

## CHAPTER 6

### CONCLUSIONS

The main problem of this study was that current performance indicators for Thai health-promoting organizations were inadequate to measure performance at the team level. This study proposed the challenge of modifying the Balanced Scorecard used in business organizations for use with health-promoting organizations at the team level in the Thai context. As well, this study assumed that the process of developing team performance indicators from team knowledge could help to reflect and reinforce team performance. The criteria for selecting samples from the Thai Health Foundation were set to represent and reflect Thai health-promoting teams as described in Chapter 1. Health-promoting teams from the ‘Sweet Enough Network’ were consistent with these criteria and were selected as samples. The objectives of this study were (1) to identify team knowledge in terms of how teams perform and how teams learn, (2) to develop team performance indicators, (3) to modify the Balanced Scorecard for use with health-promoting organizations at the team level, and (4) to reflect team performance through the development of team performance indicators. This study attempted to develop team performance indicators by capturing and coding teams’ experience and knowledge by dividing the research process into four steps and used different methods in each step as described in Chapter 3. The results of each step are illustrated in Chapter 4. The research process, critical team performance indicators and the Balanced Scorecard are discussed in Chapter 5.

This chapter is divided into three parts: (1) the answers to four research questions, (2) the research application and generalization and (3) the research limitations and suggestions for future research.

### **Part 1: The answers to four research questions**

The questions in this study included:

1. What is the knowledge of Thai health-promoting teams?
2. How is the knowledge of Thai health-promoting teams applied in developing team performance indicators?
3. How do team performance indicators reflect the performance of Thai health-promoting teams?
4. Using a modification of the Balanced Scorecard, how does the process of development of team performance indicators reflect the performance of Thai health-promoting teams?

#### **Question 1: What is the knowledge of Thai health-promoting teams?**

This study identified the knowledge of Thai health-promoting teams in terms of two types of “how-to” knowledge or technical knowledge: how Thai health-promoting teams perform and how Thai health-promoting teams learn. The techniques of how teams perform and how teams learn were identified and captured. Based on the organizational structural design described by Cummings & Worley (2001, pp. 280- 369), the techniques of how Thai health-promoting teams perform were classified into five categories. First, team tasks referred to the particular activities that teams must accomplish. Second, team work design was defined as how team leaders

design their teams for accomplishing their tasks. Third, team composition represented the heterogeneity of the members of the teams. Fourth, team process was identified as how team members work together and how teams achieve their tasks. Fifth, team support systems pinpointed the fact that the systems for feedback, training and recognition were significant for driving the teams. These five categories uncovered how Thai health-promoting teams perform. The results showed that 12 techniques emerged, as shown in Table 4.7.

Meanwhile, Garvin's learning theory was used as a framework for identifying the techniques of how Thai health-promoting teams learn through (1) two types of learning and (2) leadership challenge. The two types of learning were comprised of (1) intelligence gathering, which includes search, inquiry, observation and (2) experience, which refers to reflection and review. The leadership challenge involves (1) creating opportunity, (2) setting the tone and (3) leading the discussion. The results revealed how Thai health-promoting teams learned through 11 techniques, as shown in Table 4.11.

Thus, the knowledge of Thai health-promoting teams covered 12 techniques of how Thai health-promoting teams perform and 11 techniques of how Thai health-promoting teams learn. In addition, the research process of this study indicated that the knowledge of Thai health-promoting teams is different from that of business and health-care teams in terms of (1) the focal point of the team, (2) the team's achievements and (3) the environment for team learning as shown in Table 5.1.

**Question 2: How is the knowledge of Thai health-promoting teams applied in developing team performance indicators?**

The research process in Step 3 showed that how team performance indicators were generated by following the conceptual framework for generating team performance indicators for Thai health-promoting teams (Figure 2.7). The 12 techniques of how Thai health-promoting teams perform and the 11 techniques of how Thai health-promoting teams learn were used as inputs to formulate team performance indicators for health-promoting teams. Each technique was analyzed and used to formulate indicators for reflecting team performance. Twenty-three indicators were formulated from 12 techniques of how Thai health-promoting teams perform, whereas 19 indicators were formulated from 11 techniques of how Thai health-promoting teams learn. As well, the missions and outcomes of teams were used as inputs to formulate team performance indicators. Nine indicators were formulated from teams' missions and outcomes. After that, the researcher defined each indicator to simplify understanding. Each indicator was coded for appropriate perspectives. As well, each indicator was categorized into one of two types of indicators, lagging or leading indicators. Then, sub-perspectives were formulated by grouping similar attributes of indicators, as described in Chapter 4. These formulated indicators reflected team performance. Some indicators indicated more than one technique and some techniques were reflected by more than one indicator. Thirty-five formulated indicators were included in the first set of team performance indicators, which consisted of 18 lagging indicators and 17 leading indicators. The first set of team performance indicators fulfilled the conceptual framework for generating team performance indicators for Thai health-promoting teams.

Therefore, the knowledge of Thai health-promoting teams, which consisted of 12 techniques of how Thai health-promoting teams perform and 11 techniques of how Thai health-promoting teams learn, was used to formulate the first set of team performance indicators, as described in Chapter 4.

**Question 3: How do team performance indicators reflect the performance of Thai health-promoting teams?**

The first set of 35 team performance indicators for Thai health-promoting teams was verified and selected, by three peer review techniques: a questionnaire, interviews and a focus group discussion, in Step 4 of research process. Peer review techniques provided an external check (Creswell, 1998; p. 202) and validated information regarding team performance indicators. The feedback from the questionnaire, informal interviews and a focus group discussion was analyzed. The final results revealed 11 critical team performance indicators, which included six lagging indicators and five leading indicators, as shown in Table 4.24.

**Table 4.24** Critical indicators in each perspective

Perspectives	Sub-perspectives	Critical indicators	
		Outcome measurement (lagging indicators) (6)	Performance driver measurement (leading indicators) (5)
Team effectiveness perspective	Financial opportunity	P11: Percentage of budget contributed by partners	
	Target group behavior change	P14: Target group behavior identified by survey	
Partner perspective	Partner relationship	P21: Number of old partners	P22: Number of new partners
Team efficiency perspective	Strengthening team building	P31: Percentage of team members that completely understands vision, missions and tasks	P32: Percentage of activities/ planning process generated by team
Team learning and growth perspective	Knowledge management for team	P43: Number of best practice models	P41: Number of learning fora per team
Team member perspective	Team members' relationship	P51: Number of old team members	
	Team members' participation		P54: Number of team members involved in each activity / task/ planning process
	Team members' skills improvement		P: 56 Number of training days for team members

Team performance indicators were formulated from three resources: (1) teams' missions and outcomes, (2) the 12 techniques of how Thai health-promoting teams perform and (3) the 11 techniques of how Thai health-promoting teams learn.

Each resource showed how critical indicators reflected team performance as follows.

Regarding the first resource of team performance indicators, both teams' missions and outcomes were identified and clarified to recognize team performance.

Teams' missions of health-promoting teams in this study consisted of (1) creating demands and participation of alliances and partners and (2) setting up healthy public policy/regulation. Teams' outcomes emphasized change in people's behavior and health, focused on reducing sugar consumption.

The first set of 35 team performance indicators showed that seven indicators were formulated to reflect teams' missions (Table 4.5). Meanwhile, three critical indicators were selected. These indicators were (1) P11: Percentage of budget contributed by partners, (2) P21: Number of old partners and (3) P22: Number of new partners. All of them implied one of the teams' missions: "to create demands and participation of alliances and partners." There was no critical indicator for reflecting the other mission: "to set up healthy public policy/regulation." It seemed that critical team performance indicators were inadequate to reflect teams' missions. However, teams in this study considered that both missions were of unequal significance. The suggestion from this result was that one who would like to use these critical indicators and to weight equally both missions should add some indicators for directly reflecting this mission.

The first set of team performance indicators also demonstrated that two indicators were formulated to reflect teams' outcomes (Table 4.5), whereas critical team performance indicators revealed that one indicator, P14: Target group behavior identified by survey, was selected. The other indicator, P15: Percentage of target group (children) who consume 6 teaspoons or less of sugar per day, was excluded because it was difficult to use in real situations, especially for data collection. So, only one indicator was adequate and effective to indicate team performance.

The first resource showed that three indicators that reflected teams' missions and one indicator that reflected teams' outcomes were selected as critical team performance indicators. These indicators comprised of: (1) P11: Percentage of budget contributed by partners, (2) P14: Target group behavior identified by survey, (3) P21: Number of old partners and (4) P22: Number of new partners. These indicators were sufficient to reflect team performance in this study.

The second resource used in developing team performance indicators was the techniques of how Thai health-promoting teams perform, using the organizations' structural design (Cummings & Worley, 2001, pp. 280- 369), which was classified into five categories. These categories were (1) team tasks, (2) team work design, (3) team composition, (4) team process and (5) team support systems. Each category involved the techniques of how teams perform and how teams deal with partners. The results in the first set of team performance indicators revealed that 12 techniques emerged and 23 indicators were formulated to reflect how teams perform (Table 4.9).

After the verification and selection step, the nine critical indicators selected from the 23 indicators, and 10 of the 12 techniques indicated how teams perform. These critical indicators consisted of: (1) P21: Number of old partners, (2) P22: Number of new partners, (3) P31: Percentage of team members that completely understands vision, missions and tasks, (4) P32: Percentage of activities/planning process generated by team, (5) P41: Number of learning fora per team, (6) P43: Number of best practice models, (7) P51: Number of old team members, (8) P54: Number of team members involve in each activity/task/planning, (9) P56: Number of training courses for team members. These indicators covered five categories.



Therefore, nine critical indicators were shown to reflect team performance in terms of the techniques of how teams perform.

The third resource was the techniques of how teams learn. Three themes and 11 techniques emerged and 19 indicators were formulated to reflect these techniques (Table 4.13). Due to the inclusion of how teams learn in how teams perform, some indicators overlapped with some other indicators that were formulated from the techniques of how teams perform. These techniques, based upon the principle of learning in action (Garvin, 2000), illustrated that teams learned through their different actions. The learning types used by teams included both intelligence gathering (from the present experience) and experience (from past experience). Innovations also emerged during their learning. Team leaders were the key persons who initiated a learning environment, and created and supported learning situations.

After the verification and selection step, the six critical indicators from nine techniques indicated how teams learn. These critical indicators were: (1) P21: Number of old partners, (2) P22: Number of new partners, (3) P41: Number of learning fora per team, (4) P43: Number of best practice models, (5) P51: Number of old team members and (6) P56: Number of training courses for team members. These indicators covered all three themes of how teams learn. All of them overlapped with critical team performance indicators of how teams perform. These six critical indicators reflected team performance in terms of how teams learn.

However, some techniques were not chosen in the selection of critical team performance indicators. For example, the techniques of “recruiting multidisciplinary

people, who represented a variety of professions, skills and knowledge” and “providing positive feedback” were not included because of the culture and contexts of provincial teams. The health-promoting teams in this study were teams that worked in the Dental Health Division at the Provincial Public Health Offices. The Provincial Public Health Offices’ cultures and contexts showed that the various professions tended not to work cooperatively; rather, each profession worked in its own division. Only the Provincial Public Health Office’s leader had the authority to direct the teams’ activities. It would be difficult to integrate and link every division to work on one issue if the Provincial Public Health Office’s leader did not lead or command every division to work together. Teams that recruited multidisciplinary people would be hard to form. The Team leader in the Dental Health Division was not in control to give support to individuals. The reward system at the provincial level was established by the Provincial Public Health Office’s leader. These two techniques, “recruiting multidisciplinary people, who represented a variety of professions, skills and knowledge” and “providing positive feedback,” were not selected to indicate the effectiveness of teams. As well, the team members’ and partners’ computer skills and the infrastructure to support the IT system were questionable. As a result, the technique “to communicate and distribute the best practice cases by using a specific internet group mail account” was not selected to indicate the effectiveness of teams.

These results showed that critical indicators reflected the performance of Thai health-promoting teams and covered (1) teams’ missions and outcomes, (2) team knowledge in terms of 12 techniques of how teams perform and 11 techniques of how teams learn.

**Question 4: Using a modification of the Balanced Scorecard, how does the process of development of team performance indicators reflect the performance of Thai health-promoting teams?**

Using typology, the Balanced Scorecard was selected as a performance management system for this study, as described in Chapter 2. In accordance with the conceptual framework presented in Chapter 2 (Figure 2.7), the Balanced Scorecard used in business at the organizational level was modified for health-promoting organizations at the team level. The Balanced Scorecard was also used as a measurement approach to performance that focused on linking a team's missions and outcomes to specific measures, and as a measurement approach to knowledge management. Team performance was reflected through the development process by using a modification of the Balanced Scorecard. Three significant steps are described as follows.

The first step in modifying the Balanced Scorecard for developing team performance indicators was “developing or confirming teams’ missions.” Teams’ missions were developed and confirmed through participation, or employee involvement. Health-promoting teams were defined as self-directed teams which take responsibility for the whole process from planning to evaluation. Each team manages themselves autonomously. The participation, or employee involvement, is a crucial management approach for self-directed teams (Appelbaum, 1997; Cummings & Worley, 2001, pp. 313-314). Margulies & Kleiner (1995) also emphasized that the concept of self-directed teams is related to the concept of employee empowerment. This step was based on action research. Teams’ missions were created at the core team level. Then, a systematic process was established for feeding the data back and

for taking actions to confirm the missions at team level through the meetings and a learning forum. Finally, teams' missions were clarified and confirmed by the core team and the provincial teams. The step of developing and confirming teams' missions in this study reflected team performance in terms of participative management.

The second step was "selecting the perspectives." Four perspectives from The Balanced Scorecard used in business at the organizational level were re-labeled and categorized into five perspectives for health-promoting teams. These five perspectives were used as a template for generating leading and lagging indicators, as described in Chapter 4. In Step 4 of the research process, these five perspectives were verified by the team leaders. The results showed that all of the samples agreed with the five perspectives. Every sample reflected that each perspective was important for the teams. These five perspectives also covered all of their performance. The step of selecting the perspectives also reflected team performance in terms of an integrated framework that linked performance measures in five balanced perspectives.

The third step was "developing performance measures." Three inputs, as described in Question 3, were used to generate team performance indicators. The first set of 35 team performance indicators consisted of seven indicators that reflected teams' missions and outcomes, 23 indicators that reflected how teams perform and 19 indicators that reflected how teams learn. Critical team performance indicators were comprised of four indicators that reflected teams' missions and outcomes, nine indicators that reflected how teams perform and six indicators that reflected how teams learn. Both how teams perform and how teams learn constituted team knowledge that was identified and captured. Team knowledge also was managed and

used to formulate indicators. In this step, the Balanced Scorecard acted as a measurement approach to knowledge management. The step of developing performance measures also reflected team performance in terms of knowledge management, and aimed to seek and use the right knowledge from and with the right people in the right form at the right time. This study interpreted team knowledge in terms of how teams perform and how teams learn as being “the right knowledge.” The right knowledge was captured from the key informants who were regarded as being “the right people.” The techniques of how teams perform and how teams learn were interpreted as being “the right form” of knowledge. The researcher assumed that the period of this study was “the right time.”

These three significant steps illustrated, using a modification of the Balanced Scorecard, how the process of development of team performance indicators reflected the performance of Thai health-promoting teams. The modification of the Balanced Scorecard reflected team performance in terms of (1) participative management, (2) integrated framework that linked performance measures in five balanced perspectives and (3) knowledge management.

This first part illustrates that the four research questions were answered through the processes and the results of this study. The processes and the results reflected, reinforced and enhanced the performance of Thai health-promoting teams. The processes and the results also confirmed that the modification of the Balanced Scorecard used in business organizations for use with health-promoting organizations at the team level in the Thai context was appropriate.

## Part 2: Research application and generalization

For the application and generalization of this study, guidelines for those who would like to create team performance indicators are proposed in five considerations.

First, the types and characteristics of teams should be considered and identified. Thai health-promoting teams in this study were identified as non-profit, self-directed teams, which volunteered to promote a specific health issue. Each team was composed of multidisciplinary professionals and worked with different partners.

Most of the team leaders were dental personnel who work in the Dental Health Division at the Provincial Public Health Offices. Teams' missions and outcomes were specific and emphasized for health promotion. Three years' experience illustrated that teams were ready to be high performance teams. Table 6.1 shows guideline questions for clarifying teams' types and characteristics and the reasons for asking them.

**Table 6.1** Guideline questions for clarifying teams' types and characteristics and the reasons for asking them

Questions	Reasons
What is your team type and what are its specific characteristics?	As the team type and its characteristics reflect team development, their identification can help you to understand team composition, team process, team tasks and team relationship.
How does the team leader define the team?	The team leader is the key person in your team. The definition of team can refer to the team leader's mental model or viewpoint for working as a team.
How does your team perform?	The techniques of how teams perform are important to being a high performance team. Team performance relates to these techniques.
How does your team learn?	The knowledge and experience to work as a team are also important. Development from a working group to being a team requires time. It is certain that a team's knowledge and experience accumulate during that period of growth.

Second, an appropriate performance measurement system should be selected for teams. The appropriate performance measurement system is crucial for developing the indicators. The typology and criteria, which are presented in the literature review, can help to select an appropriate system for teams. Table 6.2 presents guideline questions that should be considered before selecting an appropriate performance measurement system, and the reasons for asking them

**Table 6.2** Guideline questions for selecting an appropriate performance measurement system and the reasons for asking them

Questions	Reasons
Why do you need a performance measurement system and indicators for your team? What are your purposes or objectives?	There are many performance systems which have different purposes and processes. Each system is designed for different reasons, e.g., for self-assessment or for enhancing performance. The indicators from different systems also differ. You should identify your reasons initially before selecting a performance measurement system and developing the indicators.
What do you want to measure? How many dimensions would you like to measure?	Each performance measurement system is designed for measuring a different dimension. In addition, the indicators follow the dimensions that you need to measure. You should decide which dimensions you would like to measure before selecting a performance measurement system and developing the indicators.
Who will take responsibility for the team performance measurement process?	Different systems require different resources and materials, including inputs for system development. The process of development also needs time. The sustainability is crucial. Thus, you should identify someone to take responsibility for the process development.
Who will use the results?	In general, the executive or management level uses the performance measurement system and indicators for monitoring and evaluating teams. However, the people at the team level also use the results for their benefits. The real user should select the performance measurement system and indicators.

Third, the model for the development of team performance indicators by modifying the Balanced Scorecard in this study (Figure 5.1) included three significant components. These components included:

Component 1: teams' missions and outcomes;

Component 2: team knowledge, which referred to the techniques of how teams perform and the techniques of how teams learn;

Component 3: five perspectives of Thai health-promoting teams: (1) team effectiveness, (2) partner, (3) team efficiency, (4) team learning and growth and (5) team member.

To applying this model, each component should be identified. The different teams' missions and outcomes reflected the different formulated indicators. Different team experiences and knowledge illustrated different techniques of how teams perform and different techniques of how teams learn. These techniques affected the choice of formulated indicators. As well, the number of perspectives selected affected the selection of the formulated indicators.

Fourth, the management approach used for developing the indicators should be considered. This model was based on the participative management approach. The Balanced Scorecard was selected as a measurement performance system for teams and reflected participative management, as described in Question 4. Teams in this study also were self-directed teams. If a different performance system is selected and the team is not a self-directed team, the management approach will be different from that in this model. For example, teams that are managed by a hierarchy of authority and use a system of rules would like to measure team performance in terms of



outputs; the development process of team performance indicators will be different from that in this model.

Finally, the authority of the person who develops team indicators should be considered. In this study, the researcher acted as a scholar for the selected network. The development process of team indicators did not directly impact team performance. If the core team managers develop team indicators by themselves, the process would have more impact on the teams.

### **Part 3: Research limitations and the suggestions for future research**

Some limitations of this research included:

- Purposive sampling from a Thai health promoting organization was used in this study. Teams in this study, which were non-profit teams, may not be representative of teams in general. The results may not apply to other team types, especially teams in for profit organizations.
- Team performance indicators in this study were developed to measure performance at the team level. The indicators were not appropriate for measuring performance at the individual level.
- This study developed and proposed team performance indicators to be used in academia. This study is the first step in enhancing team performance. The employment of these indicators in real situations was uncertain and tentative. The indicators may be adjusted in the future.

In addition, this study did not cover every aspect of team performance. To expand the results broadly to academia, further study is required as follows:

- Some indicators in this study are indirect indicators for qualitative performance. The development of qualitative indicators is required to measure the quality of team performance directly.
- The model for the development of team performance indicators in this study should be tested in other team types in different organizations.
- This study modified only one performance measurement system, the Balanced Scorecard used in business organizations, for use with health-promoting organizations at the team level. It is a challenge to modify other performance measurement systems for teams.

### **Summary**

This chapter answers the four research questions, proposes guidelines for research application and generalization, indicates some limitations of this study and suggests future research. The answering of research questions illustrated that the research processes and results fulfilled all of the research objectives: (1) to identify the knowledge of Thai health-promoting teams, (2) to develop team performance indicators for Thai health-promoting teams from their knowledge, (3) to modify the balanced scorecard as a knowledge management method for developing team performance indicators for Thai health-promoting teams and (4) to reflect the performance of Thai health-promoting teams through the development of team performance indicators. The knowledge of Thai health-promoting teams and the model for the development of team performance indicators by modifying the Balanced Scorecard were novel for this study. This model illustrated how to identify and manage team knowledge for developing team performance indicators by using the

Balanced Scorecard used in business organizations for use with health-promoting organizations at the team level. The Balanced Scorecard as a performance measurement system represented, in this study, a method of knowledge management in helping managers to measure team performance and to enhance team capability.

In addition, the application of the Balanced Scorecard and the development process of team performance indicators demonstrated in this study for other task entities could well be achievable for many reasons. First, the entity membership generally consists of a vast number of people whose characteristics are diverse. They are, for example, different in rank, in temperament, in outlook, in self-interest, etc. It is very important to take their multiple relationships into utmost consideration.

Second, to be worthy of the term 'team', it is imperative that the multiple and diverse members share the commitments of common goals. Third, the common goals in question are to be regarded as neither final nor rigid, but to be modified and adapted in the changing circumstances. Hence, fourth, it is the modification and adaption of the goals - which need to be concurrently shared - that direct the work input of the team. This dynamism would then constantly stimulate the team learning and subsequently synthesize team knowledge. And this is the process of both knowledge generation and management. However, since different task entities adhere to their own respective peculiarities, it is essential to take their unique ways of evolvement into account.