Chapter 5

Integrated Fuzzy AHP–TOPSIS Model for Optimization of National Defense Management Based on Inclusive Growth Drivers Using SWOT Analysis

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ABSTRACT

National defense management, based on inclusive growth drivers, is a multiple-criteria decision-making (MCDM) problem, which is affected by several conflicting factors like socio-economic dimension and security expenditure. The defense expenditure in its pursuit of closer ties with the regional development has sought to turn structural weaknesses into added value and has attempted to develop a distinctive, nonthreatening profile building around the lack of a political baggage and geopolitical ambitions. In this chapter, SWOT (strengths, weaknesses, opportunities, and threats)-based fuzzy AHP–TOPSIS model is proposed and is utilized to determine criteria and alternatives. Moreover, fuzzy set theory is employed to deal with the vagueness of human thought. Then, SWOT yardsticks integrated with AHP–TOPSIS calculate the performances of the alternative insights, based on the above-mentioned criteria. The result shows that the most important task of defense authority is to tackle the threats of nation while the “weakness-threat” is the alternative of priority to get the ideal state of defense management.

INTRODUCTION

Defense expenditure is part of government’s fiscal policy to ensure the power of the economy and national security. The nation like India having cross border disputes and insurgency problem requires sufficient defense strength to tackle the threats. Defense expenditure comes from national finance collected as

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revenue through the restructuring of household incomes that contributes to combat the threats. Therefore, the scale of defense expenditure is limited by national finance conditions. Generally, if national finance is in good condition, the scale of defense expenditure is potentially larger. The status or condition of national finance is ultimately limited by the level of economic development. Faster economic development produces higher growth rate and results in the availability of more resources for defense expenditure. To strengthen the military capacity a larger expenditure made by the developing countries is imported from developed countries. To promote the in-house military investment promotion the government of developing countries may encourage the various strategies like – technology sharing, R & D collaboration, Domestic defense investment, joint training program, assistance to expand international trade and marketing and domestic procurement. But due to the lack of funds, technological innovation and the supremacy of developed nation, the defense strategies implementations get unsuccessful. Benoit (1973) is the front runner researcher who shows a significant relationship between defense spending and economic growth of 44 less developed countries and found a causal relationship from military expenditure to economic growth for the time period. This concern attracted attention of the researchers emerged since late 1970s.

The recent trends and intense international competition require developing countries to reform the defense policy to grave the opportunity of inclusive defense expansion. Developing countries should also collaborate with numerous countries that have strong defense industries base in the fields of tactical missiles, ground weapons, aircraft, shipbuilding, and satellites, to reduce the production cost, improve quality, and reinforce negotiation positions in international competition (Dowdy, 1999; Neal & Taylor, 2001).

Therefore, the successful defense management will require following up the Strength, Weakness, Opportunity and Threat. While the better coordination and cooperation between government-industry-executive units justifiable for nation building. Finding a best national inclusive defense strategy will act on the role of economic security as well as national security (Pieroni, 2009).

INCLUSIVE DEFENCE GROWTH DRIVERS

The implementation of domestic defense resources investment policy aimed at improving defense industrial base technology and self-reinforcing cycle of economic prosperity. The whole society benefits by organizing defense resources of private and public sectors though which government can achieve defense autonomy, improve national defense technology, boost the economy, and create jobs. DeGrasse (1993) has been showed that defense expenditure provides and creates employment opportunities, increases workers’ buying power, introduces greater demand, and boosts economic growth. Benoit (1973) argued that increasing military expenditure can promote economic growth and improve the quality of human capital through education. Particularly in underdeveloped countries, military industry fosters technological intensity in other industries such as aerospace industry. Yakovlev (2007) claimed that an increase in military expenditure may lead to an expansion of new technology which creates spillover for the civilian segment of the economy.

Military industry has a positive impact on a country’s development through network infrastructure development, such as the development of infrastructure (highways, airport, harbors, and telecommunication technologies), and ultimately boosts economic growth. Therefore, defense expenditure provides internal and external security and safety for a country’s citizens, and creates a worldwide environment for trade and investment and job opportunities. Furthermore, the defense economics literature argued that