

Total Quality Management In Medium Enterprises: An Empirical Study On Kamrup (Rural) And Kamrup (Metropolitan) Districts Of Assam

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Abstract:

Quality is equally important for Medium Enterprises and for large corporations. The lack of owners'/managers' ability to exercise quality management practices has proved to be one of the major causes of failure of these enterprises. The study intends to provide suggestive measures for proper application of Total Quality Management (TQM) practices in the service and manufacturing medium enterprises of Kamrup (Rural) and Kamrup (Metropolitan) Districts of Assam. Analysis was carried out concerning perception of owners and employees on TQM practices. Arithmetic Mean was calculated regarding 20 issues relating to TQM practices in case of both these enterprises. The findings showed that owners required very high emphasis on employee involvement in terms of meeting customers' needs and organisations' objectives. They also required very high emphasis on actively involving the employees in quality-related activities and instigating their suggestions. The respondent employees revealed strong agreement regarding acquisition and continuous upgradation of knowledge by the management and perceiving management as role models.

Keywords: Total quality management, medium enterprises, perception, service-based enterprise, manufacturing -based enterprise

Introduction:

The Micro, Small and Medium Enterprises (MSME) contributes significantly in the social and economic growth of the country by promoting entrepreneurship and creating employment opportunities (Mandal, 1999, p. 699). Despite of its importance, Medium Enterprises struggle to produce, manage, and improve their business efficiency to consistently deliver quality products to meet customer demands, gain economies of scale and survive in the competitive market. The lack of owners'/managers' ability to exercise quality management practices has proved to be one of the major causes of SME failure (Pryor, Toombs, Anderson and White, 1998, p. 1). It seems however that awareness of the concept of TQM and its principles is still very low in developing countries, most especially in SMEs to actualize the benefits of TQM (Solis, Rao and Ragu-Nathan, 2001, p. 416).

Quality is equally important for Medium and Enterprises for large corporations. One reason is that small local companies have been competing simultaneously with foreign firms for a long time (Ghobadian and Gallea, 1995, p. 83). Another reason is that many large firms rely on small companies for parts and services that they use in producing products. Because of these competitive pressures created by globalization, quality has become a competitive weapon in most industries (Merih, 2016, p. 1). Quality no longer seems to be a competitive advantage, but rather a prerequisite to survival especially for SMEs (Yusof and Aspinwall, 2000, p. 634).

The study therefore, intends to provide suggestive measures for proper implementation of TQM in service and manufacturing-based medium enterprises of Kamrup (Rural) and Kamrup (Metropolitan) Districts of Assam.

Literature Review:

Pryor, Toombs, Anderson and White (1998) suggested that the small businesses should use the 5P's Model. This model combines quality concepts and strategic management ideas into an organized structure. The model is applicable for small businesses as by using it, they can more easily develop and improve their Purpose, Principles, Process, People and Performance which are the fundamentals of the 5P's Model.

Mandal (1999) reviewed related literatures that suggested numerous quality models and approaches for Small and Medium Enterprises. The author uses these quality methods to develop his own conceptual model where several dimensions were integrated. These models will benefit the interested groups like the SME owners, managers, operators, quality professionals and other SME stakeholders to test their quality models and interpret their applications in the SME.

Solis, Rao and Ragu-Nathan (2001) revealed that very high levels of common quality practices exist in terms of top management support, strategic quality planning, customer orientation and quality citizenship while common weaknesses exist in terms of human resource aspect of quality management. The researchers tried to provide a potentially valuable benchmark for the SMEs by identifying the best practices of top-quality companies and the areas of quality practices for improvement.

Merih (2016) provided a general understanding of TQM based on quality standards, benchmarking, and lean production methods. According to the author, TQM together with lean production and Just-in-time, with strong support and commitment from the senior management, good understanding from the employees can bring significant improvements to the firm performance by reducing cost and creating more value.

Yusof and Aspinwall (2000) discussed various issues confronting small business embarking on TQM. They found that the two major problems faced by small and medium enterprises are financial and resource constraints like time, manpower and technical and managerial expertise. Small business houses must be presented with a TQM approach that is attractive to them in the sense that it must not promise to improve or solve every problem but must help them to be better in a short span, with a view to long-term sustainability.

The literature review indicated that studies have been conducted on TQM at national and international level. Various researchers have addressed the issues of TQM in the Service and Manufacturing Sector but none of the studies have addressed the issues of TQM practices adopted by Service and Manufacturing-based enterprises operating in Kamrup (Rural) and Kamrup (Metropolitan) Districts of Assam. The present study therefore, aims to ascertain the TQM practices adopted by these enterprises.

Objective:

To provide suggestive measures for proper execution of Total Quality Management (TQM) practices in service and manufacturing-based medium enterprises of Kamrup (Rural) and Kamrup (Metropolitan) Districts of Assam.

Methodology:

This study was carried out to fulfil the above-mentioned objectives. Required data was obtained from primary and secondary data sources. Primary data sources included a sample of 142 owners and 600 employees in service and manufacturing based medium enterprises within the above two districts. Required data was obtained from them using two separate questionnaires, one each for the above-mentioned owners and employees. These sample respondents were selected from the study population using convenience sampling technique. Relevant secondary data was collected from journals, books, websites, magazines etc.

Respondent owners' and employees' perception regarding 20 issues relating to TQM practices in case of both the enterprises was examined. This was done using a 5-point scale ranging from strongly agree, agree, neutral, disagree, and strongly disagree (Malhotra, 2004; Chawla and Sondhi, 2011). The codes used for strongly agree, agree, neutral, disagree, and strongly disagree were +2, +1, 0, -1 and -2, respectively. Arithmetic Mean was assessed for respondent owners' and employees' perception regarding these 20 issues in case of both the types of medium enterprises. Specific issues (among these 20 issues) requiring very high emphasis by the owners/management of such enterprises were identified for proper implementation of TQM in these entities. As such, this study involved both exploratory and descriptive research design.

Findings and Discussion:

1. Perception of owners of the Service and Manufacturing based Medium Enterprises regarding Total Quality Management (TQM) practices:

Respondent owners' perception regarding 20 issues relating to Total Quality Management (TQM) practices in case of service based medium enterprises was examined. This was done using a 5-point scale as mentioned in the section, *Research Methodology*. The findings are shown in Table A.1 in Annexure. Similarly, respondent owners' perception regarding 20 issues relating to TQM practices in case of manufacturing based medium enterprises was studied. The findings are shown in Table A.2 in Annexure.

Arithmetic Mean was considered to understand the perception of respondent owners' regarding 20 issues relating to TQM practices in case of both service based and manufacturing based medium enterprises. It was seen that those issues which recorded a mean of less than or equal to 1.30 required very high emphasis on the part of such owners. Next, those issues which recorded mean of less than or equal to 1.50 but greater than 1.30 required high emphasis. Also, those issues which recorded mean greater than 1.50 required moderate emphasis. This was done based on the findings from pilot survey for the two types of medium enterprises.

The following TQM practices required very high emphasis by the owners of service based medium enterprises (refer Figure A.1 in Annexure).

- i) Employees know that quality is their responsibility, and they are encouraged to meet customers' and the organization's objectives (TQMP1).
- ii) The suppliers help to improve products and/or services and also provide technical assistance (TQMP12).
- iii) Processes are designed ensuring that skills and capacities are right for enterprise needs (TQMP16).
- iv) New products and/or services are designed thoroughly and meticulously before being manufactured and/or marketed to ensure that clients' present and future expectations are met (TQMP18).
- v) All the departments are equally involved during the development of new products/services (TQMP20).

It was seen that respondent owners exhibited strong agreement regarding all the above five TQM practices in service based medium enterprises. This implies that all the above five points should be accorded very high emphasis for proper implementation of TQM in the aforesaid enterprises.

Also, the above results indicated that the following issues required very high emphasis from owners' point of view regarding manufacturing based medium enterprises (refer Figure A.2 in Annexure).

- i) Employees are actively involved in quality-related activities and the success of the enterprise, and many of their suggestions are implemented (TQMP3).
- ii) Employees are responsible for quality and end results of the product/service. They can take decisions independently (TQMP4).
- iii) There is a close, long-term relationships with supplies designed to resolve quality-related problems (TQMP11).
- iv) The suppliers have a great strategic importance for the development of the enterprise (TQMP14).

Furthermore, it was observed that respondent owners showed strong agreement regarding all the four TQM practices in manufacturing based medium enterprises. This implies that all the above points should be given very high emphasis for proper implementation of TQM in the respective enterprises.

2. Perception of the employees of the Service and Manufacturing based Medium Enterprises regarding Total Quality Management (TQM) practices:

The perception of the respondent employees in case of 20 issues relating to Total Quality Management (TQM) practices concerning service based medium enterprises was examined as demonstrated in Table A.3 in Annexure. This was done using a 5-point scale as mentioned in the section, *Research Methodology*. Likewise, respondent employees' perception regarding 20 issues relating to TQM practices relating to manufacturing based medium enterprises was examined. Table A.4 has indicated these findings.

Arithmetic Mean was computed for respondent employees' perception regarding 20 issues relating to TQM practices relating to both service based and manufacturing based medium enterprises. Findings indicated that those issues which recorded a mean of less than or equal to 1.20 required very high emphasis from such employees. Besides, those issues which recorded mean of less than or equal to 1.40 but greater than 1.20 required high emphasis. Also, those parameters which recorded mean greater than 1.40 required moderate emphasis. Similarly, this was done on the basis of the findings from pilot survey for both the above types of enterprises.

The following TQM practices exhibited requirement of very high emphasis by the employees and the owners of service based medium enterprises (refer Figure A.3 in Annexure).

- i) Management continuously acquire and update their knowledge that is valuable for the organization (TQMP4).
- ii) The customers' needs are passed on and are understood at all levels (TQMP7).
- iii) Customers' leave is thoroughly analyzed (TQMP8).
- iv) The enterprise co-ordinates its strategies and its technical know-how with the suppliers (TQMP13).
- v) The enterprise invests substantial resources (e.g. time, money, contacts, and meetings) in the relationship with the supplier (TQMP15).
- vi) Processes are designed ensuring that skills and capacities are right for enterprise needs (TQMP16).
- vii) All processes, procedures and products are assessed regularly in an attempt to bring in change and improvement (TQMP17).
- viii) The processes are flexible (TQMP19).
- ix) All the departments are equally involved during the development of new products/services (TQMP20).

In the service based medium enterprises, majority of the respondent employees revealed strong agreement regarding all the above nine TQM practices. This shows that all the above points should be accorded very high emphasis for proper implementation of TQM in the aforesaid enterprises.

Further, the following issues required very high emphasis from employees' point of view regarding manufacturing based medium enterprises (refer Table A.4 in Annexure). This was based on the aforementioned results (refer Figure A.4 in Annexure).

- i) Management presents themselves as role models for the employees (TQMP2).

- ii) Management continuously acquire and update their knowledge that is valuable for the organization (TQMP4).
- iii) Management encourages the employees and also participates in continuous improvement initiatives (TQMP5).
- iv) Long-term customer satisfaction is laid down as the organization's mission and basic principle (TQMP6).
- v) Customers' leave is thoroughly analyzed (TQMP8).
- vi) Present relationships with customers are analyzed and regular attempts are made to improve them (TQMP10).
- vii) There is a close, long-term relationships with supplies designed to resolve quality-related problems (TQMP11).
- viii) The suppliers help to improve products and/or services and also provide technical assistance (TQMP12).
- ix) The enterprise co-ordinates its strategies and its technical know-how with the suppliers (TQMP13).

In the manufacturing based medium enterprises, majority of the respondent employees showed strong agreement regarding all the above nine TQM practices. This shows that the above points should be conferred very high emphasis for proper implementation of TQM in the respective enterprises.

Conclusion:

The study aimed to provide suggestive measures for proper execution of Total Quality Management (TQM) practices in the service and manufacturing medium enterprises of Kamrup (Rural) and Kamrup (Metropolitan) Districts of Assam. From the analysis it was found that, the owners of the service based medium enterprises required very high emphasis on TQM practices relating to employee involvement in relation to meeting the needs of customers' and organisations' objectives. Managing the suppliers to acquire quality products and/or services and technical assistance. Designing the processes to ensure that skills and capacities of the enterprise meet the needs. Creating new products and/or services meticulously to meet clients' expectations and equally involving all departments during the development of new products/services

Again, in case of the manufacturing based medium enterprises, the owners required very high emphasis on actively involving the employees in quality-related activities and instigating their suggestions. Allowing them to take decisions independently and making them responsible for the quality and end results. Building a close long-term relationship with the suppliers to resolve quality related problems and considering them to have strategic importance in the development of the enterprise.

In the service based medium enterprises, majority of the respondent employees revealed strong agreement regarding acquisition and continuous upgradation of knowledge by the management. Co-ordination of the enterprise with the suppliers regarding strategies and technical know-how and investing in substantial resources by the enterprise (e.g., time, money, contacts and meetings) in building relationship with the suppliers. Designing the processes to meet skills and capacities with the enterprise needs. Regular assessment of all processes, procedures, and products. Ensuring flexibility of the processes and equal involvement of all the departments (within the enterprise (organization)) during development of new products and/or services. All the above points should be accorded very high emphasis for proper implementation of TQM in the aforesaid enterprises.

Further, the respondent employees of the manufacturing based medium enterprises required very high emphasis on perceiving the management as role models. Acquisition and continuous upgradation of knowledge by the management that is valuable for the enterprise. Encouraging them to participate in the continuous improvement initiatives by the management. Thoroughly analysing customers, leave and making regular attempts to improve them. Building close long-term relationships with suppliers to resolve quality related problems and receive quality products and/or services and technical assistance. Co-ordinating strategies and technical know-how with the suppliers.

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ANNEXURE

List of abbreviations concerning Table A.1 to A.4

Total Quality Management Practices		Abbreviation
Employee Involvement		
1	Employees know that quality is their responsibility, and they are encouraged to meet	TQMP1
2	Staff is continuously trained in the principles of quality, teamwork and job-specific skills.	TQMP2
3	Employees are actively involved in quality-related activities and the success of the	TQMP3
4	Employees are responsible for quality and end results of the product/service. They can take	TQMP4
5	The pay and promotion system acknowledges effort to improve quality	TQMP5
Customer Focused		Abbreviation
1	Long-term customer satisfaction is laid down as the organization's mission and basic	TQMP6
2	The consumers' needs are passed on and are understood at all levels.	TQMP7
3	Customers' leave is thoroughly analyzed.	TQMP8
4	Consumers' complaints and grievances are used to improve the products.	TQMP9
5	Present relationships with customers are analyzed and regular attempts are made to	TQMP10
Supplier Management		Abbreviation
1	There is a close, long-term relationships with supplies designed to resolve quality-related	TQMP11
2	The suppliers help to improve products and/or services and also provide technical	TQMP12
3	The enterprise co-ordinates its strategies and its technical know-how with the suppliers	TQMP13
4	The supplier has a great strategic importance for technological development of the	TQMP14
5	The enterprise invests substantial resources (e.g. time, money, contacts, and meetings) in	TQMP15
Process Centered		Abbreviation
1	Processes are designed ensuring that skills and capacities are right for enterprise needs.	TQMP16
2	All processes, procedures and products are assessed regularly in an attempt to bring in	TQMP17
3	New products and/or services are designed thoroughly and meticulously before being	TQMP18
4	The processes are flexible.	TQMP19
5	All the departments are equally involved during the development of new products/services.	TQMP20

Table A.1: Respondent owners' perception regarding various issues relating to TQM practices in case of service based medium enterprises

TQM Practices		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Employee Involvement							
1	TQMP1	39	22	4	0	0	1.28
2	TQMP2	28	37	0	0	0	1.57
3	TQMP3	41	23	1	0	0	1.34
4	TQMP4	28	26	1	0	0	1.37
5	TQMP5	32	33	0	0	0	1.51
Customer Focused		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP6	32	32	1	0	0	1.48
2	TQMP7	24	41	0	0	0	1.63
3	TQMP8	32	33	0	0	0	1.51
4	TQMP9	32	33	0	0	0	1.51
5	TQMP10	22	43	0	0	0	1.66
Supplier		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP11	34	38	3	0	0	1.38
2	TQMP12	40	20	5	0	0	1.23
3	TQMP13	29	36	0	0	0	1.55
4	TQMP14	34	27	4	0	0	1.35
5	TQMP15	42	25	0	0	0	1.35
Process Centered		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP16	50	14	1	0	0	1.2
2	TQMP17	39	26	0	0	0	1.4
3	TQMP18	41	22	2	0	0	1.31
4	TQMP19	42	22	1	0	0	1.32
5	TQMP20	39	20	6	0	0	1.22

Table A.2: Respondent owners' perception regarding various issues relating to TQM practices in case of manufacturing based medium enterprises

TQM Practices		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Employee							
1	TQMP1	45	30	2	0	0	1.36
2	TQMP2	29	46	2	0	0	1.57

3	TQMP3	51	23	3	0	0	1.25
4	TQMP4	54	23	0	0	0	0.99
5	TQMP5	30	46	1	0	0	1.58
Customer Focused		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP6	35	41	1	0	0	1.51
2	TQMP7	37	37	3	0	0	1.44
3	TQMP8	45	31	1	0	0	1.38
4	TQMP9	35	41	1	0	0	1.51
5	TQMP10	38	38	1	0	0	1.48
Supplier		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP11	36	32	9	0	0	1.29
2	TQMP12	29	42	5	0	0	1.45
3	TQMP13	40	36	1	0	0	1.45
4	TQMP14	53	22	2	0	0	1.25
5	TQMP15	47	29	1	0	0	1.36
Process Centered		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP16	44	31	2	0	0	1.37
2	TQMP17	42	34	1	0	0	1.42
3	TQMP18	53	24	0	0	0	1.31
4	TQMP19	53	24	0	0	0	1.31
5	TQMP20	40	36	1	0	0	1.45

Table A.3: Respondent employees' perception regarding various issues relating to TQM practices in case of service based medium enterprises

TQM Practices		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Employee							
1	TQMP1	161	136	3	0	0	1.44
2	TQMP2	200	86	14	0	0	1.24
3	TQMP3	200	85	15	0	0	1.23
4	TQMP4	232	63	5	0	0	1.19
5	TQMP5	199	99	2	0	0	1.32
Customer Focused		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP6	175	121	4	0	0	1.39
2	TQMP7	212	73	15	0	0	1.19
3	TQMP8	232	63	5	0	0	1.19
4	TQMP9	170	129	1	0	0	1.42
5	TQMP10	170	128	2	0	0	1.42
Supplier		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP11	192	101	7	0	0	1.31
2	TQMP12	186	113	1	0	0	1.37
3	TQMP13	234	61	5	0	0	1.18
4	TQMP14	206	94	0	0	0	1.31
5	TQMP15	228	52	20	0	0	1.10
Process Centered		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP16	190	81	29	0	0	1.17
2	TQMP17	223	58	19	0	0	1.13
3	TQMP18	206	80	14	0	0	1.22
4	TQMP19	233	57	10	0	0	1.15
5	TQMP20	236	61	3	0	0	1.19

Table A.4: Respondent employees' perception regarding various issues relating to TQM practices in case of manufacturing based medium enterprises

TQM Practices		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean
Employee							
1	TQMP1	142	34	54	64	6	0.44
2	TQMP2	206	74	20	0	0	1.18
3	TQMP3	165	133	2	0	0	1.43
4	TQMP4	194	55	51	0	0	1.01

5	TQMP5	199	47	42	12	0	0.93
Customer Focused		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP6	215	15	26	4	0	1.07
2	TQMP7	211	78	9	2	0	1.21
3	TQMP8	201	75	24	0	0	1.17
4	TQMP9	189	88	23	0	0	1.21
5	TQMP10	202	69	28	1	0	1.13
Supplier		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP11	196	82	22	0	0	1.20
2	TQMP12	209	66	25	0	0	1.13
3	TQMP13	201	78	21	0	0	1.19
4	TQMP14	191	101	8	0	0	1.31
5	TQMP15	190	105	5	0	0	1.33
Process Centered		Strongly	Agree	Neutral	Disagree	Strongly	Mean
1	TQMP16	199	93	8	0	0	1.28
2	TQMP17	188	103	9	0	0	1.31
3	TQMP18	193	105	3	0	0	1.34
4	TQMP19	217	80	2	1	0	1.25
5	TQMP20	204	84	11	1	0	1.23

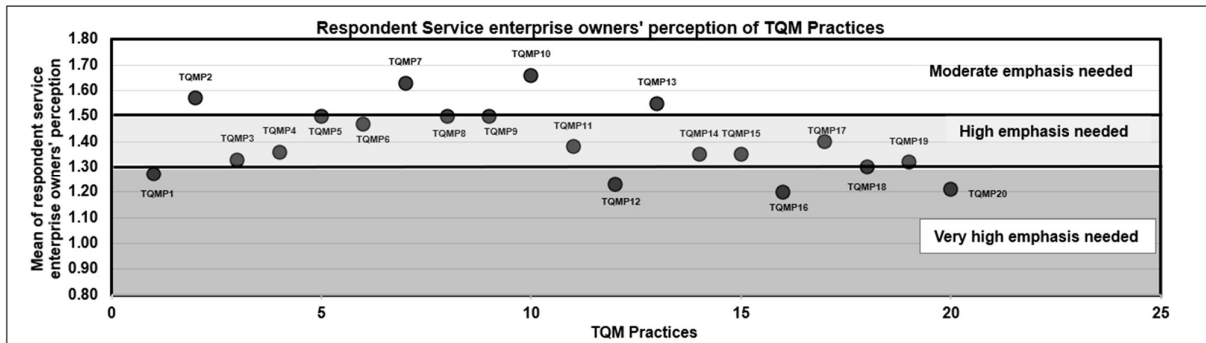


Figure A.1: Respondent Service enterprise owners' perception of TQM Practices

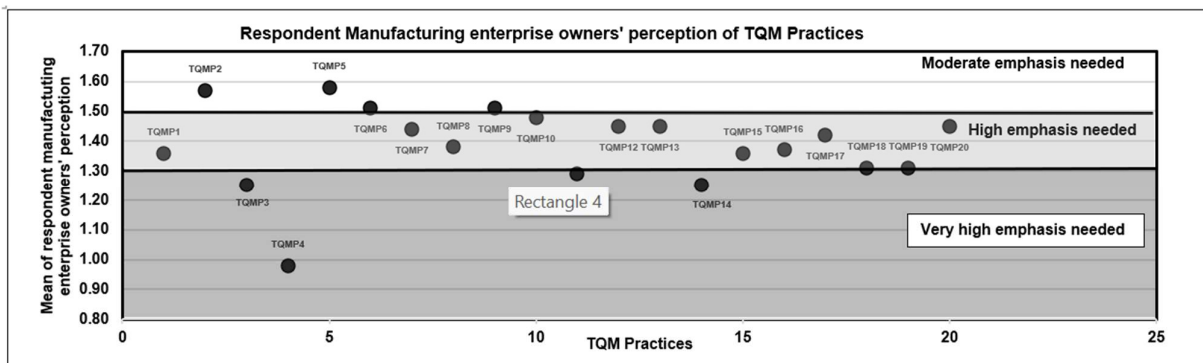


Figure A.2: Respondent Manufacturing enterprise owners' perception of TQM Practices

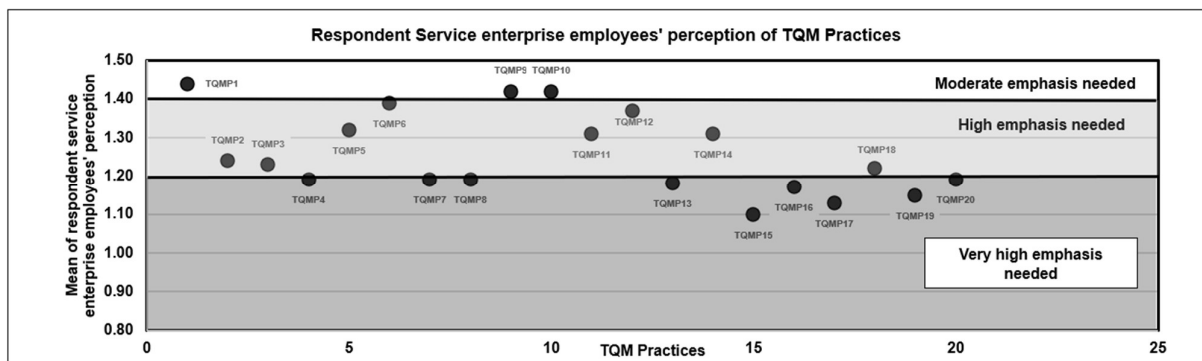


Figure A.3: Respondent Service enterprise employees' perception of TQM Practices

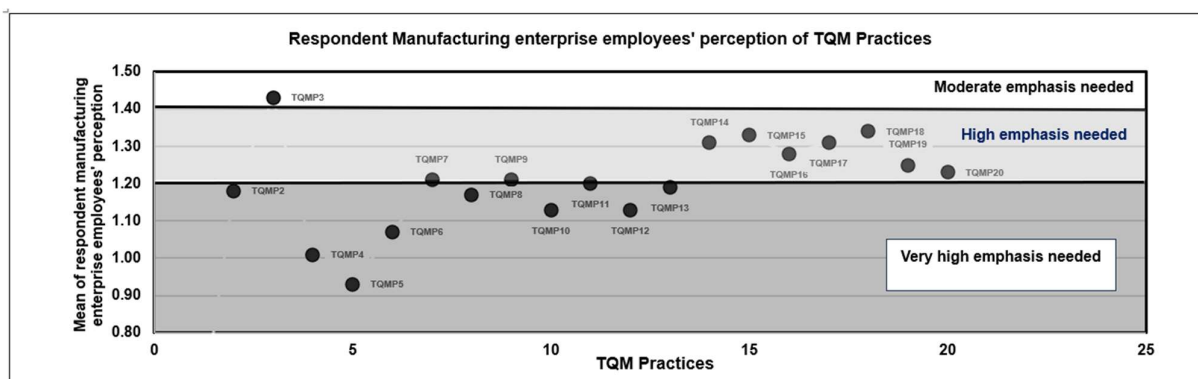


Figure A.4: Respondent Manufacturing enterprise employees' perception of TQM Practices