

Safety And The Individual



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INTRODUCTION

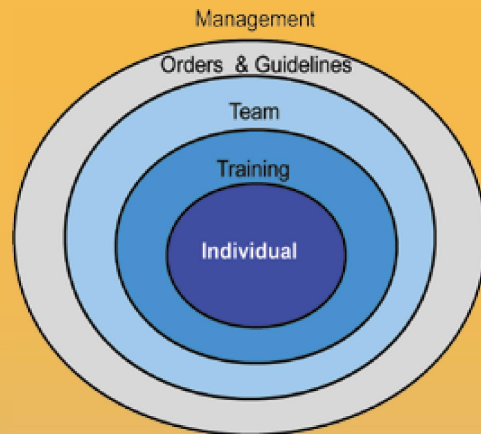
In this age of increased sophistication and complexity, there is an increase in proportion of accidents/incidents being attributed to human errors. As put across aptly by Wiegmann and Shappell (2004), "...almost everyone agrees that somewhere between 70-80% of aviation accidents are attributed, at least in part, to human error." From statistics collated by AFI, it was analyzed that a majority of the factors contributing to individual HF errors were attributed to 'mindsets' and 'poor attention management'. Hence more than ever, the individual plays a crucial role in upholding the RSAF's safety philosophy of "Mission Success, Safety Always".

The fundamental skill sets of the individual are necessary to provide the correct foundation to carry out their work safely and effectively. This can only happen when everyone understands their responsibilities, and carries out allocated tasks in accordance to procedures.

SAFETY NETS SURROUNDING THE INDIVIDUAL

The saying, “To err is human”, clearly brings out the undeniable fact that there will be a certain probability of error in any task performed by an individual. The layers of safety nets embedded today enhance the robustness of procedures and minimize the chances of these errors occurring.

At the root level, the **training** that an individual receives throughout his career in the RSAF prepares and equips him with the necessary skills and knowledge to perform his tasks competently. This also helps to align an individual's values and beliefs with the organization. In the RSAF, **teamwork** is essential to ensure safe and effective operations. The most basic illustration of teamwork is apparent in the 'buddy system' (eg. a pilot and his wingman, a tradesman and his supervisor, a Ground-based Air Defence (GBAD) gunner and his Fire Unit(FU) commander). The team of individuals working together, through the use of Crew Resource Management(CRM) techniques, would then be able to leverage on one another's abilities. In order to standardize the procedures and provide a common understanding among all, **Orders and Guidelines** are required. These can range from general authoritative directions (eg. General Orders of MINDEF (GOMs), Air Force Logistic Orders (AFLO) etc.) to instructions that cover specific operations or maintenance tasks (operator and maintenance manuals). At the outermost level, the **Management** inculcates the individual with the values, beliefs and culture of the organization through command emphasis and communication.



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All the different layers play an equally important role in enhancing safety. However, there were instances where these safety nets were over-prescribed. Often, the most straightforward “solution” to preventing an incident from reoccurring appears to be adding more safety nets, be it supervision, procedures, processes or placing stronger management emphasis through briefings. However, this knee-jerk approach might not always be effective, and might even be counter-productive. With manpower constraints and increasing responsibilities and demands placed on our people, it is neither sustainable nor efficient to continue adding layers.

At the core of the safety nets is the **individual**. Even when all the safety nets are in place, the last line of defense remains to be the individual, whose decision would have a direct impact on the safety of the tasks performed. In the same way, the strongest form of motivation and discipline for an individual usually comes in the form of self-motivation and self-discipline. It must be the responsibility and ownership of the individual to maintain mastery of his own basic skills and competencies to perform the task required.

IMPORTANCE OF STRONG BASICS

Just as a solid foundation is essential and crucial for a tall building to be firmly built on, the foundation of an individual's core competencies often determine the successful accomplishment of complex tasks. In the sports arena, even the most accomplished sportsmen train rigorously and continuously on the most basic tasks (eg. David Beckham on his free kicks, Tiger Woods on his swings, Michael Jordan on his jump shots). This training continuously strengthens and improves the basic skills until a desired level of mastery is achieved.

It is important that the individual constantly reinforces basic skills and knowledge to maintain expertise. By doing so, the individual would be able to effectively perform the tasks required of him and yet have capacity to assess the dynamic situations to make the most appropriate and safe decisions.

In view of the high Private Owned Vehicle (POV) incident rate, our unit safety office initiated a sharing on best driving practices during the monthly RSAF Safety Day(RSD). The objectives were to emphasize the importance of road safety, raise the awareness of drivers and refresh them on safe driving techniques. The session left a particularly strong impression, when many drivers shared their experiences on how the basic act of checking blind spots had prevented accidents from happening. While filtering into other lanes or turning at a junction, a final blind spot check revealed that motorcyclists had squeezed beside them, even though they were certain that the traffic was clear moments earlier. This seemingly mundane basic task of checking the blind spot one last time just before filtering or turning prevented accidents from happening. If the driver is disciplined enough to exercise the basic task every time, he would contribute to the overall safety on the road. Conversely, if the driver does not, the consequences could be fatal.



DOING THE RIGHT THINGS AND DOING THINGS RIGHT

There are two main factors contributing to the successful completion of any task in any situation- 'Doing things right' and 'Doing the right things'.

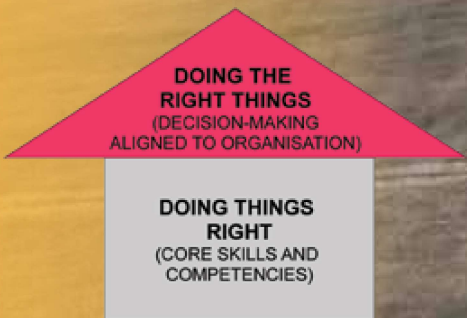
DOING THINGS RIGHT

'Doing things right', basically, is the practical know-how of the proper procedures and actions to be taken. It addresses the question of 'how to do'. It is the core set of skills and competencies that the individual has at his disposal that enables him to successfully carry out his tasks.

To 'Do things right' is to ensure that the individual is competent in his field of work. To achieve this, the individual must first be equipped with the necessary skills, tools and procedures to carry out his task. The individual should constantly revisit his basic training and build upon his knowledge and skills with practical experience.


One of the incidents that brings out this point is the regular servicing on an Uninterrupted Power Supply (UPS) that supports some critical C2 systems. The servicing requires the simulation of a power failure to test if the UPS would sustain the operation. In the incident, a slight burnt smell was detected during the servicing. The maintenance crew involved promptly shut off the equipment that resided on the same electrical connection. Their prompt and appropriate actions are indicative of the skills and competencies possessed by the crew to be able to identify and isolate the source of the problem. Their safety mindset had prevented what might have led to a potential fire incident in the workplace.

'Doing things right' is the most fundamental prerequisite for successful completion of a task. The individual should constantly upkeep his level of competency at all times. Only when the individual possesses the necessary core set of skills and competencies can



**DOING THE
RIGHT THINGS**
(DECISION-MAKING
ALIGNED TO ORGANISATION)

**DOING THINGS
RIGHT**
(CORE SKILLS AND
COMPETENCIES)

A large military aircraft, possibly a transport plane, is parked on a tarmac. The aircraft is dark-colored with the number '51' visible on its side. The background shows a cloudy sky and some airport infrastructure like a tall light pole. The overall scene is brightly lit, suggesting a sunny day.

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there then be a strong bed rock for the successful completion of any task every time.

DOING THE RIGHT THINGS

'Doing the right things', on the other hand, is a more cognitive process and addresses the question of 'what to do'. It places emphasis on the planning and decision-making process of the individual that allows him to assess the situation and carry out the necessary actions required of him that is in line with the organizations values.

'Doing the right things' is often governed by guidelines and emphasis from the management. However, in some situations, it is not a clear-cut black-or-white case that can be completely covered by guidelines. Instead, the situation would often require weighing of consequences between the different options available to the individual. How does the individual then know he is doing the right thing expected of him? In such cases, it is important that the individual's prioritizing of requirements is aligned to the mission, vision and core values of the organization. Hence, it is crucial that the individual understands the rationale underlying the various guidelines.

As illustrated in the figure above, 'Doing the right things' is built upon the foundations of the individual 'Doing things right'. It provides the direction to guide an individual's decision making process. It also requires the individual to have high situational awareness to enable him/her to make the most appropriate and informed decision in line with the goals and objective of the mission or task. While performing the actual task, an individual who is highly competent and trained understands and recognizes the potential dangers in his working environment, and would be able to react with his actions aligned to the organization's values and beliefs.

Having fundamental understanding on the 'why' of the guidelines would enable the individual to better 'Do the right things'. The fundamental understanding could be enhanced through communicating the underlying rationale. On top of that, the individual's involvement in relevant SOP reviews and development can imbue a sense of involvement and ownership.

That being said, it is important to note that it is not always possible to be in the ideal state of 'Doing the Right Things' and 'Doing Things Right'. In many real-life operational scenarios, there exists a tension between the two. I recall an example, where due to fire safety regulations, we were required to replace the Uninterrupted Power Supply (UPS) in service for more than three years. That meant that over 50 sets of UPS needed replacement within a short time frame, to fulfill inspection requirements. In order to meet the tight schedule, my team had to work through the night, exceeding the twelve-hour work time limit. This illustrates that it is not always possible to be both 'Doing the right things' (Immediate replacement of all UPS) and 'Doing things right' (Adhering to the twelve-hour work time limit).

In another example, aircraft were scheduled to fly multiple sorties in a day, due to training requirements. For safety considerations, engineers would need to be meticulous in their checks before releasing the aircraft for flight (Doing things right). However, this may adversely impact the ability to meet planned take-off timings (Doing the right thing), possibly resulting in lost training opportunities for aircrew.

In order to meet the turn-around deadlines, the engineer may decide to expedite and risk missing out on checks. In ensuring that the mission can be accomplished safely, our personnel must exercise good judgment to fulfill the mission requirements without taking shortcuts, while remaining cognizant of their limitations and knowing when to say no.

CONCLUSION

The effectiveness of task accomplishment and safety system hinges on the individual. One needs to constantly put in effort to build competency in 'Doing things right' and align their mindset with the values of the organization to 'Do the right things'. Only when the individual achieves this can the RSAF then progress as a whole. As quoted from Vincent Lombardi, the widely renowned American football coach, "The achievements of an organisation are the results of the combined effort of each individual." The safe and successful execution of every mission in the RSAF occurs when the individuals excel in their core set of skills and competencies that are aligned to the culture and values of the organisation.

**“The effectiveness of
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