

Application of Business Model Theories on the Improvement of Government Organization Structure: Case Study of Information and Space Technology Department

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Abstract - This research paper aimed to analyze environment, problem and propose direction to develop the Defense Information and Space Technology Department's strategic management and organization structure. The study method was the quality research and limited its scope for the Defense Information and Space Technology Department. This paper was studied the basic data of direction of Thailand's overall bureaucratic reform in the past till now and contingency plan also interviewed thirty-four former and current top commanders both internal and external the Defense Information and Space Technology Department. The researcher analyzed the data by using SWOT analysis under McKinsey 7-S Framework and PESTEL analysis. After that the result of this research was submitted to the director of the Defense Information and Space Technology Department to support him for discussion under the Information and Space Technology's cooperated agreement and would be able to set his own strategy and support the strategic administration with the other government departments in term of the dimension of the country security, the united defense and the active defense. The researcher proposed that the Space Affair Division should be re-organized and upgraded to be the Space Affair Office in order to get more authority and be able to work closely with the private sectors. The

line of command and accountability should be changed to be a single manager and having the authority to command directly. The researcher also proposed implanting the core values of the department to all personnel. The managers in all levels should be the change leaders and having the possible conceptual innovation. The personnel administration and development should be reformed. The selection, recruitment, promotion or transfer should be decided base on equal assessment. The shared values of the continuous development of the Defense Information and Space Technology Department was proposed and believed that this would lead to the success of the administration and structure improvement.

Keywords - The Information and Space Technology Department Reform

I. INTRODUCTION

As part of the speech by the Prime Minister of the Royal Thai government General Prayut Chan-o-Cha on 12th September 2014 (Government Gazette, 2014), one of the plan was to reinforce the potential of Thai economy in term of setting up and reinforcing the Thai digital economy both production and commerce of digital product. The plan also aimed at using digital products to support the service, financial, communicate, entertainment

and industrial sectors in order to create and develop the Thai economy.

The digital economy policy was not only engaging business, economic, and social sectors, but also security sector of the country.

General Prawit Wongsuwon deputy Prime Minister and Minister of Defense announced the plan to develop the Thai army by reorganizing the Thai army structure that can effectively fulfil the mission in defending the country and supporting the Thai government. He stated that it was important to develop defense industrial activities by enhancing the potential of government and private sectors. It was also vital to build strong alliance between Asia countries and wisely made the most use of this relation. All the department under Ministry of Defense had to enhance development and set up standard of information technology, communication, space activities to fulfil technology information security and handle the cyber war. (Military of Defense, 2015)

The Defense Information and Space Technology Department is set as a core responsibility office. It has to reorganize to support the procurement of government satellite to service in term of security and public. It has the computer security center to protect cyber activities and the space affair to protect space activities. There are 5 missions to develop the organization structure in order to increase capacity of the organization which are communication, information technology, space, computer security, broadcasting, television, and telecommunication affairs.

II. RESEARCH OBJECTIVE

1. To analyze the environment and problems with the administration and the structural development of the Department.

2. To propose the direction to develop the administration and the structural of the Department.

III. RESEARCH METHODOLOGY

This quality research studied the basic data of direction of Thailand's overall bureaucratic reform in the past till now, contingency plan and the related researches. The researcher interviewed 34 former and current top commanders both internal and external the Defense Information and Space Technology Department.

The researcher analyzed the data by using SWOT analysis under McKinsey 7-s Framework for internal factors which are strategy, structure, system, style, staff, skill, and share values. For external factors, it was analyzed by using PESTEL analysis, which are politics, economics, social, technology and environment. The researcher proposed the direction for the administration and the structural development of the Department by considering from the weaknesses of McKinsey 7-s Framework and also considering the environment as the opportunity.

IV. THE RESEARCH SUMMARY OF THE ENVIRONMENT AND THE PROBLEM IN THE ADMINISTRATION DEVELOPMENT AND THE STRUCTURE OF THE DEPARTMENT FROM 7 WEAKNESSES

1. **Strategy:** The cooperated agreement on Information and Space Technology of the Department with the outsider was very little or none.

There are 3 types of the Ministry of Defense's strategy which are security cooperation, united defense, and active defense. It is necessary to get the cooperation from both private and public sectors. This is because the Ministry of Defense is not often the main host of all activities. Hence, sharing information and coordinating upon clear understanding on responsibility is very important in setting up and designing the strategy for the organization. The concept of active defense was the concept used during the cold war which is not suitable for today. In 2015, Thailand is a member of ASEAN

community and AEC is going to officially launch at the end of this year, therefore, the information technology should be utilized more. The combat units and regular military troops should be decreased, but the reserved troop and the efficient military weapons should be ready for the battle. Also, a 5 year-directive for united defense has not been set.

The framework of the Department should be outlined according to the concept of the united defense by utilizing the information technology more than the regular military troops.

2. Structure: The Act Organizing the Ministry of Defense 2551 has set clear responsibility for the ministry. The manpower should take the responsibility of the public and country's need in many cases and dimensions.

3. System: Although, the line of command is clear, the operational plan is not suitable or being changed or asking the cooperation from the other departments, the delay will be occurring due to the repeated job.

4. Style: The cultural style, even though the commander's capability and leadership is trusted by the subordinates, the subordinates often ignore the comment made by the commanders. The Department director has the bottom-up management style which is decentralization the authority to the division head. The top-down management style is in the juristic person that makes job delay because there are many steps for approval.

5. Staff: This is a major weak point on the administration and manpower development. There is too much manpower in the high rank. The retirement, according to the rank, resignation, salary, benefit and welfare are not systematic. The performance evaluation and appraisal does not reflect the reality personnel skill. The promotion is made without good criteria. Some subordinate has less morale and encouragement.

6. Skill: The personnel have only professional skill, but in many cases the managers cannot adjust the work format

according to the Thai culture, value and environmental condition. The personnel lacks of knowledge in management or new innovation so they cannot make the insights analysis and set up the long-term strategic plan.

7. Shared Values: According to the repeated work and some conflicts, the shared values cannot be applied to the individual and divisions. There is no motivation for personnel to follow the Department's shared values. The Department cannot be driven to the organization shared values.

V. THESE QUALITATIVE RESEARCH DATA THE RESEARCHER HAS CONCLUDED AND DISCUSSED WITH THE RELEVANT THEORY AND RESEARCH

• *Changing of Sub-Unit Structures of the Department*

The Department structure should be modified on the issue of the functioning of the unit and the number of an army officer. The structure currently has a number of executives (senior officers) more than the number of practitioners. (officers, noncommissioned officers and lower level), as known as "Pyramid bell" structure. It is not in line with the mission as a result an organization is waiting for the improvement and changes by re-engineering or changing the way it works. Modifying system of the Department caused by increasing missions, such as the Space Affairs, the world exploring satellites or a communications satellite, which the original structure was designed to support network services, information technology as the core. It cannot fully support the joint space in terms of skills, knowledge, and a number of specialized personnel. It should have been recruited or developed to support the implementation of control systems, rather than a mere user of the system.

• *Army - Central Communication Network Security*

As the emergence of the digital ministry and direction of the national strategy, the army

cannot avoid dealing with it, especially on issues "Integrating and linking operations that require a network hub or Network Centric Operations; NCO in information and communications technology" in term of directions, management and development. These kinds of involvement of the army were also involved in technology support.

- **Government Policy**

The policy direction of the country's government will result in a need to improve the department vision, mission and structure to be in line with government policy, develop the strategic planning and can accommodate changes of the government policies. Cyber should be restructured and adjusted computer security fit for the upcoming strategy of the government. Division within the department should be combined the relevant authorities to coexist and work flexibly.

- **The Positive - Negative Structural Changes**

The Department structure changes will affect the department performance both "Positive and negative". For "positive", the Department has structured to support the changes and make it compatible with the mission, a clear direction, especially in cyberspace, and the chance to learn something new, alert and lead their own development system. As the "negative", the morale of officers decreased due to resource management in terms of personnel changes, rotation, budget and rise more tasks assigned. As a result, the restructuring operation will be in a better direction in terms of the mission, structure, resources (personnel / money / work) and the Department can fulfill its mission and has the potential to achieve its mission. The modifications made to meet the great man in the right position, greater application of technology and shorten the time to run down.

- **Happiness - Satisfaction to Convince them to Accept the Change**

However, creating acceptance (believe in change), and reducing resistance to change, a commander need to apply a good leadership

principles. Moreover, the commander needs to use happy management principles to make people happy at work, two way communications concept, create psychology to convince subordinates trust, and also reward and punishment.

- **Advantage Comparative - The Barriers between Private Organizations and State Organizations (Military)**

If you compare the similarities and differences between private organizations and the state organization of (military), it will find that the strength of the Organization of military is a group of people who have been practicing for long- patience, loyalty to the nation, religion, king, even agencies, being a leadership and fulfill orders, but the obstacles of military is strict to an order, adapt slowly, less itself development.

Highlights of those who work in private organizations are an opportunity to comment, enthusiastic made the staff to adapt constantly and quickly, skills matching to the job and develop all time. In addition, due to the competitive advantage of organizations who work in private organizations monitor an error as normal which can be solved then frequently error due to the quickly administration in contrast, the military that goes through the steps to verify the information, make a decision by authority person, ensure compliance with the policies and orders of the high command strictly to prevent errors that may occur.

In comparing the effectiveness of communication between private organizations and state organizations (military) are not likely to vary depending on the command structure of an organization operating to accomplish the mission on time but what's the difference obviously is the military organization arbitrariness to the command.

- **Features of Troops in the New Mission**

The Department features of troops consistent with a new mission must be the basis of education and knowledge in line with the mission and relevant work experience and

do not stick to the old system. If knowledge does not comply with a new mission, it is necessary to go through the knowledge process again to be the analytical thinker. Thus, the information should be flown smoothly, no duplication of work. The monitor, evaluate and warning system should be set up.

- ***Budget for Optimal Performance Depending on the Technology Used***

The budget focuses on portfolio management and the work's value. The performance is evaluated by the concrete indicators which is able to be accountability in four dimensions: quantity, quality, time and cost. The budget allocation is taken for investment projects not affiliated with the salaries of soldiers.

- ***Higher Effectiveness of the Department's Internal Communications***

The Department restructure will result in improved efficiency of communication within the Department due to the clear understanding in the mission. There are two way communication.

- ***Department Chain of Command Remains the Same - Merge to Increase Efficiency***

The chain of command will not change. The chain of command is still vertical and short but there will be changes within the work unit in horizontal. This includes merging or modifying some units. The chain of command, each line must be clear and must not intrude or confuse. All commanders have to pay attention and focus on new communication technologies. The troops under the new structure of department compared to the original structure remain the same but it may change the capabilities and potential in order to accommodate the new technology effectively. The structure can be reduced or increased as to speed up the work by focusing on specific targets.

- ***Add Communication Channel - Other Government Agencies***

Effective of relationships with other government agencies will be better because

there are more communication channels, increase responsible for each channel clearly, and clear workload. Then it makes a correct understanding and clearer picture of the tasks of a department lead to cooperation and coordination between the agencies. At the point department can contribute to the mission more efficient and more responsibility in the mission.

- ***The Application of the Business Organization Concept in the Department***

The business organization concept can be applied to work in the Department. Focusing on services to meet the customer's satisfaction.

- ***The Military Organization Structure alike/unlike the Business Organization Structure***

The military organization structure is different from the business organization in term of line of command which is clear and not flexible due to the nation security's responsibility. The regulation is very difficult to be changed. But the top manager in the business organization is independent in management for quick decision making. Any regulation in the business can be easily changed due to the profits oriented.

The military organization structure is alike the business organization in term of the objective's responsibility, the major offices such as personnel, finance, general affairs but the details may be different due to the military organization is non-profit organization.

In view of the outside organization of the Department commented on the improvement and the structural changes in many dimensions.

- ***The Department which is the Major Information Technology Department of the Ministry of Defense has to be Changed according to the Technology***

The Department which is the major information technology Department of the Ministry of Defense has to be improved the information technology and communication capability both in term of the performance and

the security. Manpower should be well-trained before the operation start so they can integrate with the others government forces network, plan for the military network integration, to be the cyber command head quarter. Apply the modern technology to support the nation security by utilize the network centric operations, the space technologies in satellite communication and picture.

- ***The Modified Mission of the Department Affected the Other Department Structure***

The modified mission of the Department positive affected to the security job. So the Department has to support the technology to the other departments, empower the technology to the Ministry of Defense and perform the tasks required.

- ***Gathering the Technology Expert into the Department – The Outsider Trust More***

The restructure of the Department would make more efficiency for the nation security. There would be the place where the technology expert got together and more ranking. The cooperation with the outsider Department would be more reliable. The task of communication and space affair would be worked with IT in many channels.

- ***The Department is the Main Core for the Army – The Leader of the Strategic Technology***

The outsider Department who works with the Department be able to see the trend to the Department structure change which lead to be the leader of the strategic technology. The Department can be the center to give the technology knowledge to the manpower and would be the main core by using the technology supported the nation security in term of cyber and space affairs. Be ready to develop in any functions to treat the threat.

- ***The Department Coordinate the Policy with the Subordinate and Outsider Department***

The Department would work together with Thai Com Public Company who manage the security project especially on space affairs. There are two projects; to do the second satellite picture names Thos2 with GISTDA

and to do the first satellite communication for the nation security to support the whole government mission.

NBTC commented that the Department restructure would get wider mission on basic structure management for planning, directing, coordinating in information technology, communication, frequency space affair and satellite for security which would be covered the necessary area.

The Department has to manage the safety technology to be stronger.

GISTDA commented that the Department would be the organization which focus on cyber security, develop the knowledge about space technology and satellite and also manage the concerned network.

- ***New Structure is Better***

The Department restructure would be more efficient in many dimensions as mentioned. The technology utilization would be trusted.

- ***The Department Expectation after Restructure***

The Department expected that the agreement should be agreed according to the state satellite cooperation. The Department can control and manage the satellite communication as the first nation security satellite and would be No. 2, 3 etc. with the nation expert.

The integration of necessary data, knowledge and experience exchange should be made for manpower development. The main core department should be settled to make the policy and work procedure.

The research and development would be supported especially about cyber warfare. The policy, method, working plan, and implementation would be improved subject to digital policy for economic and society. The other department could copy as the road map. Furthermore the Department would be the coordinator and supporter for army administration on policy making and direction.

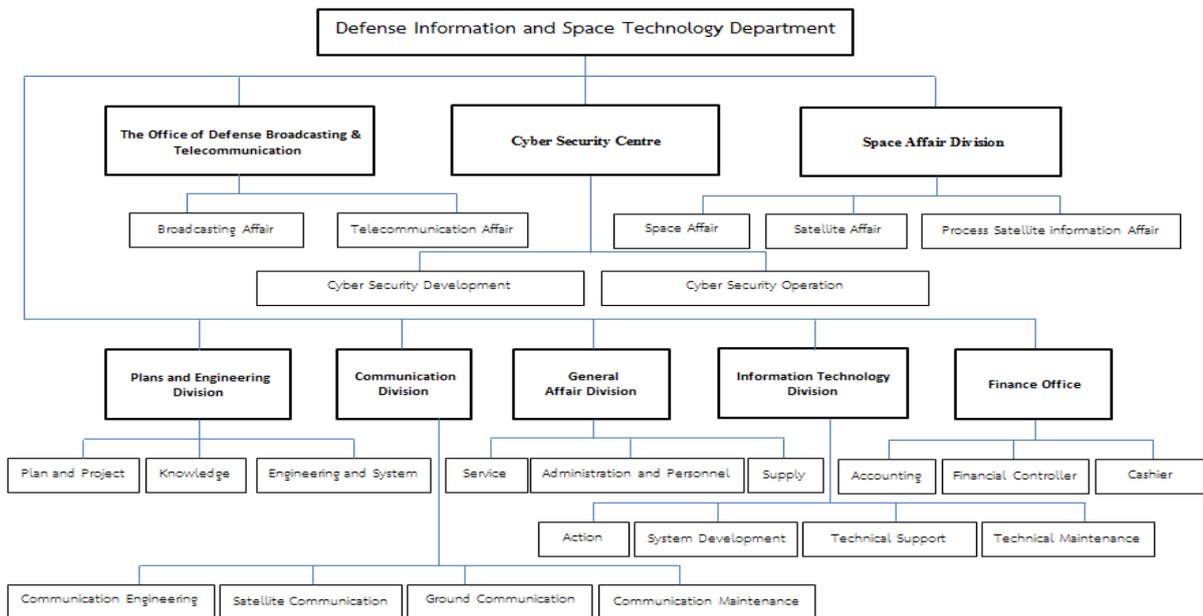
VI. THE RESEARCH SUMMARY OF THE PROPOSAL FOR THE DIRECTION WITH THE ADMINISTRATION DEVELOPMENT AND THE STRUCTURE OF DEPARTMENT

1. **Strategy:** The Department's director should participate in the discussion for the information and space technology corporate agreement to set up strategic plan and support strategic operation for security, preventive and protective actions. The discussion and cooperation should be with both internal and external organizations of the Ministry and private sectors such as increase coordinate

potential between the Ministry of Defense and the National Space Committee which will use the communication through the satellite network centric operation replace C-band satellite 2021 end contract.

2. **Structure:** The Department's missions are communication, information technology, space affair, cyber security and broadcasting and Telecommunication. It is possible to relate the policy or national technology development framework to be efficiently practiced.

The Department's structure divided into 8 main divisions.



- **Communication Division**

The role and responsibility is to maintain the efficient, continuous and secure communication network in order to support the other divisions' mission and able to connect with an outside network, including the service for ground and satellite communication such as video conference, telephone and television system.

The researcher proposed that the communication maintenance sector should be settled in the division.

- **Information Technology Division**

The role and responsibility is to give

information technology network service such as wire or wireless network, internet, intranet, website, anti-virus computer program, and computer machine with accessory including the service of main and reserve computer server to support the other divisions' mission.

The researcher proposed that the technical maintenance sector should be settled in the division.

- **Space Affair Division**

The role and responsibility is to give the service of satellite pictures, space technology and satellite pictures training to the other divisions in order to build up the secure base of

satellite communication and promote pictures to be self-reliant. This division's responsibility is also to drive and participate in setup the satellite service corporation development framework between the Ministry of Defense and the private sectors.

The researcher proposed that the Space Affair Division should be up-graded to be the Space Affair Office in order to get more authority and be able to work closely with Thai Com Public Company and GISTDA. The Space Affair Office should consist of 3 divisions which are Space Affair, Satellite and Processing Satellite Data divisions.

- **Broadcasting and Telecommunication Office**

The role and responsibility is to conduct press release and distribute them through the digital TV in order to efficiently comply with the national security's goal. The researcher suggests that the broadcasting and television sectors should be merged into one sector and maintain telecommunication sector. This new organization will be responded for setting and outlining the NBTC organizational structure.

- **Cyber Security Center**

The role and responsibility is to be the cyber security center, to watch and protect the threats on information network including to be the center who runs both military and national cyber security.

- **Planning and Engineering Division**

The role and responsibility is to plan, direct, coordinate, suggest and regulate the policy, planning, project, and knowledge of the following components, namely, information technology, communication, space affair, and satellite pictures security. The responsibility is also to run the security on cyber, broadcasting, television, and telecommunication affairs.

- **General Affair Division**

The role and responsibility is to run the general, archive, personnel, welfare, logistics, supply, transport, service, and security affairs.

- **Finance Office**

The role and responsibility is to be in charge of the department's financial matter.

Furthermore the researcher proposed to add 2 positions in each team in order to share the work load which are Deputy Division Director, and Deputy Center Director.

3. **System:** It is proposed that the line of command and accountability should be changed to be a single manager.

4. **Style:** The Department should have the line of command that work collaboratively between administration and management sections in all levels. The researcher proposed implanting the core values of the department to all personnel. The style should also make clear understanding of the retirement and resignation system, so the structure and style are balance on the numbers of labors. The information should come from both sides, the subordinates and the commanders, to make the right decision. The selection and appointment of the managers or directors is very important because they should be the change leaders and having the possible conceptual innovation. This process should be examined and outlined very carefully.

5. **Staff:** To solve the problem of too many staffs in the high rank. Hence, the administration and development manpower should be reformed. The job description and classification should be clearly defined. The selection, appraisal, promotion, demotion, retirement, salary structure, benefit, welfare etc. should be decided base on equal assessment.

6. **Skill:** The personnel skill of the Department staff is mostly on military skill. The personnel lacks of knowledge in management or new innovation so they cannot make the insights analysis and set up the long-term strategic plan. The researcher proposed that the personnel selection, recruitment or transfer should put the right man to the right job.

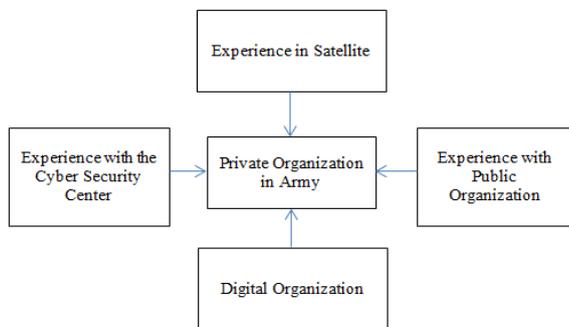
7. **Shared Values:** Whenever the Department's strategy, structure and system are revised and improved, the shared values weakness would be reduced. So the personnel will accept and understand the shared values which is announced by the Department director.

The researcher also believed that this would contribute development to the organization and lend satisfying outcome that match with the results of SWOT analysis.

VII. THE DISCOVERY FROM THE RESEARCH

To support the rapid change in space communication and cyber technology, the administration and structure development of the Defense Information and Space Technology Department may be reorganized and named "Private Organization in Army". The mission's strength should be coordinated which are:

1. To coordinate working experience with Thai Com Public Company in satellite communication and picture management.



2. To coordinate working experience with the Defense Technology Institute (Public Organization) in hiring the expert with higher pay than the government's regulation pay and request the subsidy support from the private sectors without following the government's regulation.

3. To coordinate working experience with NBTC in setting the clear organization chart and set up the appropriate budget.

4. To coordinate working experience with the Cyber Security Center who is the cyber security center.

If the Defense Information and Space Technology Department is to be "Private Organization in Army", the department will be able:

1. To be in charge in the satellite communication and picture management.

2. To hire the expert with higher pay than the government's regulation pay and request the subsidy support from the private sectors without asking through the government's regulation.

3. To set the clear organization chart and set up the appropriate budget.

4. To be the Defense Cyber Head Quarter who runs the cyber security center.

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(Arranged in the order of citation in the same fashion as the case of Footnotes.)

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