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The Transformation of the RSAF:
The Organisational Dimension

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THE public face of the transformation of the Singapore Armed Forces (SAF) has typically been framed in terms of technology: the acquisition and deployment of cutting-edge weapons systems, advanced sensor capabilities and information technologies in order to wage network-centric warfare. In short, the transition to the 'third generation' SAF is seen primarily as a technological transformation. The recent revamp of the command structure of the Republic of Singapore Air Force (RSAF) highlights the other equally important dimension of the SAF's evolution: the organisational dimension. This is a timely and important development, reminding us that military transformation goes beyond the fusion of organisation with technology; it is about the transformation of organisation *by* technology.

The Organisation as Technology

It is easy to understand why the transformation of the SAF is seen in technological terms. After all, it is the high profile acquisitions of advanced military hardware that grab the headlines. The SAF, for instance, has in recent years acquired 'big-ticket' items such as the Primus self-propelled howitzer, F-15SG Eagles and Seahawk naval helicopters. Technology is seen as a distinct category, with the resulting dichotomy between technology and organisation giving rise to an incomplete understanding of the role of technology in the military transformation. However, to fully understand the implications of the SAF's transformation, it is necessary to redefine technology.

Equating technology with objects and artifacts – tools, machines, software and procedures – obscures the fact that organisation itself is a form of technology. The organisation, in terms of its structure, culture and processes, is itself a technology for transforming inputs into outputs to attain certain objectives. By extension, the organisation of the armed forces is a technology for organising and deploying its capabilities (inputs) with the primary objective of providing defence and security (outputs).

Seen that way, the successful transformation of the SAF must go beyond the application of technological hardware, systems and knowledge; it must also result in the transformation of the organisation so that it can adapt to and effectively exploit the technological 'tangibles'. In other words, to wage network-centric warfare -- defined as warfighting driven by the speed, flexibility and efficiency of information networks -- the SAF itself must be a network-centric organization. It is this latter aspect – that of organisational transformation – that is as important as the weapons and other hardware, if not more so. The transformation of the RSAF is an acknowledgement of this, and perhaps a harbinger of other organisational transformations to come in the wider SAF.

The RSAF as an Organic Organisation

What then does the organisational transformation of the RSAF mean? And how is it different from the traditional military organisation?

The RSAF's new structure is characterised by greater integration, flexibility, and an enhanced capacity to conduct operations with the army and navy. In particular, the air force's organisational changes enhance its ability to wage network-centric warfare, and its versatility in the face of ever-more complex missions and operational scenarios. In terms of structure, the revamp has led to a flattening of the command hierarchy, an increase in decision autonomy as seen in the decentralisation into five new commands, and the greater specialization and coordination of tasks. In short, the RSAF has adopted the *organic* organisational structure, characterised by the following: command and control based on the concept of the network, less formalisation and more improvisation, decentralisation of decision-making to people on the ground, and increased lateral communication. And all of these in order to perform more varied tasks ranging from traditional war fighting to disaster relief and peacekeeping operations

The transition by the RSAF to an organic organisational form is a positive and significant one for two main reasons. First, the successful application of RMA (Revolution in Miitary Affairs) technologies – precision-guided weapons, communications technologies, and so forth – depends on deep structural changes and process re-engineering in the armed forces organisation. Such technologies are disruptive in that they generate radical rather than incremental changes in capabilities. As a consequence, such technologies also disrupt and destabilize the existing structures and processes of the organisations that adopt them. Such technologies are not merely 'plug-and-play' systems that can be grafted onto existing organisational structures and processes; indeed, to fully exploit these technologies, it is essential for the organisations themselves to transform so that there is compatibility between the organisation and technology. Failure to do so would result in a dangerous mismatch between the two, with 21st century technologies imperfectly embedded within and ineffectively deployed by an 18th century organisation form.

Second, the move to an organic structure also reflects the more complex operating environment that the RSAF, and the broader SAF, faces. The organic structure better serves today's militaries simply because it is better able to innovate and learn. Given the dynamic security environment, and the increasingly complex missions that the air force is called to perform, such organisational changes are a pre-requisite for the RSAF's continued operational effectiveness. These changes mirror developments in the broader socio-economic milieu, where the emergence of the information economy has led to the transformation of the firm from a top-down, hierarchical, bureaucratic corporate behemoth into a flattened, decentralised, dynamic network organisation that is better able to cope with changing business practices such as flexible manufacturing, just-in-time inventories, and knowledge-intensive products and services.

At a broader level, the transformation of the RSAF is significant because it represents a move towards the organic organisational structure away from the mechanistic form that is usually associated with the military. In contrast to the organic form, the mechanistic organisational structure is defined by features such as a hierarchical, top-down structure of authority and control, high degree of centralisation, standardisation through written rules and procedures, and vertical rather than lateral channels of communication – all the hallmarks of the traditional armed forces organisation. This particular organisational form has served the armed forces well in the execution of its tasks. and in fact serves as the basis for its longstanding, rich tradition of military culture. However, disruptive technologies and the

greater variety of mission-types means that its existing organisational form and processes are no longer tenable. That the RSAF has implemented changes that challenge the organisational *status quo* (however modestly), and the tradition associated with that, is a testimony to the forward-thinking mindset of policy makers.

Conclusion

In one sense, the changes implemented by the RSAF, and their underlying rationale, could serve as a template for the other service branches. To be sure, there are limits to how far the armed forces can, or even should, emulate the changes that are taking place in commercial organisations. The adoption of organic organisational structures and processes by the RSAF do not mean that characteristics like hierarchy, formalisation and so forth have been supplanted, but rather complemented.

In a way, these changes should be read as the gradual introduction of organic organisational practices into the dominant mechanistic organisational form. Clearly, features such as verticality and formal hierarchy remain integral to the functioning of the armed forces: the mechanistic organisational technology still works more often than not. Rather, the transformations that have taken place in the RSAF reflect an attempt to pre-empt situations where the mechanistic organisational form thwarts rather than serves. Nevertheless, these organisational transformations reinforce the importance of organisational developments alongside the acquisition of technological capabilities.

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