Organisational Learning as perceived and expected by Management and Non Management Staff

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Abstract—The study applied a combination of organisational learning models (Senge, 1994: Pedler, Burgoyne and Boydell, 1991) and later adopted fifteen organisational learning principles with one of the biggest energy providers in South East Asia. The purposes of the current study were to: a) investigate the company's practices on fifteen organisational learning principles; b) explore the perceptions and expectations of its employees in relations to the principles; and c) compare the perceptions and expectations between management and non-management staff toward the fifteen factors. One hundred and ten employees responded on a designed questionnaire and the results indicated that the company was practicing activities that associated with organisational learning principles. Also, according to the T-test results, significant differences between management and non-management respondents were found. Research implications are also provided.

Keywords—Organisational learning, employee perception, organisational performance.

I. INTRODUCTION

FROM the changes and dynamics of the environment and the competitive environment it forces many organisations to change their strategies and business environment. Therefore, the ability of the organisation to adapt is considered to be the main factor in its survival and competitive success [1]. Moreover, the ability to learn faster than competitors is source of competitive advantage, in a long run. When an organisation adapts for survival, it is necessary to consider the environments that support the systems thinking, continuous improvement, the efficient way of communicating and generating the synergistic teams [2]. Every level of employee must have ability to learn and love to learn, and everyone not only the top management must involve the long-term strategic capability [1].

The concepts of learning organisation can be found from the works by several scholars such as [3], [2], and [4]. Generally, a learning organisation is the organisation that employees themselves, working environment or even organisation structure prompts for adaptation and flexible enough to cope with the dynamic business environment to obtain the

competitive advantage over the competitors. Therefore, the higher degree of being learning organisation induces the superior performance organisation.

It is because of high competitive environment of petrochemical business. It is interesting to see whether the company, which was the subject of this study, has ability to learn faster and better than its competitors for making competitive advantage including has ability to adapt itself passes through the economic crisis period. Therefore, the research questions were developed: a) how the company performs against the characteristics of learning organisation?; b) are there any differences between the perception and the importance of each characteristic to the business from the opinion of employees?; and c) are there any differences between the management level regarding to their own perceptions and their own expectations on the characteristics of learning organisation?

II. THE COMPANY

The company was officially founded by Thai government on February 23, 1984 as the country's first upstream petrochemical producer. Before that time, Thailand had to spend billions of Baht on importing petrochemical feedstock for her burgeoning plastic industry. The establishment of the company as an upstream producer supplying olefins to the downstream sectors enabled the country to save considerable amount of money spent on foreign imports. Furthermore, it helped stimulating the formation of the downstream chemical and petrochemical industries, which later became two of the country's backbone industries. Ever since the company has continuously taken part in sustaining Thailand's move toward industrial self sufficiency, by taking natural gas from the Gulf of Thailand and transforming it into more value added products and become one of the energy providers in South East Asia.

III. LITERATURE REVIEW

There are three factors that are forcing all businesses to change [5]. Firstly, according to futurists, we have entered the knowledge era and our economy is the knowledge economy. Secondly, the increase of global competition. Finally, the shift to Total Quality Management (TQM) is a third factor that is influencing the need to adapt to change. To be competitive in the dynamics environment, many believe that the concept of

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organisational learning is one of solutions to help a business successfully adapt to change [6].

The concept of organisational learning has emerged around the early 1950s and 1960s. Organisational learning was seen as theory of "deutro-learning" by [7], which was an explanation of learning to learn, as [8] mentioned about the concept of "self-renewal" and [9] mentioned about the framework of "organisational renewal". Those theories and frameworks were an initial stage of learning organisation. Many theorists propose the concepts and definitions of learning organisation especially [2] and [10]. Reference [10] has provided concept and definitions that are brief and simple to understand. Learning organisation is a vision that has a chance to be achieved. It is not only the simple individual training; it is a result from learning at the whole organisation level, including facilities, which support the continuously learning of all members as well.

Reference [2] suggests that learning organisation is the organisation that has ability to learn faster than competitors. Again, he states that work must turn into more "Learningful". The organisations have to find out how to obtain the commitment and capacity to learn from the employees at all levels in an organisation. In addition, [11] mentions that learning organisation is an organisation that facilitates participation (horizontal) and innovative (vertical) development within and between people and institutions, commercially, technologically and socially. For [12], the concept of competitive learning organisation that it is a continuously adaptive enterprise, which promotes focused individual, team and organisational learning through satisfying changing customer needs, understanding the dynamics of competitive forces and encouraging systems thinking.

A. Models of Learning Organisation

Reference [2] states the five disciplines include systems thinking (comprehending the big picture), personal mastery (doing the job well), mental models (critically questioning old assumptions), shared vision (arriving at a collective purpose), and team learning (working together collaboratively).

Systems thinking are the most important discipline that integrates the disciplines, combines them into a coherent body of theory and practice. Without a systemic orientation, there is no motivation to look at how the disciplines interrelate. Building shared vision fosters a commitment to the long term. Mental models focus on the openness needed to understand the world. Team learning develops the skills of groups of people to look for the larger picture beyond the individual perspectives. And personal mastery fosters the personal motivation to continually learn how our actions affect our world. As [2] perceived that systems thinking are the discipline for integrating others, while dialogue is important to build team learning. In addition, personal mastery is the first discipline that should be immerged first for prompt to be learning organisation.

A company which creates learning opportunities for all its members and is able to transform itself as a whole. Model (Characteristics) of learning company or organisation states by [10] is probably clearer than [2]'s.

Reference [10] propose 11 characteristics, which were divided into five groups that showed above. Furthermore, [13] also conclude the meaning of each characteristic briefly and clearly; therefore, researcher would like to combine the conclusion from [13] and the definition of each characteristic from Pedler's. Moreover, Pedler's details their characteristics into the tangible activities; the reader will perceive them in the part of "characteristic of learning organisation".

B. Characteristics of Learning Organisation

Reference [14] states the characteristic of learning organisation in The Fifth Discipline Fieldbook as follow: a) first is learning how to disperse power on an orderly, nonchaotic basis; b) second attribute of winning companies will be systemic understanding. We are absolutely illiterate in subjects that require us to understand systems and interrelationships; c) third attribute that twenty-first companies will need is conversation; d) but the forthcoming kind of company is going to require voluntary followership. Most of our leaders don't think in terms of getting voluntary followers; they think in terms of control.

Learning companies have distinguishing characteristics. They develop and revise strategy continuously. This allows learning to be included into company plans. They allow all members of the company to influence policy making. They use information technology to inform and empower employees and to provide accounting and budget information to assist employee learning. Internal departments and units see each other as both customers and suppliers with a goal of internal customer delight. Reward and recognition systems are flexible to reward performance in meaningful ways. Organisation charts and roles are loosely structured to enable flexibility in assignments. Employees who interact with the outside environment provide information on the environment to the rest of the company. That information is collated and distributed. The key role of managers is to facilitate employee learning and continuous improvement. People are encouraged to take responsibility for their own learning and development. Learning resources and facilities are available for their use [10].

C. Key Success Factor of Learning Organisation

Factors that induce failure to penetrate to deep changes in culture and traditional practices are lack the organisational support to sustain sufficient time and energy to develop new learning capabilities and lack a deep commitment to do the hard work required of them personally and interpersonally [2]. Reference [2] also discovers that the best systemic insights don't get translated into action when people don't trust one another and cannot build genuinely shared aspirations and mental models. In many situations, significant progress in systems thinking seems to be harder to achieve than progress in the other disciplines. Part of the problem is motivational and cultural. Moreover, vital of learning efforts is "local line leadership" as well.

The important thing is the commitment from senior management to develop both itself and their organisational

culture to allow learning and development to occur [15]. This is the starting point in measuring an organisation's ability to learn. While there are many definitions view learning organisations as places where training, personal development and learning are an integral part of the business, theorists also recognize that issues such as sympathetic leadership, changing power and organisational structures and the creation of a suitable culture are all vital for the development of a learning company [13].

Although Senge [2] provides a valuable contribution to the learning arena through his disciples of personal mastery, mental models, team learning, and systems thinking. However, he does not acknowledge explicitly the learning output of new knowledge or the distribution of the learning throughout the organisation. It is clear that successful organisations in the 1990s are moving towards a focus on "soft" qualities such as insight, learning, intuition and creativity in order to achieve competitive advantage and, ultimately, survival [16]. This study offers an example of such an evaluation and demonstrates the use of this type of instrument for assessment purposes. Furthermore, while the creation of a learning organisation was undoubtedly a major aim in this company, the main goal in any reorganisation is ultimately to improve company performance and increase profits.

IV. RESEARCH FACTORS

As objective for the research is that to investigate characteristics of learning organisation on the environment of the company. Therefore, the investigation will be conducted on many perspectives: a) testing the differences between the perception and the employee's opinion for the importance of each characteristic of learning organisation, and the differences between management level and non-management level; b) investigating the differences between the perceptions between management level and non-management level, and the opinion for the importance of each characteristic between management level and non-management levels.

V. RESULTS

According to the 400 questionnaires distributed to the company's employees on every position level. There are returned questionnaire as 118 questionnaires. The amount of unused questionnaire is 8 questionnaires. Therefore, there are 110 questionnaires explain the whole population, which are 722 employees.

A. Participants

From the 110 usable questionnaires, there are 67 males and 43 females completed the questionnaires that are 60.9 % and 39.1 % respectively. Employees who age between 30-39 years old is the highest amount, which is 60.9 %. The second group is 40-49 years old, which is 22.7 %. The third group is less than 30 years old, which is 15.5 %. Employees who have had the bachelor degree are the highest amount, which is 70.9 %, under bachelor degree is 16.4 %, and master degree is 12.7 %. For the position levels, the respondents who are in the position of technician or staff is 28 employees, which is 25.5 %, officer

is 43 employees that is 39.1 %, team leader 22 employees that is 20.0 %, manager 12 employees that is 10.9 %, and the last position is vice president, which the amount is 5 employees that is 4.5 %. Refer to the classification of position level; therefore, the amount of questionnaire that responded by management level that consist of vice president and manager is 17 questionnaires that is 15.4 %. In additions, the rest of the respondents classified to the non-management level that consist of team leader, officer, technician and staff. The frequency is 93 questionnaires that are 84.5 %.

B. Results on 15 Characteristics

On the comparison between the perceptions and the expectations on the 15 characteristics of learning organisation of *all respondents*, the results showed that there are significant differences between perception and expectations on all 15 characteristics (Table I). Moreover, there are significant differences in the negative side (perception < expectation). The highest difference among the 15 characteristics is the factor no.15 (1.4242), which is "Management commitment". The lowest difference among the 15 characteristics is the factor no. 3 (0.8939), which is "Informating".

TABLE I
T-TEST RESULTS BETWEEN PERCEPTION (P) AND EXPECTATION (E) ON 15
CHARACTERISTICS (ALL RESPONDENTS)

Item	Paired Differences	T value
	Mean	
P1 – E1	-1.00	-11.89*
P2 - E2	-1.02	-11.61*
P3 – E3	89	-12.85*
P4 - E4	-1.10	-14.09*
P5 – E5	-1.29	-16.60*
P6 – E6	-1.36	-13.34*
P7 – E7	-1.13	-14.28*
P8 - E8	99	-13.04*
P9 – E9	-1.06	-14.03*
P10-E10	-1.27	-14.72*
P11 – E11	-1.32	-15.95*
P12-E12	-1.07	-13.71*
P13 – E13	-1.13	-13.64*
P14 – E14	-1.18	-14.78*
P15 – E15	-1.42	-15.00*
E = Expectation: P =	= Perception: *Sig. at 0.1	

E = Expectation; P = Perception; *Sig. at 0.1

TABLE II T-Test results between Perception (P) and Expectation (E) on 15 Characteristics (Management)

	Paired Differences	T value
Item	Mean	
P1 – E1	-1.00	-5.10*
P2 – E2	70	-4.30*
P3 – E3	82	-5.08*
P4 - E4	-1.07	-6.24*
P5 – E5	-1.05	-7.09*
P6 - E6	-1.03	-6.34*
P7 - E7	98	-7.23*
P8 - E8	-1.13	-6.13*
P9 – E9	-1.13	-5.62*
P10 - E10	-1.41	-6.51*
P11 – E11	-1.17	-7.04*
P12 – E12	98	-11.14*
P13 – E13	-1.11	-7.53*
P14 - E14	-1.31	-7.05*
P15 – E15	-1.17	-5.99*
E = Expectation;	P = Perception; *Sig. at	0.1

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On the comparison between the perceptions and the expectations on the 15 characteristics of learning organisation of *management level*, the results showed that there are significant differences between perception and expectations on all 15 characteristics (Table II). Moreover, there are significant differences in the negative side (perception < expectation). The highest difference among the 15 characteristics is the factor no.10 (1.4118), which is "Learning climate". The lowest difference among the 15 characteristics is the factor no. 2 (0.7059), which is "Activities of participative policymaking".

On the comparison between the perceptions and the expectations on the 15 characteristics of learning organisation of **non-management level**, the results showed that there are significant differences between perception and expectations at 99% confidence on all 15 characteristics (Table III). Moreover, there are significant differences in the negative side (perception < expectation). The highest difference among the 15 characteristics is the factor no.15 (1.4695), which is "Management commitment". The lowest difference among the 15 characteristics is the factor no. 3 (0.9068), which is "Informating".

TABLE III T-Test results between Perception (P) and Expectation (E) on 15 Characteristics (Non-Management)

		<i>,</i>
Item	Paired Differences	T value
	Mean	
P1 – E1	-1.00	-10.73*
P2 – E2	-1.07	-10.92*
P3 – E3	90	-11.77*
P4 - E4	-1.10	-12.67*
P5 – E5	-1.33	-15.25*
P6 – E6	-1.43	-12.24*
P7 – E7	-1.16	-12.84*
P8 – E8	96	-11.56*
P9 – E9	-1.04	-12.79*
P10 - E10	-1.25	-13.20*
P11 – E11	-1.34	-14.47*
P12 – E12	-1.09	-11.96*
P13 – E13	-1.13	-11.99*
P14 – E14	-1.16	-13.09*
P15 – E15	-1.46	-13.85*
E = Expectation	n; P = Perception; *Sig a	at 0.1

TABLE IV T-Test Results between the Perceptions of Management and Non-

	MAN	JAGEMENT	
Item	t	df	Sig.
P1	10	108	.92
P2	1.34	108	.18
P3	50	108	.61
P4	.64	108	.52
P5	1.78	108	.07
P6	2.20	108	.03
P7	1.26	108	.21
P8	22	108	.82
P9	28	108	.77
P10	23	108	.81
P11	.82	108	.41
P12	09	108	.92
P13	21	108	.82
P14	52	108	.59
P15	1.01	108	.31
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P = Perception; Sig. at 0.1

Regarding the *perceptions* (*P*) of management level and non-management on the 15 characteristics, the results showed that there are no significant differences between management and non-management at 99% confidence on all 15 characteristics (Table IV).

The comparison between the *expectations* (E) of management and non-management, the results showed that there are no significant differences between management and non-management at 99% confidence on all 15 characteristics (Table V).

		TABLE	V		
T-TEST RE	SULTS BETWE	EN THE EXPECTAT	TIONS OF MA	NAGEMEN	T AND NON-
		MANAGEMENT	LEVEL		
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Item	t	df	Sig.	
E1	19	108	.84	
E2	32	108	.74	
E3	-1.05	108	.29	
E4	.63	108	.52	
E5	.54	108	.58	
E6	.63	108	.52	
E7	.37	108	.71	
E8	.59	108	.55	
E9	.09	108	.92	
E10	.69	108	.48	
E11	.07	108	.94	
E12	84	108	.39	
E13	39	108	.69	
E14	.22	108	.82	
E15	34	108	.73	

E = Expectation; Sig. at 0.1

VI. DISCUSSION

How the company performs against the characteristics of learning organisation?

From the whole pictures of the existing activities on the 15 learning organisational factors, the company characterizes to meet all characteristics. Moreover the employees perceive neutrally to those characteristics. It would be implied that the company has performed the activities that support the concept of learning organisation on the acceptable level.

Are there any differences between the perception and the importance of each characteristic to the business (expectation) from opinion of employees?

There are differences between perceptions and expectations at all of 15 factors from all employees. All activities employees perceived are less than benchmarking. Especially, "Management commitment" is the highest different factor. It means that employees expect to see management realize more about the importance of communication for the company's vision. Employees need to understand what the company wants to be. Employees need to perceive that their management commits to develop both management themselves and organisational culture to allow learning and developing. Furthermore, employees need to know that his or her management has leadership abilities, and skills and knowledge to understand the nature of employees and organisation as well. However, the lowest difference among the 15 factors is "Informating". It means that employees perceive that informating perspective is on the nearest situation that employees think that it should be. The information technology could be utilized to create database and communication system to help employees know company's situation and environment around company. Moreover, employees have abilities to gain benefits from information technology; for instance, they how to get the required information from Intranet system.

When the results are considered separately on expectations and perceptions between management and non-management level, the results still showed the same. That is there are differences between expectations and perceptions from the both levels.

From the management level perspective, the highest difference among 15 factors is "Learning climate". It means that management level perceive that the climate for help, support, and interest in learning lessons from mistakes are the most difference from the climate that it should be. Moreover, the attitude of continuous improvement, and trying to learn and do better including the high standard working from employees are the most difference from the climate that it should be as well.

The lowest difference among the 15 factors is "Activities of participative policymaking". It means that management level perceive that company policies is quite reflect the values of all members; there are discussions about the important policies before adoption. Moreover, employees involve in setting their working goal and working standard are nearest the activities that they should be.

From the non-management perspective, the highest difference among the 15 factors is "Management commitment", which is the same result from the all employees' perspective. It means that non-management would like to see their management commit to support the learning activities, contribute the organisation and contribute employees more.

The lowest difference among the 15 factors is "Informating", which is the same result from all employees' perspective as well. It means that non-management perceives that employees can utilize information technology to add value to the organisation, at least it is on the best situation than other characteristics.

Are there any differences between the management level and non-management level regarding to their own perceptions and expectations on the characteristics of learning organisation?

There are no differences of the perceptions between management level and non-management level. In additions, there are no differences of the expectations between management level and non-management as well. Those two evidences showed that the two levels, which are management and non-management level, perceive the same picture.

Management and non-management level perceive the existing activities and existing climates as the same picture. It would be implied that no loss of information or miss

communication between them. Management and nonmanagement level expect to see the same things, it means that both level understand the importance of each factor to the company, and they recognize the same appropriate degree that those factors or activities should be performed. They mentioned about the additional opinions from management and non-management level on the learning organisation aspect as follows:

Management level mentioned about basic knowledge, responsibility and attitude about the job. They realize about the importance of leadership from management level that lead the organisation to be developed. However, they also mentioned about the weakness of the organisation, which they perceive that employees in the middle level and low level do not love to learn and develop naturally.

Non-management level mentioned that they need more openness from management to accept the diversity of thinking. They mentioned the importance and benefit of knowledge transfer, and commitment to make organisation to be learning organisation from top management. In additions, they mentioned about the appropriate tools, which is technology, to support learning organisation, good attitude on quality improvement and commitment from any employees to cooperate in any new systems that company try to implement. They also mentioned that being learning organisation has to meet the company's objective including the dissemination of information and situation of the company. Moreover, they mentioned about the performance indicator should be announced clearly and change management would solve the resistances from change. Again, they mentioned about the old culture of the company that would be the obstacle of learning organisation as well.

From the additional opinions, it showed that both management and non-management level recognize the importance of each factor; they would like to see the improvement of activities and working climates in the aspect of learning organisation.

Refer to the research framework, which mentioned that the expectations would be considered as a benchmarking for the company; any factors that do not meet the expectations should be improved. Therefore, the evidences showed that every factors need to be improved. Those are activities of the learning approach to strategy, activities of participative policy-making, informating, formative accounting and control, internal exchange, reward flexibility, enabling structures, boundary workers as environmental scanners, inter-company learning, learning climate, self-development opportunities for all, team spirit, system thinking, employee commitment and management commitment.

VII. CONCLUSION

The evidences showed that the existing activities that support the learning organisation do not meet the benchmarking for the company at all. Therefore, the company should improve its all characteristics to meet the benchmarking. However, the ratings from all employees on the perceptions are averaged on neutrally perceptions. It means that the company still performs the activities that support the learning organisation and all 15 characteristics on the acceptable level. Therefore, the company is learning; however, it needs more improving in ability to learn to meet the expectations.

Furthermore, the evidences also showed that management and non-management level perceive and expect on the same picture. Therefore, it is a very good signal showing that information and communication between management and non-management is in the good situation. As there are no any problems in communication between management and nonmanagement level, the company will have a high chance to improve the activities and working climate to meet the benchmarking by the cooperation from both management and non-management level in the future.

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APPENDIX A Fifteen Characteristics of Learning Organization			
Characteristics	Definition		
1. Activities of the learning approach to strategy	Company regularly takes stock and modifies direction and strategy as appropriate, Policy and strategy formation structured as learning processes, Business plans are evolved and modified as we go along.		
2. Activities of participative policy-making	Company policies reflect the values of all members not just those of top management, Important policies are widely discussed before they are adopted, Employees are asked to play a strategic part in setting the goals and quality standards that will turn their company's shared vision into reality.		
3. Informating	Information technology is used to create databases and communication systems that help everyone understand what is going on, We really understand the nature and significance of variation in a system, and interpret data accordingly, Information technology really helps us to do new things together and is not just seen for automating processes.		
4. Formative accounting and control:	Accountants and finance people act as consultants and advisers as well as scorekeeper and bean counter, The financial system encourages departments and individuals to take risks with venture capital, People understand the importance of money and resources and also how such things work in this organization.		
5. Internal exchange:	Departments see each other as customers and suppliers discuss and come to agreements on quality, cost, delivery, Departments speak freely and candidly with each other, both to challenge and to give help, Managers facilitate communication, negotiation and contracting, rather than exerting to-down control.		

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6. Reward flexibility:	Alternative reward systems are examined, discussed, tried out, Flexible working patterns allow people to make different contributions and draw different rewards, We are all involved in determining the nature and shape of reward systems.
7. Enabling structures:	Roles and careers are flexibly structured to allow for experimentation, growth and adaptation, Appraisals are geared more to learning and development than to reward and punishment, Structures are very flexible and change frequently to suit different tasks and purposes.
8. Boundary workers as environmental scanners:	It is part of the work of all staff to collect, going back, and report information about what's going on outside the company such as from our customer, business partners and so on, There are systems and procedures for receiving, collating and sharing information from outside the company, We receive regular intelligence reports on the economy, markets, technological developments, socio-political events and world trends and examine how these may affect our business.
9. Inter-company learning:	We engage in joint ventures with our suppliers, customers and competitors, to develop new products and markets, We use benchmarking in order to learn from the best practice in other industries, We often meet with other organizations in our business to share ideas and practices.
10. Learning climate:	If something goes wrong around here you can expect help, support, and interest in learning lessons from it, There is a general attitude of continuous improvement- always trying to learn and do better, High standards; everyone cares and people pick each other up on work quality.
11. Self-development opportunities for all:	People here have their own self-development budgets- they decide what training and development they want, and what to pay for it, With appropriate guidance people are encouraged to take responsibility, The exploration of an individual's learning needs is the central focus of appraisal and career planning.
12. Team spirit:	Teams are recognized and rewarded for their innovative and paradigm breaking solutions to problems, Managers enable their staff to become self-developers and to learn how to improve their performance, A learning organization empowers people towards a collective vision and encourages collaboration and team learning.
13. System thinking:	Systematic problem solving relies on data rather than assumptions, it looks for scientific methods rather than guesswork and it attempts to ensure repeatable results, Employees see the world as a large system of interrelated parts, have strong, clear visions of the future and are able to achieve the results they really want, Building community, testing their assumptions and transforming new knowledge into actions.
14. Employee commitment	They have a strong commitment towards generating and transferring new knowledge and technology, They are impassioned about their work and committed to helping their organization achieve its vision, The strong desire to make a contribution
15. Management commitment	Leaders of learning organizations are adept at communicating a shared vision and helping others gain accurate views of reality, Commitment from management to develop both itself and their organizational culture to allow learning and development, Established executive practices, leadership environment with skills and knowledge appropriate for the nature of the organization.