

Mediating effects of reflexivity of top management team between team processes and decision performance

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Abstract. The effects of team processes (internal team processes and external team processes) and reflexivity (task reflexivity and emotional reflexivity) of the top management team (TMT) on decision performance (decision quality and decision satisfaction) are becoming more and more critical. However, there are few studies on this topic. In this study, I explored the mediating effects of TMT reflexivity between TMT team processes and decision performance by hierarchical regression analysis and a bootstrap method. Participants were 524 team members from 76 TMTs. The results revealed that TMT team processes had significantly positive effects on TMT reflexivity and decision performance. TMT reflexivity had significantly positive effects on decision performance. TMT reflexivity partially mediated the positive effects of TMT team processes on decision performance. The results extend previous findings on TMT and strategic decisions and clarify the relationships between TMT team processes, TMT reflexivity and decision performance.

Keywords: Top management team (TMT), reflexivity, team processes, decision performance.

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Since Hambrick and Mason (1984) put forward the “upper echelon theory” which thought that organizational outcomes – strategic choices and performance levels – were partially predicted by managerial background characteristics. The central premise was that executives’ experiences, values, and personalities greatly influenced their interpretations of the situations they faced and, in turn, affected their choices. The relationships between top management team (TMT) and strategic decisions have been one of the focuses of academic circles. Senior managers decide on the overall strategic direction of the firm, the composition of the project portfolio, and the allocation of resources across innovation projects. In previous studies on TMT and strategic decisions, academic circles mainly focused on the effects of TMT demographic characteristics and individual heterogeneity on strategic decisions. Wiersema and Bantel (1992) found that TMT average age and team tenure were significantly related to decision quality. However, Sutcliffe (1994) found that TMT with higher average age and more senior team tenure was reluctant to make strategic change and decision speed and decision consensus were low. Some scholars indicated that TMT heterogeneity had significantly positive effects on decision quality and decision satisfaction from the perspective of bounded rationality and information processing, various teams were more creative than homogeneous groups, especially in complex and changing environments (Li, Liu, Lin, & Ma, 2016; Yi, Ndofor, He, & Wei, 2018). However, some scholars found that TMT homogeneity was positively related to decisions quality and decision satisfaction in relatively stable environments (Zhao, Ge, & Liu, 2016). It was clear that research results were unstable, and some were even contrary. Some scholars began to pay attention to the effects of team processes such as information exchange, cooperation, discussion etc. among TMT members on strategic decisions. For example, Liu, Ge, and Wang (2015) showed that team processes among TMT members could effectively improve the quality and satisfaction of strategic decisions.

Previous studies on TMT and strategic decisions paid more attention to the effects of TMT on strategies, especially the strategy formulation. However, in the process of strategy implementation, there were few studies on how TMT members made overt reflexivity on the established strategies and timely adjusted them according to the variation of internal and external environments. Also, most previous studies on reflexivity mainly focused on the work teams, especially the innovative teams, research and development teams. Schippers, West, and Dawson (2015) concluded that team reflexivity was positively related to team innovation. Yang and Ge (2012) found that team processes among team members could enhance team task reflexivity. Liu (2017) found that team processes between supervisor and subordinate could enhance team task reflexivity. However, studies on TMT reflexivity, especially the mediating effects of TMT reflexivity in the relationships between TMT team processes and decision performance, are still blank. The questions whether TMT reflexivity has a direct impact on decision performance and whether TMT reflexivity can mediate the effects of TMT team processes on decision performance are still unknown. Therefore, I introduced reflexivity to TMT theory to explore the relationships between TMT team processes, reflexivity and decision performance and reveal the internal role mechanism of TMT team processes, reflexivity on decision performance, which would be an innovative research way.

Literature Review and Hypotheses Development

Effects of TMT Team Processes on Decision Performance

TMT in a firm is composed of some top managers (principal shareholders, chairperson, CEO, general manager and deputy general managers) who have excellent decision power and decide on the allocation of resources and the overall strategic direction (Hambrick, Humphrey, & Gupta, 2015). Previous studies have examined various team processes constructs, including communication quality, communication frequency, debate, team’s collaborative behaviour, and joint decision making (Hambrick, 1994; Carmeli, & Schaubroeck, 2006; Lubatkin, Simsek, Ling, & Veiga, 2006; Simsek,

Veiga, Lubatkin, & Dino, 2005). In this study, I divided TMT team processes into two dimensions: TMT internal team processes and TMT external team processes. TMT internal team processes refer to the interaction behaviours among TMT members, such as communication, cooperation, discussion, etc. TMT external team processes refer to the interaction behaviours between TMT members and middle managers, first-line managers and ordinary staff, such as communication, cooperation, discussion, etc. (Guesalaga, 2014; Liu, Ge, & Wang, 2015). TMT internal team processes emphasize the interaction behaviours among TMT members, while TMT external team processes emphasize the interaction behaviours between TMT members and subordinates. TMT internal team processes are vital means of information and emotional communication, which can promote TMT members to express and share their thoughts and opinions, and can reduce the emotional conflicts among TMT members (Lo & Fu, 2016; Ridge & Ingram, 2017). In real society, each TMT member is a limited rational person, so it is challenging to be omniscient and omnipotent. Facing complex internal and external environments, each TMT member hardly gets all decision-making information because of their limited rationality. Therefore, TMT internal team processes among TMT members can help them to exchange information, reduce harmful conflicts and achieve strategic consensus, which can effectively improve the quality and satisfaction of decision-making (Georgakakis, Greve, & Ruigrok, 2017).

Previous studies on strategic decisions paid more attention to the role of TMT but ignored the effects of middle managers, first-line managers and ordinary staff on strategic decisions. If TMT members are effective decision-makers, then middle managers, first-line managers and regular staff are active implementers of strategic choices made by TMT (Li, Liu, Lin, & Ma, 2016; Liu, Ge, & Wang, 2015; Ou, Seo, Choi, & Hom, 2017). The strategy itself can not realize enterprise performance. Only through effective strategy implementation can strategic values and expected performance goals be achieved. Wooldridge and Floyd (1990) concluded that the vital involvement of middle-level managers could improve certain decision quality and strategic consensus. Raes, Heijltjes, Glunk, and Roe (2011) found that the interaction between TMT and middle managers was central to effective strategy formulation and implementation, and could enhance strategic decision quality and implementation quality. Liu (2017) concluded that information exchange, emotional communication, effective collaboration between TMT members and middle managers, first-line managers and ordinary staff were helpful to obtain comprehensive strategic decision information. More strategic decision options from the perspective of strategic implementation, to enhance the recognition of TMT members and subordinates for strategic decisions, to promote the acceptance and implementation of TMT members and assistants for strategic decisions, which could effectively improve the quality and satisfaction of strategic decisions. If TMT members pay attention to the interaction behaviours (such as information exchange, communication, discussion, etc.) with middle managers, first-line managers and ordinary staff, fully mobilize the enthusiasm of their staff. Encourage them to participate in strategy formulation, then the quality and satisfaction of strategic decisions made by TMT will be better. Thus, I proposed the following hypotheses:

H1a: TMT internal team processes will cause significantly favourable effects on decision quality.

H1b: TMT internal team processes will make significantly favourable effects on decision satisfaction.

H1c: TMT external team processes will make significantly favourable effects on decision quality.

H1d: TMT external team processes will make significantly favourable effects on decision satisfaction.

Mediating Effects of TMT reflexivity Between Team Processes and Decision Performance

In this study, I have divided reflexivity into two dimensions: TMT task reflexivity and TMT emotional reflexivity. TMT task reflexivity means that TMT members collectively reflect on the strategic decisions and problems encountered during strategy implementation, and make amendment and adjustment in time according to the rapidly changing internal and external environments (Schippers, West, & Dawson, 2015). Yang and Ge (2012) found that the higher TMT task reflexivity was, the more willing team members would be to collectively reflect on the strategic decisions and problems encountered in the process of strategy implementation. Put forward different views and suggestions and together discuss the diverse opinions in an open-minded way. Which could promote TMT members to discuss, communicate, coordinate, and reduce errors in the process of strategy formulation and improve the quality of strategic decisions. Besides, the higher TMT task reflexivity is, the more proactive TMT members will be to make an overt reflection, put forward different views and improve the satisfaction of strategic decisions (Liu, 2016; Shin, Kim, & Lee, 2017).

Emotional reflexivity refers to the ability to deal with emotional conflicts among team members and the degree of happiness of team members, which emphasizes personal growth and the extent that team members care about each other (Andela & Truchot, 2017). Firms in China attach great importance to harmony and good interpersonal relationships because of the influence of collectivism culture. Liu (2017) found that the higher TMT emotional reflexivity was, the more willing TMT members would be to collectively reflect on how to collaborate, put forward their views and accept other people's opinions which were different from their own. Emotional reflexivity can alleviate the tense interpersonal relationships that result from suggestion conflicts about work tasks among team members, which means that emotional reflexivity can help task. Reflexivity to work more effectively and prevent undesirable conflicts from being further aggravated and all of these are beneficial to improve decision quality and decision satisfaction (Hedman-Phillips & Barge, 2017). In a word, TMT members with a high level of emotional reflexivity are more willing to put forward their own opinions and accept other people's suggestions, take an active part in the process of strategic decisions and work hard to improve the quality and satisfaction of strategic decisions.

Researchers have found that TMT internal team processes were helpful for cognition sharing, emotion supporting, value identification among TMT members. These processes were also useful in TMT members to overtly reflect on the established strategies and problems in the process of strategy implementation, to express their ideas, opinions and share them in a harmonious atmosphere and to resolve the interpersonal conflicts and distrust among TMT members (Andela & Truchot, 2017; Liu, Ge, & Wang, 2015). Yang and Ge (2012) showed that TMT internal team processes could reduce supervision and defence behaviours and could promote cooperation and communication among team members, which was beneficial to improve the level of TMT task reflexivity. The reason is that the higher TMT internal team processes are, the more willing TMT members will be to live in harmony and treat each other with all sincerity, exchange and share the information which is closely related to strategic decisions. Liu (2016) found that TMT internal team processes could help TMT members to exchange information and discuss the diverse views in an open-minded way, which was beneficial to strengthen the interpersonal relationships and solve the emotional conflicts among team members. When TMT members enhance their interpersonal relationships through this internal team interaction, they will have more confidence to face and deal with the interpersonal conflicts among them, which will make positive effects on TMT task reflexivity and emotional reflexivity.

From the information processing theory, TMT external team processes are essential to influence factors affecting information processing, because of the high degree of TMT external team processes. It can promote frank and sincere communication of information, information sharing between TMT and middle managers, first-line managers and ordinary staff. It is not easy for TMT members to regard

subordinates' constructive views as provocative comments, which will help to raise the level of TMT task reflexivity related to work task (Lo & Fu, 2016; Rhodes & Sadeghinejad, 2016). Also, TMT external team processes can effectively deal with interpersonal conflicts between TMT members and subordinates and reduce bad emotional behaviours (e.g., sharp language, provocative actions and sabotage). Rong (2015) found that interaction behaviours between TMT members and subordinates could effectively reduce political behaviours (self-serving and manipulative activities to protect personal interests) and emotional conflicts among TMT members, which can improve the level of TMT emotional reflexivity. Therefore, external team processes between TMT and subordinates have positive effects on task reflexivity and emotional reflexivity.

Therefore, TMT team processes have significantly favourable effects on decision performance. TMT team processes also have significantly promising results on TMT reflexivity. TMT reflexivity has significantly positive effects on decision performance. In other words, TMT reflexivity has mediating effects between team processes and decision performance. Thus, I proposed the following hypotheses:

H2a: TMT task reflexivity can mediate the positive effects of TMT internal team processes on decision quality.

H2b: TMT task reflexivity can mediate the positive effects of TMT external team processes on decision quality.

H2c: TMT task reflexivity can mediate the positive effects of TMT internal team processes on decision satisfaction.

H2d: TMT task reflexivity can mediate the positive effects of TMT external team processes on decision satisfaction.

H2e: TMT emotional reflexivity can mediate the positive effects of TMT internal team processes on decision quality.

H2f: TMT emotional reflexivity can mediate the positive effects of TMT external team processes on decision quality.

H2g: TMT emotional reflexivity can mediate the positive effects of TMT internal team processes on decision satisfaction.

H2h: TMT emotional reflexivity can mediate the positive effects of TMT external team processes on decision satisfaction.

Method

Participants and Procedure

Sample data in this paper were from TMT members who worked in various industries, various types of ownership enterprises in Shanghai, Jiangsu, Zhejiang, Anhui provinces in China. The way to collect data in the process of questionnaire survey was to directly go into some enterprises to invite TMT members to answer the questionnaires. There were 1260 questionnaires in total which were distributed, and 563 were collected. The rate of recovery of the survey was 42.5%. After I had deleted the inquiries with incomplete answers, there were 524 valid samples, which were from 76 enterprises. Namely, actual sample data were from 524 team members of 76 TMTs. Of the participants, 79% were men, and 21% were women. Age was given priority to with 30 to 40 years old (45%), followed by 41 to 50 years past (33%), above 50 years old (22%). Educational level: master degree or above (31%), undergraduate degree (43%), College degree (17%), Senior middle school, Junior middle school and below (9%).

Measures

The items of each test were measured on a 7-point scale, with responses ranging from 1=strongly disagree to 7=strongly agree.

Team processes

Team processes were measured from two dimensions of internal team processes and external team processes based on the discussion on TMT team processes in some literature (Knight et al., 1999; Raes et al., 2011). Items for internal team processes were “TMT members attach great importance to information exchange and sharing”. “TMT members often discuss strategic decisions by the conference”. “TMT members attach great importance to joint decision making”. Items for external team processes were “TMT members will seriously listen to and consider the opinions and suggestions of subordinates in the process of strategic decisions”. “TMT members attach great importance to the informal communication with subordinates”. “TMT members attach great importance to information exchange and sharing with subordinates”. Cronbach’s α for the two subscales were .89 and 0.90, respectively, in this study.

Reflexivity

Reflexivity was measured with the scale developed by Yang & Ge (2012). However, I have designed the range from two dimensions of task reflexivity and emotional reflexivity, and each aspect had three items. Items for task reflexivity were “The methods used by the team to get the job done are often discussed”. “In this team, we modify our objectives in the light of changing circumstances”. “Team members often discuss whether the team is working effectively together”. Items for emotional reflexivity were “Team members can provide each other with support when times are difficult”. “Team members are often friendly”. “When things at work are stressful, we pull together as a team”. Cronbach’s α for the two subscales were .87 and .89, respectively, in this study.

Decision performance

Decision performance was measured from two dimensions: decision quality and decision satisfaction, and both of them had three items developed by Liu (2017). Things for decision quality were “The quality of this strategic decision is very high”. “The quality of this strategic decision is far beyond our initial expectations”. “This strategic decision is very beneficial to the company performance”. Items for decision satisfaction were “we would work hard for this strategic decision”. “Comparing with other strategic decisions, we are most satisfied with this strategic decision”. “we would like to see this strategic decision to be implemented”. Cronbach’s α for the two subscales were .86 and .87, respectively, in this study.

Data Analysis

In this study, I aggregated 524 TMT members’ individual-level data to 76 team-level data. The mean of Rwg(J) of internal team processes, external team processes, task reflexivity, emotional reflexivity, decision quality and decision satisfaction were .93, .91, .89, .87, .86, and .87, respectively. The ICC(1) of internal team processes, external team processes, task reflexivity, emotional reflexivity, decision quality and decision satisfaction were .21, .22, .19, .20, .23, and .22, respectively. Therefore, 524 TMT members’ -level data could be aggregated to 76 team-level data. I conducted hierarchical regression analysis using SPSS version 18.0 to test the hypotheses. The results of hierarchical regression analysis were shown in Table 1, Table 2, Table 3, and Table 4. Also, I conducted bootstrap re-samples using Mplus version 7.0 to estimate the size. The confidence intervals for the indirect effect via TMT task reflexivity and TMT emotional reflexivity. The results of the bootstrap test were shown in Table 5.

Table 1. Mediating Effects of TMT Task Reflexivity Between Team Processes and Decision Quality

Variables		Dependent variable: decision quality				Mediating variable: task reflexivity	
		Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Independent variable	Internal team processes	.902**	.391**			.877**	
	External team processes			.895**	.369**		.885**
Mediating variable	Task reflexivity		.582**		.594**		
	R^2	.788**	.856**	.787**	.849**	.789**	.813**
	F	52.43**	44.38**	53.61**	44.25**	51.76**	59.73**
	ΔR^2		.068		.062		

Note. * $P < .05$, ** $P < .01$.

Table 2. Mediating Effects of TMT Task Reflexivity Between Team Processes and Decision Satisfaction

Variables		Dependent variable: decision satisfaction				Mediating variable: task reflexivity	
		Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Independent variable	Internal team processes	.888**	.392**			.877**	
	External team processes			.877**	.350**		.885**
mediating variable	task reflexivity		.565**		.595**		
	R^2	.810**	.879**	.802**	.869**	.789**	.813**
	F	53.13**	45.13**	54.19**	47.51**	51.76**	59.73**
	ΔR^2		.069		.067		

Note. * $P < .05$, ** $P < .01$.

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Table 3. Mediating Effects of TMT Emotional Reflexivity Between Team Processes and Decision Quality

Variables		Dependent variable: decision quality				Mediating variable: emotional reflexivity	
		Model 13	Model 14	Model 15	Model 16	Model 17	Model 18
Independent variable	Internal team processes	.902**	.380**			.914**	
	External team processes			.895**	.381**		.902**
Mediating variable	Emotional reflexivity		.571**		.569**		
	R^2	.788**	.858**	.787**	.860**	.789**	.779**
	F	52.43**	42.38**	53.61**	45.35**	49.76**	47.46**
	ΔR^2		.070		.053		

Note. * $P < .05$, ** $P < .01$.

Table 4. Mediating Effects of TMT Emotional Reflexivity Between Team Processes and Decision Satisfaction

Variables		Dependent variable: decision satisfaction				Mediating variable: emotional reflexivity	
		Model 19	Model 20	Model 21	Model 22	Model 23	Model 24
Independent variable	Internal team processes	.888**	.443**			.914**	
	External team processes			.877**	.423**		.902**
Mediating variable	Emotional reflexivity		.486**		.503**		
	R^2	.810**	.865**	.802**	.863**	.789**	.779**
	F	53.13**	42.83**	54.19**	42.17**	49.76**	47.46**
	ΔR^2		.055		.061		

Note. * $P < .05$, ** $P < .01$.

Table 5. Bootstrap Test Results

Effects	Estimate	SE	95% CI
ITP→TR→DQ	.511**	0.067	[0.377, 0.645]
ETP→TR→DQ	.526**	0.071	[0.384, 0.668]
ITP→DQ	.391**	0.063	[0.255, 0.527]
ETP→DQ	.369**	0.069	[0.215, 0.523]
ITP→TR→DS	.496**	0.061	[0.374, 0.618]
ETP→TR→DS	.527**	0.071	[0.414, 0.640]
ITP→DS	.392**	0.059	[0.240, 0.544]
ETP→DS	.350**	0.064	[0.199, 0.501]
ITP→ER→DQ	.522**	0.075	[0.386, 0.658]
ETP→ER→DQ	.513**	0.073	[0.379, 0.647]
ITP→DQ	.380**	0.062	[0.243, 0.517]
ETP→DQ	.381**	0.068	[0.236, 0.526]
ITP→ER→DS	.444**	0.072	[0.292, 0.596]
ETP→ER→DS	.454**	0.071	[0.318, 0.590]
ITP→DS	.443**	0.067	[0.305, 0.581]
ETP→DS	.423**	0.062	[0.292, 0.554]

Note. Re-sampling times = 5,000. ITP = Internal team processes; ETP = External team processes; TR = Task reflexivity; ER = Emotional reflexivity; DQ = Decision Quality; DS= Decision Satisfaction; * $P < .05$, ** $P < .01$.

Results

As shown in Model 1 in Table 1 or Model 13 in Table 3, TMT internal team processes had significantly positive effects on decision quality ($\beta = .902, t = 3.251, P < .01$). Model 3 in Table 1 or Model 15 in Table 3 showed that TMT external team processes had significantly positive effects on decision quality ($\beta = .895, t = 3.235, P < .01$). Therefore, H1a and H1c were supported. As shown in Model 7 in Table 2 or in Model 19 in Table 4, TMT internal team processes had significantly positive effects on decision satisfaction ($\beta = .888, t = 3.243, P < .01$). Model 9 in Table 2 or Model 21 in Table 4 showed that TMT external team processes had significantly positive effects on decision satisfaction ($\beta = .877, t = 3.165, P < .01$). Therefore, H1b and H1d were supported.

As shown in Model 5 in Table 1, TMT internal team processes had significantly positive effects on TMT task reflexivity ($\beta = .877, t = 2.987, P < .01$). Model 2 showed that TMT task reflexivity had significantly positive effects on decision quality ($\beta = .582, t = 2.963, P < .01$). Table 5 showed that the indirect effect of TMT internal team processes on decision quality was .511, and the 95% CI was 0.377 to 0.645. All analyses fitted the criteria of Hayes and Preacher (2014). Therefore, H2a was supported. Model 2 showed that the direct effect of TMT internal team processes on decision quality was significant ($\beta = .391, t = 3.052, P < .01$). Thus, TMT task reflexivity partially mediated the positive effects of TMT internal team processes on decision quality, and the ratio of mediating effects on total effects was .566 ($.877 \times .582 / .902$). In the same way, Model 4 and Model 6 showed that TMT task reflexivity partially mediated the positive effects of TMT external team processes on decision quality, and the ratio of mediating effects to total effects was .588 ($.885 \times .594 / .895$). Therefore, H2b was also supported.

As shown in Model 11 in Table 2, TMT internal team processes had significantly positive effects on TMT task reflexivity ($\beta = .877, t = 2.987, P < .01$). Model 8 showed that TMT task reflexivity had significantly positive effects on decision satisfaction ($\beta = .565, t = 3.125, P < .01$). Table 5 showed that the indirect effect of TMT internal team processes on decision satisfaction was .496, and the 95% CI was 0.374 to 0.618. All analyses fitted the criteria of Hayes and Preacher (2014). Therefore, H2c was supported. Model 8 showed that the direct effect of TMT internal team processes on decision satisfaction was significant ($\beta = .392, t = 2.835, P < .01$). Thus, TMT task reflexivity partially mediated the positive effects of TMT internal team processes on decision satisfaction, and the ratio of mediating effects on total effects was .558 ($.877 \times .565 / .888$). In the same way, Model 10 and Model 12 showed that TMT task reflexivity partially mediated the positive effects of TMT external team processes on decision satisfaction, and the ratio of mediating effects to total effects was .601 ($.885 \times .595 / .877$). Therefore, H2d was also supported.

As shown in Model 17 in Table 3, TMT internal team processes had significantly positive effects on TMT emotional reflexivity ($\beta = .914, t = 3.105, P < .01$). Model 14 showed that TMT emotional reflexivity had significantly positive effects on decision quality ($\beta = .571, t = 2.962, P < .01$). Table 5 showed that the indirect effect of TMT internal team processes on decision quality was .522, and the 95% CI was 0.386 to 0.658. All analyses fitted the criteria of Hayes and Preacher (2014). Therefore, H2e was supported. Model 14 showed that the direct effect of TMT internal team processes on decision quality was significant ($\beta = .380, t = 2.875, P < .01$). Thus, TMT emotional reflexivity partially mediated the positive effects of TMT internal team processes on decision quality, and the ratio of mediating effects on total effects was 0.579 ($.914 \times .571 / .902$). In the same way, Model 16 and Model 18 showed that TMT emotional reflexivity partially mediated the positive effects of TMT external team processes on decision quality, and the ratio of mediating effects to total effects was .573 ($.902 \times .569 / .895$). Therefore, H2f was also supported.

As shown in Model 23 in Table 4, TMT internal team processes had significantly positive effects on TMT emotional reflexivity ($\beta = .914, t = 3.105, P < .01$). Model 20 showed that TMT emotional reflexivity had significantly positive effects on decision satisfaction ($\beta = .486, t = 2.960, P < .01$). Table 5 showed that the indirect effect of TMT internal team processes on decision satisfaction was .444, and the 95% CI was 0.292 to 0.596. All analyses fitted the criteria of Hayes and Preacher (2014). Therefore, H2g was supported. Model 20 showed that the direct effect of TMT internal team processes on decision satisfaction was significant ($\beta = .443, t = 2.891, P < .01$). Thus, TMT emotional reflexivity partially mediated the positive effects of TMT internal team processes on decision satisfaction, and the ratio of mediating effects on total effects was .500 ($.914 \times .486 / .888$). In the same way, Model 22 and Model 24 showed that TMT emotional reflexivity partially mediated the positive effects of TMT external team processes on decision satisfaction, and the ratio of mediating effects to total effects was .517 ($.902 \times .503 / .877$). Therefore, H2h was also supported.

Discussion

Theoretical contributions

First, previous studies on TMT team processes mainly concentrated on team processes among TMT members but ignored the importance of middle managers, first-line managers and ordinary staff. In this paper, TMT team processes were divided into internal team processes and external team processes, which is consistent with previous studies (Raes, Heijltjes, Glunk, & Roe, 2011; Rong, 2015). Earlier studies on reflexivity paid more attention to TMT task reflexivity. However, TMT emotional reflexivity was almost ignored. Therefore, I divided reflexivity into task reflexivity and emotional reflexivity, and then profoundly explored the relationships between TMT team processes and reflexivity. This kind of new research method and findings not only extend reflexivity research but also enrich and develop the TMT theory.

Second, this paper deeply explored the relationships among TMT team processes, reflexivity, decision performance from the perspective of strategic decisions. Then revealed the internal influence mechanism of team processes, reflexivity on decision performance. The findings extend previous studies that investigated the relationships among team processes, reflexivity, team performance (Georgakakis, Greve, & Ruigrok, 2017; Liu, 2017). Furthermore, this study put particular emphasis on the mediating effects of two dimensions of TMT reflexivity in the relationships between two sizes of team processes and two aspects of decision performance.

Practical implications

First, on the one hand, internal team processes among TMT members such as information exchange, communication and discussion should be paid attention to because team processes among TMT members have significantly favourable effects on strategic decision making. Which is in line with previous research ideas that team processes are positively related to strategy innovation and strategy consensus (Liu, Ge, & Wang, 2015; Silver, 2014). On the other hand, TMT members should also focus on external team processes between TMT members and middle managers, first-line managers and ordinary staff because they are effective implementers of strategic decisions.

Second, TMT in firms should pay attention to cultivating reflexivity. On the one hand, TMT members should pay attention to improving the level of task reflexivity, which is consistent with previous studies (Andela & Truchot, 2017; Yang & Ge, 2012). TMT with a high level of responsibility reflexivity helps TMT members to put forward diverse strategic decision information and more strategic decision options, to enhance the recognition for strategic decisions. On the other hand, TMT members should pay attention to improving the level of emotional reflexivity, which is consistent with previous studies (Liu, 2017; Rong, 2015). TMT with a high level of emotional reflexivity helps TMT

members to put forward their own opinions and accept other members' suggestions in a harmonious, relaxed and pleasant interpersonal atmosphere, which can effectively improve the quality and satisfaction of strategic decisions.

Third, TMT in firms should attach great importance to the mediating effects of TMT reflexivity in the relationships between team processes and decision performance. TMT should not only pay attention to internal and external team processes to promote reflexivity among TMT members. but also focus on the influence factors and inherent role mechanism of reflexivity, and make good use of the mediating effects of reflexivity.

Limitations and Directions for Future Research

The present study is not without flaws; the limitations of this study might open future research avenues. First, the measurement of the six variables was self-assessed, which may result in standard method variance and confound the results. Future researchers should adopt self-assessment and other assessment to avoid this problem. Participants in this study were from Shanghai, Jiangsu, Zhejiang, Anhui provinces in China; the results may not be generalized to other areas in China or other countries. Thus, generalizations of the findings of this study should be kept limited to the several eastern provinces in China. It might be interesting to explore whether the results also hold for those firms in Chinese central west provinces and even other countries where enterprise culture are different from Chinese culture.

Second, this study was only restricted to the effects of TMT team processes and reflexivity on strategic decision performance. Future researchers should explore the impact of other influential factors, such as team trust and team learning. The relationships among all these influence factors and whether these factors can have positive effects on decision performance need further research.

Also, this study only explored the effects of TMT team processes and reflexivity on decision performance but ignored what factors can influence TMT team processes and reflexivity. What factors can change and how they affect TMT team processes, and reflexivity should also be a new research direction.

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