

Appendix E: Audit Questionnaire Results (data)

E.1 Data Analysis Calculations

The following calculations were made for each of the Tables E.2 to E.11:

1. Sum the results for each question and find the average. [Sum individual question rows, answer in average column]
2. Sum all the averages by sub-section and find the sub-section average. [Sum average column, answer in sectional average column]
3. Sum the sub section averages and find the section averages. [Sum sub-sectional averages and find section average]
4. Sum the section averages and find the organisational innovativeness average.

E.2 Tables E.2 to E.11

The audited organisations described in chapter six are illustrated by the following tables:

First Audit Table E.2 and E.3

Second Audit Table E.4 and E.5

Third Audit Table E.6 and E.7

Fourth Audit Table E.8 and E.9

Fifth Audit Table E.10 and E.11

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | QUESTION AVERAGES | | | |
|------------------|------------------------|----------------------------|--|----------------------|-------------------|-----------|------------------------|-----------------------|
| | | | | | Production | Marketing | R&D Project Management | Strategy / Technology |
| Electronics Org. | Environment | Technology | Dynamics of Technological Change | 2.85 | 3 | 3 | 4 | 3 |
| Electronics Org. | | | Key Technologies | | 3 | 3 | 3 | 4 |
| Electronics Org. | | | Licensing | | 1 | 4 | 3 | 3 |
| Electronics Org. | | | Future technologies monitor/scan | | 3 | 2 | 2 | 4 |
| Electronics Org. | | | Technology trajectories | | 1 | 2 | 2 | 4 |
| Electronics Org. | Market and Customer | Market and Customer | Knowledge of Market/customer | 2.65 | 1 | 1 | 3 | 3 |
| Electronics Org. | | | Market/customer influence | | 2 | 4 | 3 | 4 |
| Electronics Org. | | | Market/customer development | | 1 | 3 | 3 | 3 |
| Electronics Org. | | | Lead Users | | 1 | 2 | 3 | 4 |
| Electronics Org. | | | Future Market Trends | | | | | 3 |
| Electronics Org. | Industry | Industry | Supplier development | 2.85 | | | | 4 |
| Electronics Org. | | | Collaboration | | 3 | 2 | 3 | 1 |
| Electronics Org. | | | Benchmarking | | | | | 2 |
| Electronics Org. | | | Ultimate Leadership | | 2 | 3 | 2 | 3 |
| Electronics Org. | | | Learn from competition | | 4 | 3 | 3 | 4 |
| Electronics Org. | P.E.S. | P.E.S. | Education and training needs | 2.40 | 3 | 2 | 1 | 3 |
| Electronics Org. | | | Relevant parties captured (national/international) | | 3 | 3 | 3 | 3 |
| Electronics Org. | | | Government Links | | 3 | 3 | 3 | 2 |
| Electronics Org. | | | Advantages from national environment | | 1 | 2 | 1 | 2 |
| Electronics Org. | | | Benefit from foreign systems of innovation | | 2 | 3 | 2 | 3 |
| Electronics Org. | Organizational | Strategic | Active foresight program | 2.75 | | | | 3 |
| Electronics Org. | | | New generation products in accordance with strategy | | | | | 3 |
| Electronics Org. | | | Foresight and business strategy link with innovation | | 2 | 1 | 2 | 2 |
| Electronics Org. | | | Correct project management structure for each innovation | | 4 | 4 | 3 | 3 |
| Electronics Org. | | | Identify new technological competencies | | 2 | 3 | 2 | 3 |

Table E.2 Electronics Organisation, First Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | | | | QUESTION AVERAGES |
|------------------|------------------------|-------------------------------------|---|----------------------|-----------|------------------------|-----------------------|-------------------|
| | | | | Production | Marketing | R&D Project Management | Strategy / Technology | |
| Electronics Org. | Implement | Implement | Maximum Advantage from available resources and experience | 3.40 | | | 4 | 4.00 |
| Electronics Org. | | | Balanced repertoire, Invent Realise, Implement | | | | 3 | 3.00 |
| Electronics Org. | | | Elapsed time for ROI measurement | | | | 4 | 4.00 |
| Electronics Org. | | | Early involvement by all | | 3 | 3 | 3 | 3.25 |
| Electronics Org. | | | Formal review procedures | | 1 | 3 | 3 | 2.75 |
| Electronics Org. | | Fostering environment | Skill improvement | | 2 | 1 | 1 | 1.75 |
| Electronics Org. | | | Key individuals advertised and supported by management | | 3 | 2 | 4 | 3.25 |
| Electronics Org. | | | Active organisational Learning | | 2 | 3 | 3 | 3.00 |
| Electronics Org. | | | Failure followed by vigour or hopelessness | | | | 4 | 4.00 |
| Electronics Org. | | | Management expect innovation | | 4 | 4 | 3 | 3.50 |
| Electronics Org. | Individual | Personality and Feelings | Flexible & motivational incentive scheme | 2.75 | 1 | 1 | 1 | 1.00 |
| Electronics Org. | | | Lottery | | | | 1 | 1.00 |
| Electronics Org. | | | Creative as possible | | 1 | 3 | 3 | 2.00 |
| Electronics Org. | | | Strategic goals motivational | | | | 1 | 1.00 |
| Electronics Org. | | | Threatened | | 2 | 1 | 3 | 2.00 |
| Electronics Org. | | | Are you Making a significant contribution | | 2 | 3 | 3 | 2.75 |
| Electronics Org. | | Knowledge experience and background | Common goal of project | 2.85 | 3 | 2 | 4 | 3.25 |
| Electronics Org. | | | Experience inhibiting Creativity | | | | 2 | 2.00 |
| Electronics Org. | | | Study inside and outside | | 3 | 4 | 2 | 3.25 |
| Electronics Org. | | | Awareness of Key people | | 3 | 2 | 2 | 2.75 |
| Electronics Org. | | | Home environment support | | | | 3 | 3.00 |
| Electronics Org. | Social environment | Social environment | Functional relationships in each department | 3.10 | | | 3 | 3.00 |
| Electronics Org. | | | Spirit of innovation & Dedication | | 3 | 2 | 2 | 2.50 |
| Electronics Org. | | | Thinking the same way | | | | 2 | 2.00 |
| Electronics Org. | | | Mavericks & weirdo's | | | | 4 | 4.00 |
| Electronics Org. | | | Stories | | | | 4 | 4.00 |

Table E.3: Electronics Organisation, First Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | | | | | | | | | | QUESTION AVERAGES | | | | | |
|---------------------------|------------------------|----------------------------|--|----------------------|-----------|--------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------|---|------|------|------|------|
| | | | | Director/Busins man | Div Mangr | Aircraft sys | Sentr Design eng. | Project Manager | System Engineer | Software design engineer | | | | | |
| Electronics/software Org. | Environment | Technology | Dynamics of Technological Change | 2.43 | 2 | 2 | 3 | 3 | 1 | 2 | 3 | 3 | 2 | 3 | 2 | 2.53 | | | |
| Electronics/software Org. | | | Key Technologies | | 3 | 2 | 2 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2.47 | | | |
| Electronics/software Org. | | | Licensing | | 4 | 1 | 2 | 1 | 3 | 3 | 2 | 2 | 1 | 3 | 2 | 2.50 | | | |
| Electronics/software Org. | | | Future technologies monitor/scan | | 1 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 3 | 3 | 1 | 2.19 | | | |
| Electronics/software Org. | | | Technology trajectories | | 3 | 3 | 1 | 2 | 3 | 2 | 2 | 1 | 2 | 2 | 4 | 2.44 | | | |
| Electronics/software Org. | Market and Customer | | Knowledge of Market/customer | 2.85 | 1 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 2 | 3 | 2.88 | | | |
| Electronics/software Org. | | | Market/customer influence | | 2 | 4 | 1 | 4 | 4 | 4 | 3 | 3 | 4 | 3 | 4 | 3.31 | | | |
| Electronics/software Org. | | | Market/customer development | | 3 | | 2 | 2 | 4 | 4 | 3 | 3 | 1 | 3 | 3 | 2.71 | | | |
| Electronics/software Org. | | | Lead Users | | 1 | 4 | 3 | 3 | 4 | 4 | 1 | 3 | 3 | 4 | 3 | 3.00 | | | |
| Electronics/software Org. | | | Future Market Trends | | 3 | 1 | 2 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 1 | 2.35 | | | |
| Electronics/software Org. | Industry | | Supplier development | 2.42 | 2 | 3 | 3 | 4 | 3 | 4 | 2 | 2 | 1 | 3 | 3 | 4 | 2.94 | | |
| Electronics/software Org. | | | Collaboration | | 2 | 4 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 2.06 | | |
| Electronics/software Org. | | | Benchmarking | | 2 | 2 | 2 | 4 | 4 | 2 | 2 | 3 | 2 | 2 | 4 | 1 | 2.53 | | |
| Electronics/software Org. | | | Ultimate Leadership | | 4 | 4 | 2 | 1 | 2 | 1 | 3 | 2 | 3 | 4 | 2 | 2 | 2.50 | | |
| Electronics/software Org. | | | Learn from competition | | 2 | 4 | 1 | 2 | 3 | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 2.06 | | |
| Electronics/software Org. | P.E.S. | | Education and training needs | 2.23 | 2 | 2 | 1 | 1 | 3 | 1 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 2.41 | |
| Electronics/software Org. | | | Relevant parties captured (national/international) | | 3 | 3 | 3 | 2 | 2 | 2 | 3 | 1 | 2 | 4 | 2 | 3 | 1 | 2.38 | |
| Electronics/software Org. | | | Government Links | | 2 | 3 | 3 | | 2 | 3 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 2.13 | |
| Electronics/software Org. | | | Advantages from national environment | | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | 2 | 1.71 | |
| Electronics/software Org. | | | Benefit from foreign systems of innovation | | 3 | 4 | 4 | 2 | 1 | 3 | 2 | 2 | 3 | 3 | 2 | 2 | 3 | 2.53 | |
| Electronics/software Org. | Organizational | Strategic | Active foresight program | 2.04 | 3 | 1 | 3 | 2 | 1 | 1 | 2 | 1 | 1 | 3 | 4 | 2 | 3 | 2 | 2.06 |
| Electronics/software Org. | | | New generation products in accordance with strategy | | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 3 | 2 | 1 | 1 | 2.00 |
| Electronics/software Org. | | | Foresight and business strategy link with innovation | | 4 | 2 | 3 | 2 | 1 | 3 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 2.41 |
| Electronics/software Org. | | | Correct project management structure for each innovation | | 4 | 1 | 1 | 1 | 2 | 2 | 1 | 1 | 2 | 1 | 3 | 2 | 4 | 1.94 | |
| Electronics/software Org. | | | Identify new technological competencies | | 1 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 1 | 2 | 1.76 |

Table E.4: Electronics and Software Organisation, Second Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | | | | | | | | | | | | QUESTION AVERAGES | | | | |
|---------------------------|-------------------------------------|---|---|----------------------|------------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------------------|-------------------|--------------|------------|---------------------|------|
| | | | | Director/Busins man | Div Mang/ Aircraft sys | Senr Design eng. | Project Manager | System Engineer | Software design engineer | Design Draftsman | Technologist | Technician | Hardware Technician | |
| Electronics/software Org. | Implement | Maximum Advantage from available resources and experience | 2.51 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 3 | 2.19 | |
| | | Balanced repertoire, Invent Realise, Implement | | 3 | 2 | 2 | 3 | 3 | 2 | 3 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 3 | 2.38 | |
| | | Elapsed time for ROI measurement | | 4 | 2 | 2 | 2 | 3 | 2 | 2 | 2 | 3 | 3 | 2 | 3 | 3 | 2 | 3 | 2.67 | |
| | | Early involvement by all | | 4 | 1 | 2 | 3 | 3 | 2 | 2 | 1 | 3 | 2 | 3 | 1 | 3 | 2 | 2 | 3 | 2.31 |
| | | Formal review procedures | | 3 | 2 | 4 | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 2 | 2 | 3 | 1 | 2 | 4 | 3.00 |
| Electronics/software Org. | Fostering environment | Skill improvement | 1.89 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 2 | 3 | 1 | 1.63 |
| | | Key individuals advertised and supported by management | | 4 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 1 | 4 | 2.00 |
| | | Active organisational Learning | | 2 | 3 | 2 | 3 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 4 | 2 | 3 | 4 | 2.40 | |
| | | Failure followed by vigour or hopelessness | | 2 | 2 | 3 | 1 | 3 | 2 | 2 | 1 | 2 | 3 | 2 | 1 | 2 | 2 | 4 | 2.13 | |
| | | Management expect innovation | | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 3 | 2 | 3 | 2.00 | |
| Electronics/software Org. | Individual | Flexible & motivational incentive scheme | 2.41 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1.19 |
| | | Lottery | | 3 | 2 | 4 | 4 | 4 | 3 | 2 | 4 | 1 | 2 | 4 | 4 | 4 | 1 | 4 | 4 | 3.06 |
| | | Creative as possible | | 4 | 2 | 2 | 3 | 4 | 4 | 2 | 2 | 2 | 3 | 4 | 1 | 2 | 1 | 4 | 2 | 2.71 |
| | | Strategic goals motivational | | 3 | 2 | 2 | 3 | 1 | 3 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 1 | 1.94 |
| | | Threatened | | 1 | 3 | 1 | 2 | 2 | 1 | 2 | 4 | 2 | 2 | 4 | 2 | 2 | 2 | 2 | 1 | 1.94 |
| Electronics/software Org. | Knowledge experience and background | Are you Making a significant contribution | 2.86 | 3 | 3 | 4 | 3 | 1 | 4 | 2 | 1 | 1 | 2 | 4 | 1 | 4 | 2 | 2 | 2 | 2.41 |
| | | Common goal of project | | 3 | 2 | 3 | 2 | 4 | 3 | 2 | 2 | 2 | 1 | 3 | 3 | 3 | 3 | 1 | 3 | 2.53 |
| | | Experience inhibiting Creativity | | 1 | 2 | 3 | 4 | 2 | 4 | 3 | 4 | 3 | 3 | 4 | 2 | 2 | 3 | 2 | 3 | 2.82 |
| | | Study inside and outside | | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 2 | 4 | 4 | 2 | 3 | 2 | 4 | 2.30 |
| | | Awareness of Key people | | 4 | 3 | 3 | 4 | 4 | 4 | 4 | 1 | 1 | 3 | 4 | 2 | 4 | 3 | 2 | 3 | 2.00 |
| Electronics/software Org. | Social environment | Home environment support | 2.02 | 4 | 4 | 3 | 4 | 3 | 4 | 3 | 1 | 1 | 3 | 4 | 1 | 4 | 4 | 1 | 3 | 2.94 |
| | | Functional relationships in each department | | 3 | 3 | 3 | 3 | 3 | 4 | 3 | 1 | 3 | 2 | 4 | 3 | 3 | 3 | 2 | 3 | 2.88 |
| | | Spirit of innovation & Dedication | | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1.82 |
| | | Thinking the same way | | 4 | 2 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 1.24 |
| | | Mavericks & weirdo's | | 2 | 2 | 3 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | 4 | 1.94 |
| Electronics/software Org. | | Stories | | 3 | 4 | 3 | 3 | 2 | 1 | 2 | 1 | 1 | 2 | 3 | 2 | 1 | 2 | 2 | 3 | 2.24 |

Table E.5: Electronics and Software Organisation, Second Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | QUESTION AVERAGES | | | | | |
|---------------|------------------------|----------------------------|--|----------------------|-------------------|--------------------|--------------------|----------------------|-----------------|------|
| | | | | | Managing Director | Bus. Dev.mnt Mangr | Operations Manager | Softw. Dev.mnt Mnger | Support Manager | |
| Software Org. | Environment | Technology | Dynamics of Technological Change | 3.30 | 3 | 3 | 4 | 3 | 3 | 3.20 |
| Software Org. | | | Key Technologies | | 4 | 3 | 4 | 3 | 3 | 3.40 |
| Software Org. | | | Licensing | | 4 | 4 | 3 | 4 | 4 | 3.80 |
| Software Org. | | | Future technologies monitor/scan | | 4 | 3 | 3 | 2 | 3 | 3.00 |
| Software Org. | | | Technology trajectories | | 3 | 2.5 | 4 | 3 | 3 | 3.10 |
| Software Org. | Market and Customer | Market and Customer | Knowledge of Market/customer | 2.92 | 4 | 4 | 2 | 4 | 3 | 3.40 |
| Software Org. | | | Market/customer influence | | 4 | 3 | 2 | 4 | 3 | 3.20 |
| Software Org. | | | Market/customer development | | 3 | 3 | 3 | 1 | 3 | 2.60 |
| Software Org. | | | Lead Users | | 4 | 4 | 1 | 4 | 1 | 2.80 |
| Software Org. | | | Future Market Trends | | 3 | 2 | 3 | 2 | 3 | 2.60 |
| Software Org. | Industry | Industry | Supplier development | 2.64 | 4 | 4 | 4 | 3 | 4 | 3.80 |
| Software Org. | | | Collaboration | | 3 | 2 | 1 | 1 | 1 | 1.60 |
| Software Org. | | | Benchmarking | | 3 | 2 | 2 | 3 | 2 | 2.40 |
| Software Org. | | | Ultimate Leadership | | 4 | 4 | 2 | 2 | 3 | 3.00 |
| Software Org. | | | Learn from competition | | 3 | 2 | 2 | 3 | 2 | 2.40 |
| Software Org. | P.E.S. | P.E.S. | Education and training needs | 2.12 | 2 | 1 | 2 | 1 | 1 | 1.40 |
| Software Org. | | | Relevant parties captured (national/international) | | 4 | 3 | 3 | 2 | 1 | 2.60 |
| Software Org. | | | Government Links | | 2 | 2 | 1 | 2 | 2 | 1.80 |
| Software Org. | | | Advantages from national environment | | 2 | 2 | 2 | 2 | 2 | 2.00 |
| Software Org. | | | Benefit from foreign systems of innovation | | 4 | 2 | 2 | 4 | 2 | 2.80 |
| Software Org. | Organizational | Strategic | Active foresight program | 2.64 | 4 | 4 | 2 | 2 | 2 | 2.80 |
| Software Org. | | | New generation products in accordance with strategy | | 3 | 3 | 3 | 3 | 1 | 2.60 |
| Software Org. | | | Foresight and business strategy link with innovation | | 3 | 3 | 4 | 4 | 3 | 3.40 |
| Software Org. | | | Correct project management structure for each innovation | | 2 | 2 | 3 | 2 | 2 | 2.20 |
| Software Org. | | | Identify new technological competencies | | 2 | 2 | 3 | 3 | 1 | 2.20 |

Table E.6: Software Organisation, Third Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | QUESTION AVERAGES | | | | | |
|---------------|------------------------|-------------------------------------|---|----------------------|-------------------|-------------------|--------------------|----------------------|-----------------|------|
| | | | | | Managing Director | Bus. Dev.mnt Mngr | Operations Manager | Softw. Dev.mnt Mnger | Support Manager | |
| Software Org. | | Implement | Maximum Advantage from available resources and experience | 0.00 | | | | | | |
| Software Org. | | | Balanced repertoire, Invent Realise, Implement | | | | | | 0.00 | |
| Software Org. | | | Elapsed time for ROI measurement | | | | | | 0.00 | |
| Software Org. | | | Early involvement by all | | | | | | 0.00 | |
| Software Org. | | | Formal review procedures | | | | | | 0.00 | |
| Software Org. | | Fostering environment | Skill improvement | 3.10 | 2 | 4 | 4 | 2 | 1 | 2.60 |
| Software Org. | | | Key individuals advertised and supported by management | | 3 | 2 | 4 | 3 | 2 | 2.80 |
| Software Org. | | | Active organisational Learning | | 3 | 4 | 4 | 4 | 2 | 3.40 |
| Software Org. | | | Failure followed by vigour or hopelessness | | 3 | 3 | 3 | 3 | 2 | 2.80 |
| Software Org. | | | Management expect innovation | | 4 | 3 | 4 | 4 | 4 | 3.80 |
| Software Org. | | | Flexible & motivational incentive scheme | | 3 | 4 | 4 | 4 | 1 | 3.20 |
| Software Org. | Individual | Personality and Feelings | Lottery | 3.48 | 4 | 4 | 4 | 3 | 2 | 3.40 |
| Software Org. | | | Creative as possible | | 4 | 4 | 4 | 4 | 4 | 4.00 |
| Software Org. | | | Strategic goals motivational | | 4 | 3 | 3 | 4 | 3 | 3.40 |
| Software Org. | | | Threatened | | 2 | 1 | 1 | 1 | 1 | 2.80 |
| Software Org. | | | Are you Making a significant contribution | | 3 | 4 | 4 | 4 | 4 | 3.80 |
| Software Org. | | Knowledge experience and background | Common goal of project | 3.44 | 3 | 3 | 3 | 4 | 3 | 3.20 |
| Software Org. | | | Experience Inhibiting Creativity | | 3 | 4 | 4 | 3 | 3 | 3.40 |
| Software Org. | | | Study inside and outside | | 3 | 4 | 4 | 4 | 2 | 3.40 |
| Software Org. | | | Awareness of Key people | | 4 | 3 | 4 | 4 | 3 | 3.60 |
| Software Org. | | | Home environment support | | 3 | 4 | 3 | 4 | 4 | 3.60 |
| Software Org. | | Social environment | Functional relationships in each department | 2.88 | 3 | 4 | 4 | 4 | 3 | 3.60 |
| Software Org. | | | Spirit of innovation & Dedication | | 3 | 4 | 4 | 4 | 2 | 3.40 |
| Software Org. | | | Thinking the same way | | 3 | 1 | 3 | 4 | 4 | 1.00 |
| Software Org. | | | Mavericks & weirdo's | | 2 | 2 | 4 | 4 | 2 | 2.80 |
| Software Org. | | | Stories | | 4 | 4 | 4 | 3 | 3 | 3.60 |

Table E.7: Software Organisation, Third Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | QUESTION AVERAGES | | | | | |
|--------------|------------------------|----------------------------|--|----------------------|-------------------|-----------|-----------------------|-------------|---------------|-------------|
| | | | | | Dr Delport | Dr Taylor | Luisa Busso Assistant | Prof Ubbink | Prof Anderson | Prof Medien |
| Medical Org. | Environment | Technology | Dynamics of Technological Change | 3.13 | 4 | 3 | 3 | 3 | 3 | 3.17 |
| Medical Org. | | | Key Technologies | | 3 | 2 | 3 | 3 | 2 | 2.50 |
| Medical Org. | | | Licensing | | 2 | 4 | 4 | 3 | 3 | 3.33 |
| Medical Org. | | | Future technologies monitor/scan | | 4 | 2 | 4 | 4 | 4 | 3.50 |
| Medical Org. | | | Technology trajectories | | 3 | 4 | 4 | 3 | 3 | 3.17 |
| Medical Org. | Market and Customer | Market and Customer | Knowledge of Market/customer | 2.65 | 3 | 2 | 3 | 3 | 2 | 2.67 |
| Medical Org. | | | Market/customer influence | | 3 | | 3 | 2 | 4 | 3.00 |
| Medical Org. | | | Market/customer development | | 4 | 4 | | 1 | 3 | 1.60 |
| Medical Org. | | | Lead Users | | 4 | 3 | 3 | 1 | 4 | 1.67 |
| Medical Org. | | | Future Market Trends | | 3 | 2 | 4 | 1 | 3 | 1.23 |
| Medical Org. | Industry | Industry | Supplier development | 3.07 | 4 | 3 | 4 | 2 | 3 | 3.17 |
| Medical Org. | | | Collaboration | | 4 | 3 | 4 | 3 | 2 | 3.00 |
| Medical Org. | | | Benchmarking | | 3 | 4 | 4 | 2 | 3 | 3.00 |
| Medical Org. | | | Ultimate Leadership | | 4 | | 4 | 3 | 4 | 2.40 |
| Medical Org. | | | Learn from competition | | 4 | 3 | | 4 | 2 | 1.80 |
| Medical Org. | P.E.S. | P.E.S. | Education and training needs | 3.09 | 2 | | 4 | 4 | 4 | 3.60 |
| Medical Org. | | | Relevant parties captured (national/international) | | 3 | 3 | 4 | 3 | 3 | 3.33 |
| Medical Org. | | | Government Links | | 3 | 2 | 4 | 4 | 3 | 2.00 |
| Medical Org. | | | Advantages from national environment | | 3 | 1 | 4 | 3 | 3 | 2.67 |
| Medical Org. | | | Benefit from foreign systems of innovation | | 3 | 4 | 3 | 2 | 3 | 2.83 |
| Medical Org. | Organizational | Strategic | Active foresight program | 2.70 | 2 | 2 | 4 | 4 | 4 | 3.00 |
| Medical Org. | | | New generation products in accordance with strategy | | 2 | 4 | 3 | 3 | 4 | 2.00 |
| Medical Org. | | | Foresight and business strategy link with innovation | | 3 | 3 | 4 | 2 | 4 | 1.83 |
| Medical Org. | | | Correct project management structure for each innovation | | 3 | 1 | 4 | 2 | 2 | 1.17 |
| Medical Org. | | | Identify new technological competencies | | 2 | 2 | 4 | 2 | 3 | 2.50 |

Table E.8: Medical Organisation, Fourth Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abbreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | QUESTION AVERAGES | | | | | | |
|--------------|------------------------|-------------------------------------|---|----------------------|-------------------|-----------|-----------------------|-------------|---------------|-------------|------|
| | | | | | Dr Delport | Dr Taylor | Luisa Busso Assistant | Prof Ubbink | Prof Anderson | Prof Medlen | |
| Medical Org. | | Implement | Maximum Advantage from available resources and experience | 2.47 | 3 | 4 | 3 | 2 | 3 | 2 | 2.83 |
| Medical Org. | | | Balanced repertoire, Invent Realise, Implement | | 3 | 3 | 3 | 2 | 3 | 2 | 2.67 |
| Medical Org. | | | Elapsed time for ROI measurement | | 2 | 1 | | 1 | 3 | 3 | 2.00 |
| Medical Org. | | | Early involvement by all | | 2 | 2 | 3 | 2 | 3 | 1 | 2.17 |
| Medical Org. | | | Formal review procedures | | 2 | 3 | 4 | 1 | 4 | 2 | 2.67 |
| Medical Org. | | Fostering environment | Skill improvement | 2.49 | 2 | 2 | 4 | 4 | 2.5 | 2 | 2.75 |
| Medical Org. | | | Key individuals advertised and supported by management | | 3 | 2 | 4 | 3 | 3 | 3 | 3.00 |
| Medical Org. | | | Active organisational Learning | | 2 | 3 | 4 | 4 | 3 | 1 | 2.83 |
| Medical Org. | | | Failure followed by vigour or hopelessness | | 3 | 3 | 4 | 2 | 3 | 1 | 2.67 |
| Medical Org. | | | Management expect innovation | | 2 | 2 | 3 | 3 | 4 | 2 | 2.67 |
| Medical Org. | | | Flexible & motivational incentive scheme | | 1 | 1 | 1 | 1 | 1 | 1 | 1.00 |
| Medical Org. | Individual | Personality and Feelings | Lottery | 3.23 | 4 | 3 | 3 | 4 | 4 | 4 | 3.67 |
| Medical Org. | | | Creative as possible | | 4 | 3 | 4 | 4 | 4 | 4 | 3.83 |
| Medical Org. | | | Strategic goals motivational | | 3 | 1 | 4 | 3 | 4 | 1 | 2.67 |
| Medical Org. | | | Threatened | | 2 | 1 | 1 | 1 | 1 | 1 | 2.83 |
| Medical Org. | | | Are you Making a significant contribution | | 3 | 2 | 3 | 4 | 3 | 4 | 3.17 |
| Medical Org. | | Knowledge experience and background | Common goal of project | 3.13 | 3 | 2 | 3 | 3 | 3 | 2 | 2.67 |
| Medical Org. | | | Experience inhibiting Creativity | | 3 | 2 | 4 | 4 | 3 | 3 | 3.17 |
| Medical Org. | | | Study inside and outside | | 3 | 3 | 3 | 4 | 3 | 3 | 3.17 |
| Medical Org. | | | Awareness of Key people | | 3 | 3 | 4 | 3 | 3 | 4 | 3.33 |
| Medical Org. | | | Home environment support | | 3 | 1 | 4 | 4 | 4 | 4 | 3.33 |
| Medical Org. | | Social environment | Functional relationships in each department | 2.40 | 3 | 2 | 4 | 4 | 3 | 3 | 3.17 |
| Medical Org. | | | Spirit of innovation & Dedication | | 2 | 1 | 4 | 2 | 3 | 1 | 2.17 |
| Medical Org. | | | Thinking the same way | | 3 | 2 | 2 | 2 | 3 | 1 | 1.83 |
| Medical Org. | | | Mavericks & weirdo's | | 2 | 2 | 1 | 4 | 3 | 2 | 2.33 |
| Medical Org. | | | Stories | | 3 | 2 | 3 | 4 | 1 | 2 | 2.50 |

Table E.9: Medical Organisation, Fourth Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abbreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | QUESTION AVERAGES | | | | | | | | | | | | | |
|------------------|------------------------|----------------------------|--|----------------------|---------------------|-------------|---------------------|------------------------|----------------------|----------------------|---------------------|------------------------|------------------|-----------------|------------------------|-------------------|------|------|
| | | | | | Prod. Mngmnt/ Sales | Eng Manager | Production eng Mngr | Q.A. Technical Officer | Project Manager /eng | Engineer Development | Production engineer | Software test engineer | Systems Engineer | R&D Mech Design | Vending Syst/Marketing | Software Engineer | | |
| Electronics Org. | Environment | Technology | Dynamics of Technological Change | 2.68 | 3 | 4 | 3 | 3 | 1 | 3 | 2 | 3 | 2 | 3 | 3 | 4 | 2.83 | |
| | | | Key Technologies | | 4 | 3 | 4 | 2 | 2 | 3 | 2 | 3 | 3 | 3 | 3 | 2 | 2.83 | |
| | | | Licensing | | 4 | 3 | 2 | 1 | 2 | 3 | 2 | 1 | 3 | 4 | 4 | 1 | 2.50 | |
| | | | Future technologies monitor/scan | | 3 | 3 | 4 | 3 | 1 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | 2.75 | |
| | | | Technology trajectories | | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 2 | 3 | 3 | 2 | 2.50 | |
| Electronics Org. | | Market and Customer | Knowledge of Market/customer | 2.80 | 3 | 3 | 4 | 3 | 3 | 4 | 2 | 4 | 3 | 2 | 3 | 3 | 3.08 | |
| | | | Market/customer influence | | 3 | 3 | 3 | 4 | 2 | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 2.75 | |
| | | | Market/customer development | | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 2 | 3 | 3 | 3 | 3.08 | |
| | | | Lead Users | | 4 | 3 | 2 | 3 | 4 | 2 | 1 | 1 | 3 | 3 | 1 | 2 | 2.42 | |
| | | | Future Market Trends | | 4 | 2 | 3 | 3 | 2 | 3 | 2 | 3 | 1 | 3 | 3 | 3 | 2.67 | |
| Electronics Org. | | Industry | Supplier development | 2.57 | 2 | 3 | 3 | 4 | 3 | 3 | 3 | 1 | 3 | 4 | 2 | 3 | 2.83 | |
| | | | Collaboration | | 2 | 2 | 1 | 1 | 2 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1.58 | |
| | | | Benchmarking | | 3 | 2 | 2 | 2 | 2 | 4 | 1 | 4 | 1 | 3 | 2 | 3 | 2.42 | |
| | | | Ultimate Leadership | | 4 | 3 | 3 | 3 | 3 | 4 | 3 | 4 | 3 | 3 | 4 | 3 | 3.33 | |
| | | | Learn from competition | | 4 | 2 | 2 | 2 | 2 | 4 | 2 | 1 | 3 | 3 | 4 | 3 | 2.67 | |
| Electronics Org. | P.E.S. | | Education and training needs | 2.08 | 2 | 2 | 1 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1.42 |
| | | | Relevant parties captured (national/international) | | 4 | 2 | 2 | 2 | 2 | 3 | 1 | 1 | 2 | 1 | 3 | 2 | 2.08 | |
| | | | Government Links | | 3 | 4 | 4 | 2 | 2 | 4 | 2 | 2 | 1 | 2 | 2 | 2 | 2.50 | |
| | | | Advantages from national environment | | 3 | 2 | 3 | 2 | 3 | 4 | 1 | 1 | 3 | 1 | 3 | 3 | 2.42 | |
| | | | Benefit from foreign systems of innovation | | 3 | 2 | 2 | 1 | 2 | 3 | 2 | 1 | 2 | 1 | 3 | 2 | 2.00 | |
| Electronics Org. | Organizational | Strategic | Active foresight program | 2.53 | 3 | 2.5 | 4 | 2 | 2 | 3 | 2 | 2 | 1 | 2 | 2 | 1 | 2.21 | |
| | | | New generation products in accordance with strategy | | 3 | 3 | 4 | 3 | 3 | 4 | 2 | 4 | 2 | 2 | 3 | 3 | 3.00 | |
| | | | Foresight and business strategy link with innovation | | 4 | 4 | 4 | 4 | 2 | 4 | 2 | 4 | 1 | 3 | 4 | 3 | 3.25 | |
| | | | Correct project management structure for each innovation | | 1 | 1 | 3 | 1 | 2 | 2 | 2 | 2 | 2 | 4 | 3 | 2 | 2.08 | |
| | | | Identify new technological competencies | | 2 | 2 | 3 | 2 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 2.09 | |

Table E.10: Electronics Organisation, Fifth Audit

| Organisation | Questionnaire Sections | Questionnaire Sub-Sections | Abreviated Questions from Audit Questionnaire | SUB-SECTION AVERAGES | | | | | | | | | | QUESTION AVERAGES | | |
|------------------|-------------------------------------|---|---|----------------------|-------------|---------------------|------------------------|----------------------|----------------------|---------------------|------------------------|------------------|-----------------|------------------------|-------------------|------|
| | | | | Prod. Mngrmt/ Sales | Eng Manager | Production eng Mngr | Q.A. Technical Officer | Project Manager /eng | Engineer Development | Production engineer | Software test engineer | Systems Engineer | R&D Mech Design | Vending Syst/Marketing | Software Engineer | |
| Electronics Org. | Implement | Maximum Advantage from available resources and experience | 2.73 | 4 | 4 | 2 | 4 | 2 | 4 | 2 | 4 | 2 | 3 | 3 | 3 | 3.08 |
| Electronics Org. | | Balanced repertoire, Invent Realise, Implement | | 3 | 3 | 4 | 4 | 2 | 3 | 2 | 1 | 3 | 3 | 3 | 3 | 2.83 |
| Electronics Org. | | Elapsed time for ROI measurement | | 4 | 2 | 2 | 1 | 2 | 1 | 2 | 1 | 1 | 3 | 2 | 3 | 2.00 |
| Electronics Org. | | Early involvement by all | | 3 | 4 | 3 | 1 | 2 | 4 | 2 | 1 | 1 | 3 | 3 | 2 | 2.42 |
| Electronics Org. | | Formal review procedures | | 4 | 4 | 4 | 2 | 3 | 4 | 3 | 4 | 2 | 2 | 4 | 4 | 3.33 |
| Electronics Org. | Fostering environment | Skill improvement | 2.63 | 2 | 2 | 1 | 1 | 2 | 3 | 1 | 1 | 1 | 1 | 2 | 3 | 1.67 |
| Electronics Org. | | Key individuals advertised and supported by management | | 1 | 4 | 3 | 2 | 2 | 4 | 2 | 4 | 1 | 2 | 2 | 3 | 2.50 |
| Electronics Org. | | Active organisational Learning | | 4 | 4 | 3 | 3 | 3 | 4 | 3 | 4 | 1 | 2 | 3 | 3 | 3.08 |
| Electronics Org. | | Failure followed by vigour or hopelessness | | 3 | 4 | 4 | 4 | 1 | 3 | 3 | 3 | 1 | 3 | 3 | 1 | 2.83 |
| Electronics Org. | | Management expect innovation | | 2 | 4 | 3 | 3 | 2 | 3 | 2 | 4 | 2 | 3 | 4 | 4 | 3.00 |
| Electronics Org. | Individual | Flexible & motivational incentive scheme | 2.98 | 1 | 2.5 | 2 | 4 | 2 | 3 | 2 | 4 | 1 | 4 | 4 | 3 | 2.71 |
| Electronics Org. | | Lottery | | 1 | 4 | 3 | 3 | 1 | 4 | 2 | 3 | 3 | 4 | 4 | 3 | 2.92 |
| Electronics Org. | | Creative as possible | | 4 | 4 | 4 | 3 | 2 | 3 | 2 | 4 | 2 | 2 | 3 | 4 | 3.08 |
| Electronics Org. | | Strategic goals motivational | | 4 | 4 | 3 | 4 | 2 | 4 | 1 | 4 | 2 | 1 | 3 | 3 | 2.92 |
| Electronics Org. | | Threatened | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 | 2.75 |
| Electronics Org. | Knowledge experience and background | Are you Making a significant contribution | 3.02 | 3 | 4 | 4 | 3 | 3 | 4 | 2 | 4 | 2 | 4 | 4 | 3 | 3.25 |
| Electronics Org. | | Common goal of project | | 3 | 4 | 3 | 2 | 3 | 4 | 2 | 4 | 2 | 4 | 4 | 3 | 3.17 |
| Electronics Org. | | Experience inhibiting Creativity | | 2 | 2 | 4 | 4 | 2 | 3 | 3 | 4 | 1 | 3 | 2 | 3 | 2.75 |
| Electronics Org. | | Study inside and outside | | 4 | 3 | 2 | 4 | 2 | 4 | 2 | 4 | 2 | 2 | 3 | 2 | 2.83 |
| Electronics Org. | | Awareness of Key people | | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 4 | 1 | 2 | 4 | 4 | 3.50 |
| Electronics Org. | Social environment | Home environment support | 2.58 | 2 | 4 | 3 | 4 | 3 | 4 | 1 | 1 | 2 | 4 | 3 | 3 | 2.83 |
| Electronics Org. | | Functional relationships in each department | | 3 | 4 | 4 | 4 | 3 | 4 | 3 | 3 | 3 | 2 | 4 | 3 | 3.33 |
| Electronics Org. | | Spirit of innovation & Dedication | | 4 | 4 | 4 | 4 | 3 | 3 | 2 | 4 | 1 | 2 | 4 | 2 | 3.08 |
| Electronics Org. | | Thinking the same way | | 2 | 2 | 3 | 1 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | 1.83 |
| Electronics Org. | | Mavericks & weirdo's | | 2 | 4 | 3 | 1 | 2 | 4 | 2 | 2 | 2 | 1 | 4 | 2 | 2.42 |
| Electronics Org. | | Stories | | 1 | 3 | 2 | 2 | 3 | 4 | 3 | 3 | 2 | 2 | 1 | 1 | 2.25 |

Table E.11: Electronics Organisation, Fifth Audit

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