2.2 What are the different divisions within the IT department

1	Information Systems	
2	Data Processing	
3	Networking & Communication	
4	Information Systems Audit	
5	Any Other (Please Specify)	

(1,2,3,4) - A / (1,2,3) - B / (1,2) - C / Any One D / None E In above case select your choice A, B, C, D or E

Please Note:

A-Always true B-Frequently true C-Sometimes true D- Rarely true E-Never true

Our IT department:

2.2.2	Internally develops information systems/software for company usage	ABCDE
2.2.3	Buys third party systems/software and customize them	ABCDE
2.2.4	Outsource some of processes/activities of the company	ABCDE
2.2.5	Follows Standard procedures & practices to manage and maintain our systems	ABCDE
2.2.6	Our technical and management expertise is enough to satisfy company IT requirements	ABCDE
2.2.7	There is a sufficient linkage between IT department and the business departments	ABCDE
2.2.8	IT department is often seen as a completely separate entity	ABCDE

If "No",

2.2.9 Who is handling IT operations in your organization

Outside IT company	E
Outsource all IT operations	E
Any other (Please specify)	E

2.3 Please access the situation in your organization in terms of following statements. Indicate how far the situation described by each statement is true according to your organization. (Please encircle the most relevant answer).

Please Note:

A-Always true B-Frequently true C-Sometimes true D- Rarely true E-Never true

In our organization:

Process	Process planning & Support				
2.3.1	IT streamlines business processes	ABCDE			
2.3.2	IT strengthens strategic planning	ABCDE			
2.3.3	IT improves management decision-making	ABCDE			
2.3.4	IT improves internal communication & coordination	ABCDE			
2.3.5	IT enables our company to adopt new organizational structures	ABCDE			
Operat	ions Support				
2.3.6	IT enhances operating flexibility	ABCDE			
2.3.7	IT improves productivity of staff	ABCDE			
2.3.8	IT enhances utilization of equipment	ABCDE			
2.3.9	IT enhances cooperation among co-workers	ABCDE			
2.3.10	IT enhances value of the insurance products by embedding IT in them	ABCDE			
2.3.11	IT decreases cost of designing new products	ABCDE			
2.3.12	IT enhances product quality	ABCDE			
Sales &	Marketing www.lib.mrl.ac.lk				
2.3.13	IT enables the identification of the trends in insurance market	ABCDE			
2.3.14	IT improves accuracy of sales forecasts	ABCDE			
2.3.15	IT increases ability to anticipate customer needs	ABCDE			
2.3.16	IT enables sales agents to increase sales per customer	ABCDE			
2.3.17	IT improves promotional strategies by providing effective ways to reach	ABCDE			
	customers				

	Total	
Α		
В		
C		
D		
Е		

Internal IT Level of the organization - -----

128

3. Networking & Communication

3.1 Does your organization has branches

Yes	
No	E

If "Yes"

3.2 How many branches in,

Colombo city	
Major cities	
Remote areas	
Overseas	

3.3 Interconnectivity of the branches and head office

All branches are interconnected online	A
Only branches which are in major cities are connected with head office	В
Any other (Please specify) – Connectivity available	C
No connectivity with head office	D

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3.4 Method of connectivity

Leased Line connection		
Dial up connection		
Satellite connection		
Radio Link		
Any other (Please specify)		

3.5 The type of the system you have with your branches

Total integrated solution	A
Centralized system	В
Mixed solution	С
Decentralized system	D
Any other (Please specify)	Е

3.6 Networking & Communication facilities available in branch level

1	Internet facility
2	E-mail facility
3	Intranet access
4	Telephone
5	Fax
6	Mail

1,2,3,4,5,6-A, 1,2,3,4-B, 2,3,4-C, 2,4-D, Anything Else - E In above case select your choice A, B, C, D or E

If 'No'

3.7 What is your idea about online connectivity with branches

That is very important for the success of the company & near future we will be	
connected online.	
That is very important for the success of the company & delay due to financial	
Considerations.	
That is not important for our business success & we can give good service without online connectivity	
Any other (please specify)	
Titly other (prease specify)	

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	Total	
A		
В		
С		
D		
Е		

Networking and the Communication Level of the organization - -----

4. Customer Relations & Information Technology

4.1 Do you have a company web site

Yes	A
No	Е

If 'Yes'

4.2 Who has developed & maintained the web site

Company IT department	A
Combination of above two	В
Outside IT company	 C

4.3 When did you build your web site?

On or before 1995	A
1996 - 2000	В
2001-2003	C
After 2003	D

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4.4 What are the basic contents of your web site

1	Company general information	
2	Available product information	
3	User help with FAQ option	
4	Policy information with payment history	
5	Claims information	
6	Any other (please specify)	

1,2,3,4,5 or more $-\mathbf{A}$, 1,2,3,5 $-\mathbf{B}$, 1,2,3 $-\mathbf{C}$, Anything Else $-\mathbf{D}$ In above case select your choice A, B, C, or D

4.5 How interactive is your web site

Dynamic	A	
Frequently updated	В	
Static	C	
No idea	D	

4.6 Is it possible to do an online need analysis with your web site

Yes	A
No	С

4.7 Can customer get a real-time quote from your web site

Yes	 A
No	C

4.8 What are the other services do you provide for policyholders through company web site

1	On-line policy application	
2	Online payments & account access	
3	Online Agent referrals	
4	Electronic claim processing	
5	Any other (please specify)	

1,2,3,4 or more $-\mathbf{A}$, 1,2,3 $-\mathbf{B}$, 1,2 $-\mathbf{C}$, Anything Else $-\mathbf{D}$ In above case select your choice A, B, C, or D



4.9 How does your company handle customer inquires & complains

1	Through call center	
2	Through the web site	
3	Through branch level customer service executives	<u>-</u>
4	Through sales agents	
5	By post	
6	Any other methods (please specify)	

1,2,3,4 or more $-\mathbf{A}$, 1,2,3 $-\mathbf{B}$, 1,2 $-\mathbf{C}$, Anything Else $-\mathbf{D}$ In above case select your choice A, B, C, or D

4.10 Does your organization provide any mobile commerce applications (M-Commerce) for your policyholders

	Yes	 A
Į	No	C

If 'Yes'

4.11 what are these services

WAP services	
SMS	
Palm device applications	
Any other (please specify)	

Any $2 - \mathbf{A}$,

Any $1 - \mathbf{B}$

In above case select your choice A or B

If "No"

4.12 What is your idea about providing M-Commerce applications to Policyholders?

We are experimenting on it & implement near future	
That is not important as our customer base so little for M-Commerce applications	
That is important but investment is unaffordable	
Any other (Please specify)	

	Total
Α	University of Moratuwa, Sri Lank
В	Electronic Theses & Dissertations
С	www.lib.mrt.ac.lk
D	
E	

IT Level in handling Customer relationship of the organization - -----

5. Business-to-Business Transactions & Information Technology

5.1 Do you provide any insurance products or services with other non-insurance companies

Yes	 A
No	Е



5.2 If "Yes" what is your idea about integrated insurance products/services

They are profitable than providing company itself	
Company can not provide itself without integration	
This is the best way to face competition	
Any other (Please specify)	

5.3 How does your company transact with business partners

Through EDI (Electronic Data Interchange)		
Through Internet based EDI		
Telephone & Fax		
Through E-mail	 	
Any other (Please specify)		

4 or more methods – A, 3 methods – B, 2 methods – C, One method – D In above case select your choice A, B, C, or D

	Total		
A			
В	10	Univer	sity of M
С			nic These
D	88	www.l	ib.mrt.ac.
E			

IT Level in handling B2B relationship of the organization - -----

6. IT Infrastructure & Investment

Please access the situation in your organization in terms of following statements. Indicate how far the situation described by each statement is true according to your organization. (Please encircle the most relevant answer).

Please Note:

A-Always true B-Frequently true C-Sometimes true D-Rarely true E-Never true

6.1	Our insurance company uses modern hardware and software tools	ABCDE
6.2	We migrate to new technologies although current applications and tools can	
	cater our company requirements	ABCDE
6.3	We use more sophisticated IT systems and tools than our competitive	
	insurance companies	ABCDE
6.4	We follow modern technologies used by world leading insurance companies	ABCDE
6.5	Our organization possesses specialized software which are not still available	
,	to other organizations	ABCDE
6.6	Our organization possesses specialized hardware which are not still	
	available to other organizations	ABCDE
6.7	The amount we invest in IT is increasing annually	ABCDE

	Total
A	University of Moratuwa, Sri Lanka Electronic Theses & Dissertations
В	www.lib.mrt.ac.lk
С	
D	
Е	

Assessment of IT infrastructure and IT investment of the organization - -----

- 7. In overall what's your grading for the Level of IT in your organization? (Hint Please consider individual grading for Sections 2,3,4,5 & 6)
- A Very High
- B Moderately High
- C Reasonable
- **D** Moderately Low
- E Very Low

A.2 An IS Audit Level Evaluation questionnaire for Insurance Organizations in Sri Lanka

A Questionnaire to evaluate the existing Information Systems Audit Level of Sri Lankan Insurance Organizations in order to identify the relevance of IS Auditing to the sector.

Target group: CIO's/ISA Managers/ISA staff/Internal Audit Managers/Internal Audit staff in Sri Lankan Insurance Companies

I am a postgraduate student of Moratuwa University, engaged in a research study on "IT Readiness of Insurance Organisations in Sri Lanka for Information Systems Auditing" as a partial fulfillment of the Master of Business Administration (MBA in IT) degree program.

This questionnaire has been prepared to evaluate the existing Information Systems Audit level of Sri Lankan Insurance Organisations, in order to identify the relevance of IS Auditing to the sector. You are kindly requested to answer all the relevant questions. The questions are of general nature and may not entail confidential information. However, you have the choice of not responding to any question, which you may consider that it contains confidential information.

The purpose of this research study is purely academic and will have no bearing on any originations or persons. Your response and the name of the organization will be kept strictly confidential.

Thank you,

P. U. C. Pathinagoda
(MBA in IT 2003/2005)

Name of the Company

1. General Information of the organization (Please select the appropriate answer)

1.1 Category of the insurance:

Life Insurance	
General Insurance	
Both	

1.2 No of years in business

More than 2 years	
More than 5 years	
More than 10 years	
More than 20 years	

2. Internal IS Audit level of the organization

2.1 Who is/are taking Information Systems Audit decisions in your organization (Please select the appropriate answer)

ISA Committee (Including CEO & CIO)	A
CEO & CIO Bectronic Theses & Dissertations	В
Chief Executive Officer (CEO) www.lib.mrt.ac.lk	С
Chief Information Officer (CIO)	D
Any Other (Please specify) or No one	Е

2.2 Do you have separate department for handling & managing IS Audit operations

Yes	A
No	D

If "Yes",

2.2.1 No of staff members in IS Audit department (Including executives & operational staff)

More than 10 people	A
More than 5 people	В
Less than 5 people	С

2.2.2 What is the capacity of the Head of the ISA department?

Senior Manager Grade	A
Middle Level Manager Grade	В
Below the Middle Level Manager Grade	С

2.2.3 To whom the ISA department is reporting in your organization?

To the Audit Committee	A
To the CEO / Director	В
To a senior Manager (Ex. DyGM, AGM)	C

Please Note:

A-Always true B-Frequently true C-Sometimes true D- Rarely true E-Never true

Our ISA or IT department:

2.2.4	Internally develops Information Systems Audit software for company usage	ABCDE
2.2.5	Bench mark IS Audit Standards, Procedures & Practices are followed by our ISA team	ABCDE
2.2.6	Our technical and management expertise is adequate to satisfy company ISA requirements	ABCDE
2.2.7	There is a sufficient linkage between ISA department and other business departments	A B C DE
2.2.8	ISA department is often seen as a completely separate entity	ABCDE

If "No",

2.2.9 Who is handling IS Audit operations in your organization

Internal Audit Department or an Outside consultancy firm	3	3D
No one	3	BE

2.3 Please access the situation in your organization in terms of following statements. Indicate how far the situation described by each statement is true according to your organization. (Please encircle the most relevant answer).

Please Note:

A-Always true B-Frequently true C-Sometimes true D- Rarely true E-Never true

In our organization:

Process planning & Support		
2.3.1	ISA streamlines business processes	ABCDE
2.3.2	ISA strengthens strategic planning	ABCDE
2.3.3	ISA improves management decision-making	ABCDE
Opera	tions Support	
2.3.4	ISA enhances quality of IT products and services	ABCDE
2.3.5	ISA improves productivity of IT staff	ABCDE
2.3.6	ISA enhances utilization of computer resources (H/W, S/W & L/W)	ABCDE
2.3.7	ISA decreases cost of designing new IT products	ABCDE
2.3.8	ISA enhances IT product quality	ABCDE

2.4 Technical Competence of IS Audit Staff in your organization

University of Moratuwa, Sri Lanka.

All of them have a Professional Qualification in ISA or an IT Qualification (At least a	A
higher level Diploma)	
Some of them have a Professional Qualification in ISA or an IT Qualification (At least	В
a higher level Diploma)	
None of them have a Professional Qualification in ISA or an IT Qualification (At least	C
a higher level Diploma)	

	Total
A	
В	
С	
D	
E	

Se villa

Internal IS Audit Level of the organization - -----

3. IS Audit Infrastructure & Investment

Please access the situation in your organization in terms of following statements. Indicate how far the situation described by each statement is true according to your organization. (Please encircle the most relevant answer).

Please Note:

A-Always true B-Frequently true C-Sometimes true D-Rarely true E-Never true

3.1	Our insurance company uses modern hardware and software tools for ISA	ABCDE
3.2	We migrate to new technologies although current applications and tools	
	can cater our company requirements	ABCDE
3.3	We use more sophisticated IS Audit systems and tools than our	
	competitive insurance companies	ABCDE
3.4	We follow modern technologies used by world leading insurance	ABCDE
	companies for IS Auditing	
3.5	Our organization possesses specialized software which are not still	,
	available to other organizations for IS Auditing	ABCDE
3.6	Our organization possesses specialized hardware which are not still	
	available to other organizations for ISA	ABCDE
3.7	The amount we invest in ISA is increasing annually	ABCDE

	Total	University of Moratuwa, Sri Lanka Electronic Theses & Dissertations
Α	8	www.lib.mrt.ac.lk
В		
C		
D		
E		

Assessment of ISA infrastructure and investment of the organization in IS Audit

4. Annual expenditure on IS Audit

4.1 According to your knowledge what is the annual percentage expenditure on ISA as a percentage of expenditure on IT in the same year?

20% - 25%	A
15% - 20%	В
10% - 15%	C
5% - 10%	D
Less than 5%	E

4.2 According your knowledge what is the annual percentage expenditure on ISA as percentage of total income of your organization in the same year

20% - 8%	A
8% - 6%	В
6% - 4%	C
4% - 2%	D
Less than 2%	E

	Total
A	
В	
C	
D	
E	

Assessment of annual expenditure on IS Audit of the organization -----

5. Frequency of IS Audit assignments carried out in your organization

Since we have a separate department to handle and manage ISA function, IS	A
Audit assignments have been carried out regularly (Every branch / department	
is audited at least once a year)	
Though we have a separate department to handle and manage ISA function, IS	В
Audit assignments have not been carried out regularly (Every branch and	
department is not audited at least once a year)	
Though we have a separate department to handle and manage ISA function, IS	C
Audit assignments never have been carried out for some branches /	
departments (Some branches / departments never have been audited since their	
inception)	
Though we don't have a separate department to handle and manage ISA	D
function, IS Audit assignments have been carried out for some branches /	
departments time to time by internal auditors or by an out side firm	
IS Audit assignments never have been carried out in our branches /	Е
departments	

	Total			
Α				
В				
C				
D			_	
E				

Assessment of the frequency of IS Audit assignments carried out in your organization -----

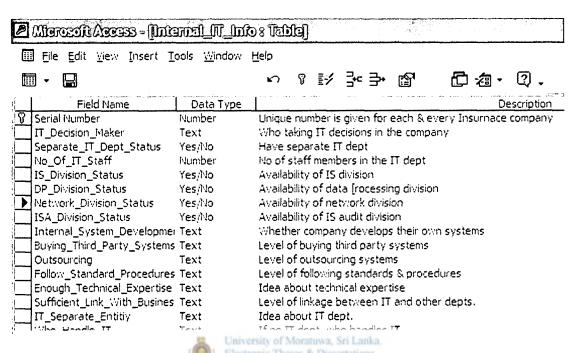
- 6. In overall what's your grading for the Level of IS auditing in your organization? (Hint Please consider individual grading for Sections 2,3,4 & 5)
- A Very High
- B Moderately High
- C Reasonable
- **D** Moderately Low
- E Very Low



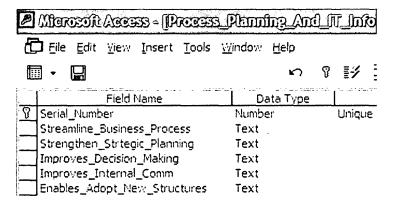
Appendix B

IT Level Assessment Information Tables

Internal IT level Information table



Process Planning & IT Information table



Operations Support & IT Information table

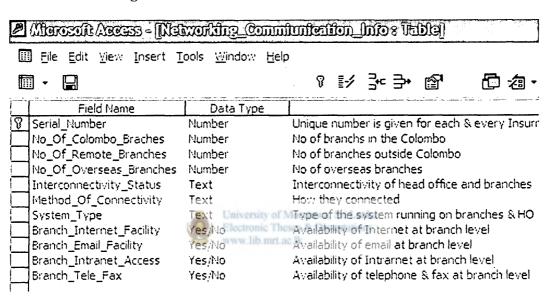
Field Name	Data Type
S Serial_Number	Number
Enahance_Flexibility	Text
Productvity_Of_Labour	Text
Equipment_Utilization	Text
Cooperation_Co_Workers	Text
Value_Of_Products	Text
Designing_Cost	Text
Enhance_Product_Quality	Text



Marketing & IT Information table

Markeing_And_IT_lotes Table				
	Field Name	Data Type		
P	Serial_iNumber	Number		
	Trend_Identification	Text		
	Sales_Forecasts	Text		
	Anticipate_Customer_Needs	Text ·		
	Increase_Sales	Text		
	Promotional_Strategies	Text		

Networking & Communication Information table



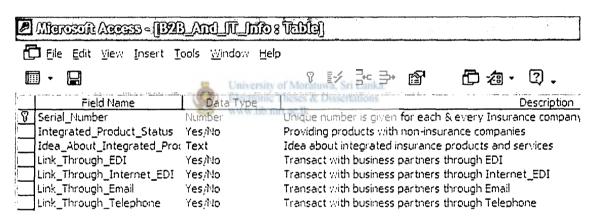
• Customer Relations Information table

8	Wjaiozofy Vse eze - [[gié	ිරාක <u>ැ</u> ල්ක්රීග	<u>a_jugo 8 gapjaj</u>	
C	File Edit View Insert Id	ools <u>W</u> indow <u>H</u> el	o .	
	· 🖫		『彩斗》 曾 日海、	
T	Field Name	Data Type	The state of the s	
8	Serial_Number	Number	Unique number is given for each & every Insur	
' [Call_Center_Status	Yes/No	Have a call center or not	
	Through_Web_Status	Yes/No	Provide service through website or not	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	Customer_Service_Executive	Yes/No	Provide service through executives or not	
	Through_Agent_Status	Yes/No	Provide service through agents or not	<u> </u>
	By_Post_Status	Yes/No	Provide service by post or not	
	M_Commerce_Status	Yes/No	Provide any m-commerce application or not	A CHOTTA
	WAP_Service_Status	Yes/No	Avaliability of WAP services	
.,	SMS_Status	Yes/No	Avaliability of SMS services	
	Idea_Of_Mcommerce	Text	Idea about M-commerce applications	

Website Information table

No. of Asses	Field Name	Data Type	and the second control of the second control
8	Serial_Number	Number	Unique number is given for each & every Insur
•	Developed_By	Text	Who has developed the website
	Maintained_By	Text	Who is maintaining the website
	Year_Started	Text	When website istarted
	General_Information_Status	Yes/No	Avaliability of general information of the Insur
	Product_Information_Status	Yes/No	Availability of product information
	FAQ_Option	Yes/No	Availability of FAQ option
	Policy_Information_Status	Yes/No	Availability of policy information and payment
	Claims_Information_Status	Yes/No	Availability of claims information
	Interactivity	Text	Static or Dynamic
	Online_Need_Analysis_Statu:	Yes/No	Possibility of online need analyis
	Online_Quotations_Status	Yes/No	Possibility of online quotations
	Online_Application_Status	Yes/No	Possibility of online application for policy
	Online_Claims_Processing	Yes/No	Ability of online claim processing
	Online_Payment_Status	Yes/No	Ability of online payments
	Colina Acont Deferente	Vacilla	Abilities of nation manner enforcements

• B2B Information table



• IT Future Investment table

	Field Name	Data Type	The second secon
8▶	Serial_Number	Number	Unique number is gi
	Modern_Hardware_Software	Text	
	Going_For_New_Technologie	Text	
	More_Sophisticated_IT	Text	
	Modern_Technologies	Text	
	Posses_Specialized_Software	Text	
	Posses_Specialized_Hardware	Text	
	Annual_IT_Investment	Text	

Appendix C

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