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The Relationship between Psychological Safety, Organisation Context Support and Team Learning Behaviour in Taiwan

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This paper investigates the relationship between psychological safety, supportive organisation context and team learning behaviour. The research framework of team learning is based on the model developed by Edmondson and explores the management mechanisms in terms of trust, accountability, reward incentives, training and performance appraisal systems. The study randomly selected 445 samples drawing from 1,000 top companies in Taiwan. A total of 169 valid respondents completed the questionnaire, reflecting a response rate of 38%. Results of the study show that when the team has more accountability and trust, the team will have more communication and coordination, and reflective and new thinking. Furthermore, when the team has more incentives, performance appraisals and goal planning and training, the team will have more communication and coordination, and reflective and new thinking, as well as more accountability and trust.

INTRODUCTION

Organisational learning is an important concept to establish a competitive edge in a rapidly changing environment [1-4]. However, it is a complex process to transfer individual learning to organisation learning [1][5][6].

An organisation learns through acquiring, retaining and transferring knowledge [2][7]. Scholars believe that organisational knowledge can be transferred through information technology or by embedding knowledge in social interactions [3][8-13].

Some studies indicate that organisational learning occurs on a multi-level basis. The basic assumption is that organisational learning can not occur through organisations but through individuals [14-16]. Thus, the team serves as a mediator between individuals and organisations [16-19].

Although team learning is an important mediator which can transfer individual learning to organisational learning, little research has been done to understand the factors that influence learning behaviour in real organisations or has been done in laboratories [20].

Edmondson claims that team learning is the outcome of sharing skills, knowledge and resources in a team [20]. Emotional attachment, such as trust, team identity and accountability to teams, is essential to initiate learning behaviour [1][4][20-23]. Emotional support in team learning assists in the sharing of information [5][22][23]. However, most studies focus only on the cognitive processes involved with team learning [20]. As a result, teams often fail transferring individual learning to team learning. Therefore, this study plans to explore the psychological factors regarding team learning as well as organisational supportive context factors.

The purpose of this study is to explore how psychological safety, organisational context and team learning behaviour are related to each other. The study first reviewed literature in the sense of psychological process as well as the supportive team context involved with team learning behaviour. Along the line of the literature reviewed, the study proposed some hypotheses regarding the relationship between psychological safety, organisational context support and team learning behaviour and then conducted an empirical study to test the hypotheses.

LITERATURE REVIEW

Although there is abundant literature covering the concept of organisational learning, there is little agreement on the definition of organisational learning [11][21][22]. Some believe that learning is a process [14][21]. Some view it as an information processing [8][10][13][25].

Some organisationalists insist that organisational learning only occurs when behaviour is changed [8]. Some scholars cite that organisational learning occurs through shared insights, knowledge and mental models [1]. In this paper, the study takes the view of learning as process and socially shared knowledge. For clarity, the paper uses the term *team learning behaviour* to distinguish learning behaviour and learning outcome as Edmondson suggested in her paper [20].

Team Learning Behaviour

Although scholars have emphasised learning as an individual process, now another line of learning concept addresses the nature of collective learning [26]. The assumption is that certain learning behaviour originates from a collective system. Social interaction helps individuals to engage in integration processes, leading to the emergence of collective learning products such as shared ideas, beliefs, mental models, knowledge and action. From this perspective, team learning is a social phenomenon [26].

Team learning behaviour can be characterised by challenging old assumptions, experimenting new ways of doing things, discussing thinking, asking for feedback and reflecting along the process through social interaction in a work team [3][20].

Team learning can be defined as a work team with behaviours such as asking for feedback and testing assumptions in order to explore new concepts, further the knowledge level and strengthen skills and ability. Team learning can change the mental model of teams and help the team to facilitate reflective thinking. Teams engaged in learning behaviour can be more responsive the changes of their environment [1][20].

Psychological Safety

Since team learning behaviour is defined as integrating differences and bringing up issues, it is important for team members to feel comfortable in dealing with differences and confrontations. Such a feeling is usually tacit.

Several scholars have discussed the importance of psychological safety [1][20][21]. When team members believe that their suggestions will be listened and appreciated, they tend to speak out without fear. They will be able to test assumptions, bring out new concepts, discuss contradictory issues and engage in other learning behaviours. To foster such learning behaviour, the team members must have confidence that they will not be embarrassed, rejected or punished for being different. This confidence comes from trust and the quality and quantity of communication committed among team members [9][14][27].

Several researchers and practitioners have recognised the importance of trust [28][29]. Trust in a team was defined by Edmondson as a team climate *characterized by interpersonal trust and mutual respect in which people are comfortable being themselves* [20].

On the other hand, trust in a team is an individual's confidence in his/her expectation to the opinions and behaviour of team members. It can be built in a sense of organisational settings: cognition and affect [30]. Cognitive bases of trust are based on the knowledge of performance and accomplishments. An individual's competence and reliability lead to others' development of trust in him/her.

The performance of a team relies on team member's person-fit strategy. The leader must realise who can do what task well and put the right person to the right position. Also, the members will develop mutual respect to one another's skill and knowledge. Once team members have the cognitive-based trust in each other, they are more likely to accept different ways of doing things and develop reflective thinking.

Another basis of trust is affect. The development of affect-based trust indicates that individuals have formed an emotional attachment in a relation. This kind of trust develops a strong psychological bond for the personal concerns for and care of others. When team members have the emotional attachment to the team, they will dare to be different from each other. They will be risk-taking and challenging.

So both ways of cognition-based or affect-based trust can lead team members to feel easy to ask for help from the team, reveal their opinions to their team and share information. According to social identity theorists and popular team management, effective development of teamwork relies on how much team members want to be part of the team [30]. When team members value their team effort highly, rather than in the sense of individual effort, they are believed to identify with a social category [31].

Other scholars note that social identification can be described as a transition from feeling and thinking of individuals to the sense of a social team [23][27][29][30]. According to Tajfel and Turner (see ref. [30]), only one identity can exist in a team; that is,

either social identity or personal identity can be dominant at one time. When social identity is dominant, team members will be concerned more about the benefits of the team than that of the individuals. Such a perspective will help teams to be more willing to share information and resources that enhance team learning. On the basis of the above considerations, the following proposition can be offered:

Hypothesis 1: Psychological safety is associated with team-learning behaviour.

Supportive Organisation Context

Some studies indicate that supportive organisation context, such as access to resources, information and rewards, can increase team productivity [32][33]. The context support will be able to remove obstacles in team development and most importantly, demonstrate the strong will of top management that they value what the team members have been doing.

The supportive organisation context sends out a message to the team members that their efforts are acknowledged and rewarded by the organisation. It fosters a safe learning climate. Thus, organisation context support can motivate team members to engage in learning activities without fear. Organisation context support may include a well-designed social interactive facility, team-based rewarding and performance appraisal system [3][27][34]. On the other hand, access to resource and vision building can also support teams to develop learning behaviour [1].

This study also proposes:

Hypothesis 2: The supportive organisation context is associated with team psychological safety.
Hypothesis 3: The supportive organisation context is associated with team learning behaviour.

RESEARCH METHODOLOGY

Population and Samples

The population of this study consisted of companies in the top 1,000 businesses in Taiwan. Data were gathered from the 1,000 top companies in Taiwan randomly. There were 445 subjects randomly selected in February 2000. Two weeks after sending the questionnaires, those who did not return the questionnaires were either called by telephone or visited personally. A total of 169 valid respondents completed the instrument, reflecting a response rate of 38%.

Demographic data indicated that over 82% of the subjects were either college graduates (75%) or graduates (8%), and they were predominantly in two industries: 41% in manufacturing and 27% in services. Additionally, 36% of the subjects earned NT$50,000 or more. Also, 23% of the subjects held positions in sales and 23% in the managerial planning department. Almost 26% of the subjects had 1-3 years working experience in the company, whereas approximately 28% had over 10 years of working experience.

The sample profile also indicated that most respondents' ages were in the 30s. Furthermore, the great majority of the respondents were in a company with less than 100 employees (28%) or more than 1,000 employees (24%).

Instrument

The three scales capturing the team learning behaviour, psychological safety and supportive organisation context were constructed based on Edmondson's questionnaire [20]. However, some of the questions under each of the scales were revised or deleted after the pilot study.

To assess the construct validity of the scales, measurements of three scales we included, namely: team learning behaviour, team psychological safety and supportive organisation context.

The psychological safety instrument consisted of 12 items (KMO, 0.80; Bartlett's test, 0.00). The team learning behaviour instrument consisted of 11 items rated on a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly disagree) (KMO, 0.85; Bartlett's test, 0.00). The supportive organisation context instrument consisted of eight items (KMO, 0.81; Bartlett's test, 0.00). The scales were well constructed based on the above KMO and Bartlett test results.

According to the above test results, the three scales are suitable for factor analyses. To examine the dimensionality of the three scale constructs, a set of principal component factor analyses (principal axis factoring) were computed. The psychological safety factor analysis is presented in Table 1. A total of two factors with Eigen values greater than 1 from the psychological safety scale were extracted, accounting for 58% of the variance with a strong first factor accounting for 34% of the total extracted variance. When inspecting the extracted factors, it was found that the first factor corresponded to trust. The second factor corresponded to accountability, which was also found to be a significant factor in initiating the team learning factor [20].

The supportive organisation context factor analysis is presented in Table 2. A total of two factors with Eigen values greater than 1 from the supportive organisation context scale were extracted, accounting for 71% of the variance with a strong first factor

Table 1: Psychological safety factor analysis.

Dimension	Item	Component factor	Eigen value	Variance	Cumulative variance
Trust	10	0.82	4.38	34%	34%
	12	0.81			
	9	0.76			
	13	0.63			
	5	0.65			
	11	0.65			
	6	0.65			
	8	0.52			
Accountability	4	0.80	3.18	24%	58%
	1	0.79			
	3	0.76			
	7	0.73			
	2	0.63			

Table2: Supportive context support factor analysis.

Dimension	Item	Component factor	Eigen value	Variance	Cumulative variance
Incentive and performance appraisal	7	0.82	3.46	49%	49%
	6	0.85			
	5	0.82			
	4	0.60			
Goal planning and training	2	0.69	1.49	21%	71%
	1	0.64			
	31	0.42			

accounting for 49% of the total extracted variance. When inspecting the extracted factors, it was found that the first factor corresponded to incentive and performance appraisal. The second factor corresponded to goal planning and training.

The team learning behaviour factor analysis is presented in Table 3. A total of two factors with Eigen values greater than 1 from the team learning behaviour scale were extracted, accounting for 58% of the variance with a strong first factor accounting for 32% of the total extracted variance. When inspecting the extracted factors, it was found that the first factor corresponded to reflective and new thinking. The second factor corresponded to communication and coordination.

To test for internal consistency (reliability), Cronbach's *a* statistics were calculated for each of the scales: team psychological safety (Cronbach's $a = 0.85$); supportive organisation context (Cronbach's $a = 0.84$); team learning behaviour (Cronbach's $a = 0.73$). The Cronbach's alphas are sufficiently high to pass the accepted norm (0.70) for reliability.

Table3: Team-learning behaviour factor analysis.

Dimension	Item	Component factor	Eigen value	Variance	Cumulative variance
Reflective and new thinking	7	0.80	3.51	32%	32%
	10	0.74			
	6	0.76			
	9	0.72			
	4	0.70			
	8	0.62			
Communication and coordination	5	0.73	2.89	26%	58%
	2	0.72			
	1	0.70			
	3	0.63			
	11	0.58			

Data Analysis

In order to determine the construct validity of psychological safety, supportive organisation context and team learning behaviour scales, factor analyses (principal components, varimax rotation) were used. In addition, Cronbach's alpha was used to determine internal consistency reliability. The significance of canonical correlation was assessed to determine if the factors were related. The relationships between the pairs of canonical variates were assessed. All computations used SPSS 8.0.

RESULTS AND DISCUSSIONS

Through the use of canonical correlation, the underlying relations between psychological safety, supportive organisation context and team learning behaviour were indicated.

Separate canonical correlations were performed for the three scales. The overall multivariate test of significance for psychological safety and learning behaviour revealed that these sets of variables were significantly related. The data in generated a maximum of two pairs of canonical variates and both were found to be significant (both p's < 0.05). The first canonical pair has Wilk's Lambda = 0.36, $p < 0.05$. The second pair has Wilk's Lambda = 0.98, $p < 0.05$. In canonical correlation, the number of pairs of canonical variates that are generated equals the lowest number of variables of the two sets.

The data for the two significant canonical pairs for the relations between psychological safety and team learning behaviour appear in Table 4. The canonical correlation coefficients are 0.79and 0.15 (ρ_1 and ρ_2). The first canonical factor (ρ_1) in control variables can explain 63% of the first canonical factor (ρ_1) in dependent variables.

The first canonical factor (ρ_1) in dependent variables can explain 88% of the dependent variables. The control variables can explain 55% of the dependent variables through the first canonical variable. The first canonical pair (accountability and trust) affects team learning behaviour (coordination and communication and reflective and new thinking) through the first canonical factor (ρ_1). When the team has more accountability (0.86) and trust (0.99), the team will have more team-learning behaviour; that is, communication and coordination (0.96) and reflective and new thinking (0.92) learning behaviour according to the structural coefficients.

The first canonical pair (accountability and trust) affects team learning behaviour (coordination and communication and reflective and new thinking) through the second canonical factor (ρ_2). When the team has more accountability (0.51), the team will have less team communication and coordination (-0.28) and reflective and new thinking (0.40) learning behaviour according to the structural coefficients. However, the second canonical factor has a slight influence (2%). The results showed that the hypothesis 1 is valid.

The data generated two pairs of canonical variates and only one was found to be significant (both p's < 0.05). The first canonical pair has Wilk's Lambda = 0.41, $p < 0.05$. The second pair has Wilk's Lambda = 0.99, $p > 0.05$. Data for the one significant canonical pairs for the relations between supportive organisation context and team learning behaviour appear in Table 5. The canonical correlation coefficients are 0.77 and 0.09 (ρ_1 and ρ_2). The first canonical factor (ρ_1) in control variables can explain 59% of the first canonical factor (ρ_1) in dependent variables. The first canonical factor (ρ_1) in dependent variables can explain 87% of the dependent variables.

The control variables can explain 51% of the dependent variables through the first canonical variable. The first canonical pair (incentives and performance appraisal, and goal planning and training) affects team learning behaviour (coordination and communication and reflective and new thinking) through the first canonical factor (ρ_1). When the team has more incentives and performance appraisal (0.91), and goal planning and training (0.75), the team will have more team learning behaviour; that is, communication and coordination (0.97), and reflective and new thinking (0.89) according to the structural coefficients.

Table 4: Team psychological safety and team learning behaviour canonical analysis.

Canonical Variate			Canonical Vairate		
X variable	χ_1	χ_2	Y variable	ρ_1	ρ_2
Accountability	0.86	0.51	Communication and coordination	0.96	-0.28
Trust	0.99	-0.12	Reflective and new thinking	0.92	0.40
Variance in dependent	0.54	0. 33	Variance in dependent	0.88	0.12
cum. var. in covariates	0.86	0.14	cum. var. in covariates	0.55	0.29
ρ^2	0.63	0.02			
ρ	0.79	0.16			

Both of the correlations between dependent and canonical variables are above 0.70. The pair of canonical structure coefficients in X variables indicate that incentives and goal planning contribute a positive relationship to team learning behaviour. This indicates that hypothesis 2 is valid.

The data generated a maximum of two pairs of canonical variates and only one was found to be significant ($p < 0.05$). The first canonical pair has Wilk's Lambda = 0.52, $p < 0.05$. The second pair has Wilk's Lambda = 0.99, $p > 0.05$. Data on the one significant canonical pairs for the relations between supportive organisation context and psychological safety appear in Table 6. The canonical correlation coefficients are 0.69 and 0.09 (ρ_1 and ρ_2).

The first canonical factor (ρ_1) in control variables can explain 47% of the first canonical factor (ρ_1) in dependent variables. The first canonical factor (ρ_1) in dependent variables can explain 89% of the dependent variables. The control variables can explain 42% of the dependent variables through the first canonical variable. The first canonical pair (incentives and performance appraisal, and goal planning and training) affects team psychological safety (accountability and trust) through the first canonical factor (ρ_1). When the team has more incentives and performance appraisal (0.88), and goal planning and training (0.80), the team will have more accountability (0.92) and trust (0.97) according to the structural coefficients.

Both of the correlations between dependent and canonical variables are above 0.70. The canonical structure coefficients in X variables (0.88 and 0.80) indicate that incentives and goal planning contribute a positive relationship to team psychological safety. This indicates that hypothesis 3 is valid.

The results of canonical correlation showed that both psychological safety and supportive organisation were related to team learning behaviour. The psychological safety and supportive organisation were also related. These findings are similar to those of Edmondson's study [20]. The existence of team psychological safety was supported by the survey. Building trust provides a foundation for further development of team learning behaviour. The supportive organisation context is positively related to the climate of trust. The canonical analyses provided positive support for the three hypotheses. The survey result between context support and psychological safety suggests a positive association, as does the quantitative result between context support and team learning behaviour. Furthermore, the psychological safety and team learning behaviour are positively associated.

This paper presents a model of team learning. Their learning behaviour consists of learning behaviour such as accepting new concepts, sharing information, asking for help and experimenting. However, by conducting these kinds of behaviour, team members are placing themselves at risk. They may risk their

Table 5: Supportive organisation context and team learning behaviour canonical analysis.

Canonical Variate		Canonical Variate	
X variable	χ_1	Y variable	ρ_1
Incentives and Performance Appraisal	0.91	Communication and Coordination	0.97
Goal planning and Training	0.75	Reflective and New thinking	0.89
Variance in Dependent Cum. Var. in Covariates	0.41 0.70	Variance in Dependent Cum. Var. in Covairates	0.87 0.51
ρ^2 ρ	0.59 0.77	0.01 0.09	

Table 6: Supportive organisational context and psychological safety canonical analysis.

Canonical Variate		Canonical Variate	
X variable	χ_1	Y variable	ρ_1
Incentives and Performance Appraisal	0.88	Accountability	0.92
Goal Planning and Training	0.80	Trust	0.97
Variance in Dependent Cum. Var. in Covariates	0.33 0.70	Variance in Dependent Cum. Var. in Covariates	0.89 0.42
ρ^2 ρ	0.47 0.69	0.01 0.09	

professional images by asking for help. In addition, sharing information may run the risk of losing one's power or promotion.

In summary, people tend to act in ways that inhibit learning unless they feel secure [21]. An aim of the study was to investigate whether psychological safety, team learning behaviour and supportive organisation context are related. Few studies focus on the emotional attachment to team learning behaviour. The study tries to fill in the gap.

FURTHER STUDIES AND LIMITATIONS

Future research may investigate how structural and interpersonal factors are interrelated in promoting team learning behaviour. To do this, longitudinal research could help to develop an understanding of the development of team psychological safety under the influence of an organisational context.

This study provides a limited exploration of factors in initiating team learning behaviour, given the inherently dynamic nature of learning. For example, the construction of the survey does not include leader influence and facility design [34][36].

Although some organisational factors were included in the context support questionnaire, the data did not specify organisational culture and supportive systems in detail [3]. Furthermore, additional research is needed to include more factors that promote psychological safety, supportive organisation context and team learning behaviour.

Basically, the theoretical model was based on Edmondson's team-learning model. Nevertheless, the model was revised after a preliminary test. It is suggested that further development on the model be necessary in order to provide a complete picture in Chinese society. Therefore, a qualitative study is suggested to explore more factors that are associated with team learning behaviour and team psychological safety in Chinese society.

In addition, conducting the study in the 1,000 top business companies in Taiwan imposed limitations, suggesting caution in drawing conclusions for teams in other organisations. Moreover, the work teams in Taiwan were not fully developed. The study defined work teams in a loose manner. The sample might not be representative of the full spectrum of possible work teams. Further studies on different types of teams and rigid definition of a work team are suggested.

REFERENCES

1. Senge, P.M., *The Fifth Discipline: the Art and Practice of the Learning Organization.* New York: Doubleday (1990).
2. Clegg, S., Globalizing the intelligent organization: learning organization, smart workers, (not so) clever countries, and the sociological imagination. *Management Learning,* 30, **3**, 259-280 (1999).
3. Cross, R. and Baird, L., Technology is not enough: improving performance by building organizational memory. *Sloan Management Review*, 41, **3**, 69-78 (2000).
4. Ellerman, D.P., Global institutions: transforming international development agencies into learning organizations. *The Academy of Management Executive*, 13, **1**, 25-35 (1999).
5. King, W.I. and Rowe, A., Space and the not-so-final frontiers: representing the potential of collective learning for an organization. *Management Learning*, 30, **4**, 431-448 (1999).
6. Dirx, J.M., Invited reaction: managers as facilitators of learning. *Human Resource Development Quarterly*, 10, **2**, 127-134 (1999).
7. Ellinger, et al., Managers as facilitators of learning in learning organizations. *Human Resource Development Quarterly*, 10, **2**, 105-125 (1999).
8. Huber, G.P., Organizational learning. *Organizational Science*, 2, 88-115 (1991).
9. Chen, X.P. and Komorita, S., The effects of communication and commitment in a publics goods social dilemma. *Organizational Behavior and Human Decision Processes*, 60, 367-386 (1994).
10. Macdonald, S., Learning to change: an information perspective on learning in the organization. *Organization Science*, 6, **5**, 557-568 (1995).
11. Tsang, E.W.K., Organizational learning and the learning organization: a dichotomy between descriptive and prescriptive research. *Human Relations*, 50, **1**, 73-87 (1997).
12. Argote, L. and Ingram, P., Knowledge transfer: a basis for competitive advantage in firms. *Organization Behavior and Human Decision Processes*, 82, **1**, 150-169 (2000).
13. Crossdell, D.C., IT's role in organizational memory and learning. *Information Systems Management*, 18, **1**, 8-11 (2001).
14. Argyris, C., Good communication that blocks learning. *Harvard Business Review*, July-August, 77-85 (1994).
15. Lipshitz, R., Chic, mystique and misconception: Argyris and Schon and the rhetoric of organizational learning. *The J. of Applied Behavioral Science*, 36, **4**, 456-472 (2000).
16. Crossan, M.M., Lane, H.W. and White, R.E., An organizational learning framework: from intuition to institution. *The Academy of Management Review*, 24, **3**, 522-537 (1999).
17. Kim, D.H., The link between individual and organizational learning. *Sloan Management Review*, 35, **1**, 37-62 (1993).

18. Krogt, F.J. Van der and Wildemeersch, D.A, Learning-network theory. *Management Learning*, 31, **1**, 25-39 (2000).
19. Kasl, E.; Marsick, V.J. and Dechant, K., Team as learners: a research-based model of team learning. *J. of Applied Behavioral Science*, 33, **2**, 227-246 (1997).
20. Edmondson, A., Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*, 44, **2,** 350-383 (1999).
21. Garvin, D.A., Building a learning organization. *Harvard Business Review*, July-August, 78-91 (1993).
22. Senge, P.M., It's the learning: the real lesson of the quality movement. *J. for Quality and Participation*, 22, **6**, 34-40 (1999).
23. Brown, A.D. and Starkey, K., Organizational identity and learning: a psychodynamic perspective. *The Academy of Management Review*, 25, **1**, 102-120 (2000).
24. Easterby-Smith, M., Disciplines of organizational learning: contributions and critiques. *Human Relations*, 50, **9**, 1085-1113 (1997).
25. Lipshitz, R., Popper, M., Sasson, O.Z., Building learning organizations: the design and implementation of organizational learning mechanism. *J. of Applied Behavioral Science*, 32, **4**, 292-312 (2000).
26. Kilgore, D., A team learning intervention into how women learn empathy in prison, *Adult Education* Quarterly, 51, **2**, 146-164 (2001).
27. Dyer, W.G., *Team Building: Current Issues and New Alternatives.* Wokingham, UK: Addison-Wesley (1999).
28. Ulijn, J., O'Hair, D., Weggeman, M., Ledlow, G. and Hall, T.H., Innovation, corporate strategy, and cultural context: what is the mission for international business communication? *J. of Business Communication*, 37, **3**, 293-316 (2000).
29. D'Andrea-O'Brien, C. and Buono, A.F., Building effective learning teams: lessons from the field, *SAM Advanced Management J.*, 61, **3**, 4-16 (1996).
30. Chen, C.C., Chen, X-P. and Meindl, J.R., How can cooperation be fostered? The cultural effects of individualism-collectivism. *The Academy of Management Review*, 23, **2**, 285-304 (1998).
31. Lembke, S. and Wilson, M.G., Putting the *team* into teamwork: alternative theoretical contributions for contemporary management practice, *Human Relations*, 51, **7**, 927-944 (1998).
32. Hackman, J.R., *The Design of a Work Team*. In: Lorsch, J. (Ed.), Handbook of Organizational Behavior. Englewood Cliffs, NJ: Prentice-Hall, 315-342 (1987).
33. Wageman, R., The effects of team design and leader behavior on self-managing teams: a field study. Working Paper, School of Business, Columbia University (1998).
34. Jassawalla, A.R and Sashittal, H.C., Strategies of effective new product team leaders. *California Management Review*. 42, **2**, 34-51 (2000).

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