



الأكاديمية العربية للعلوم والنقل البحري

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**MODELING RESILIENCE OF SECURITY SERVICES'
SUPPLY CHAIN**
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Introduction



Introduction



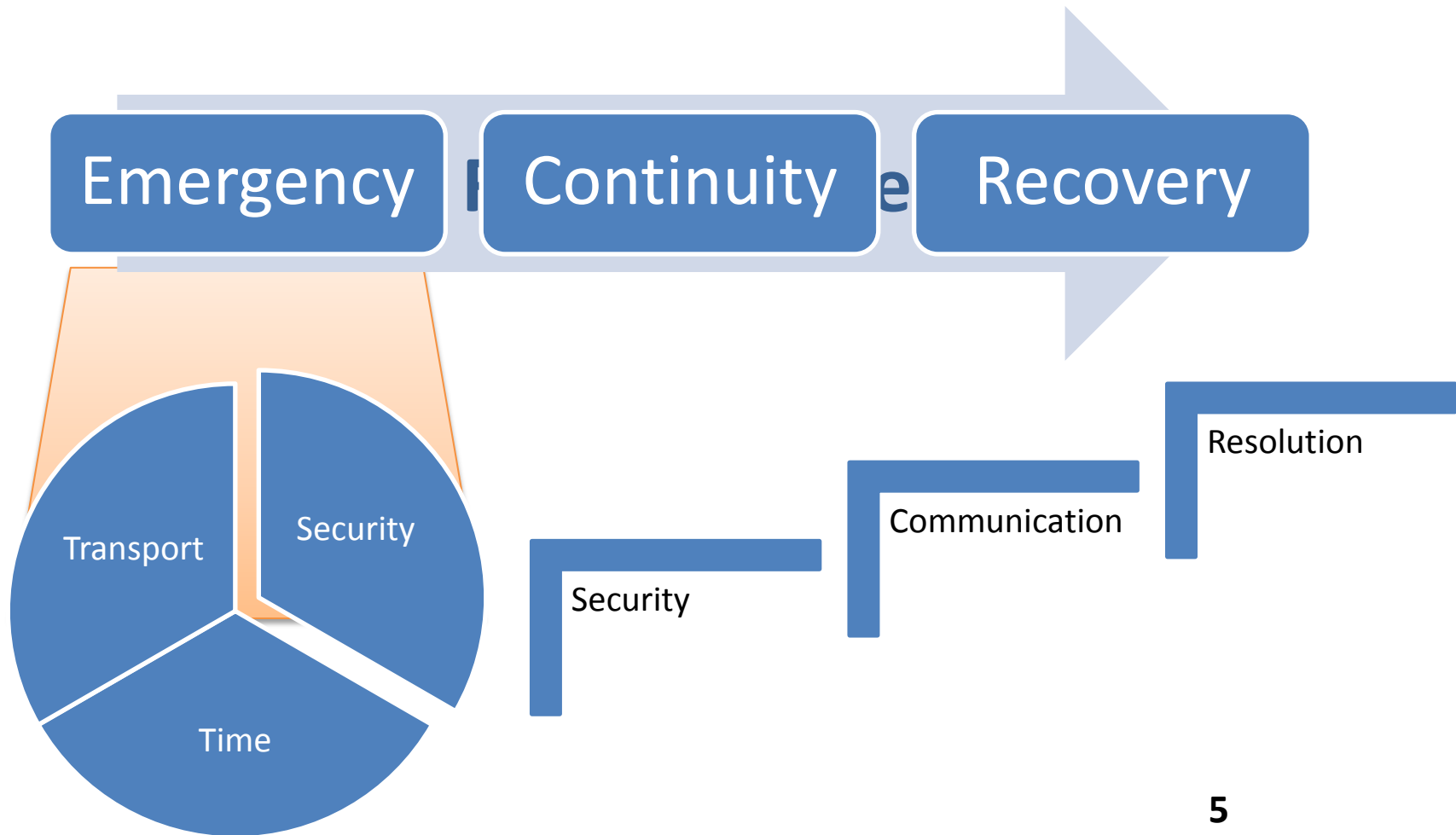
METAL DETECTOR



WALK THROUGH GATE



Business Continuity and Security



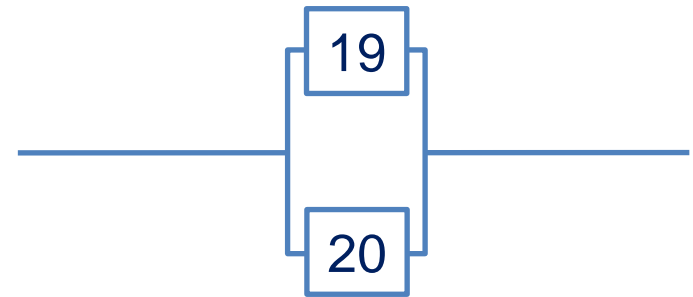
Reliability

Series Model



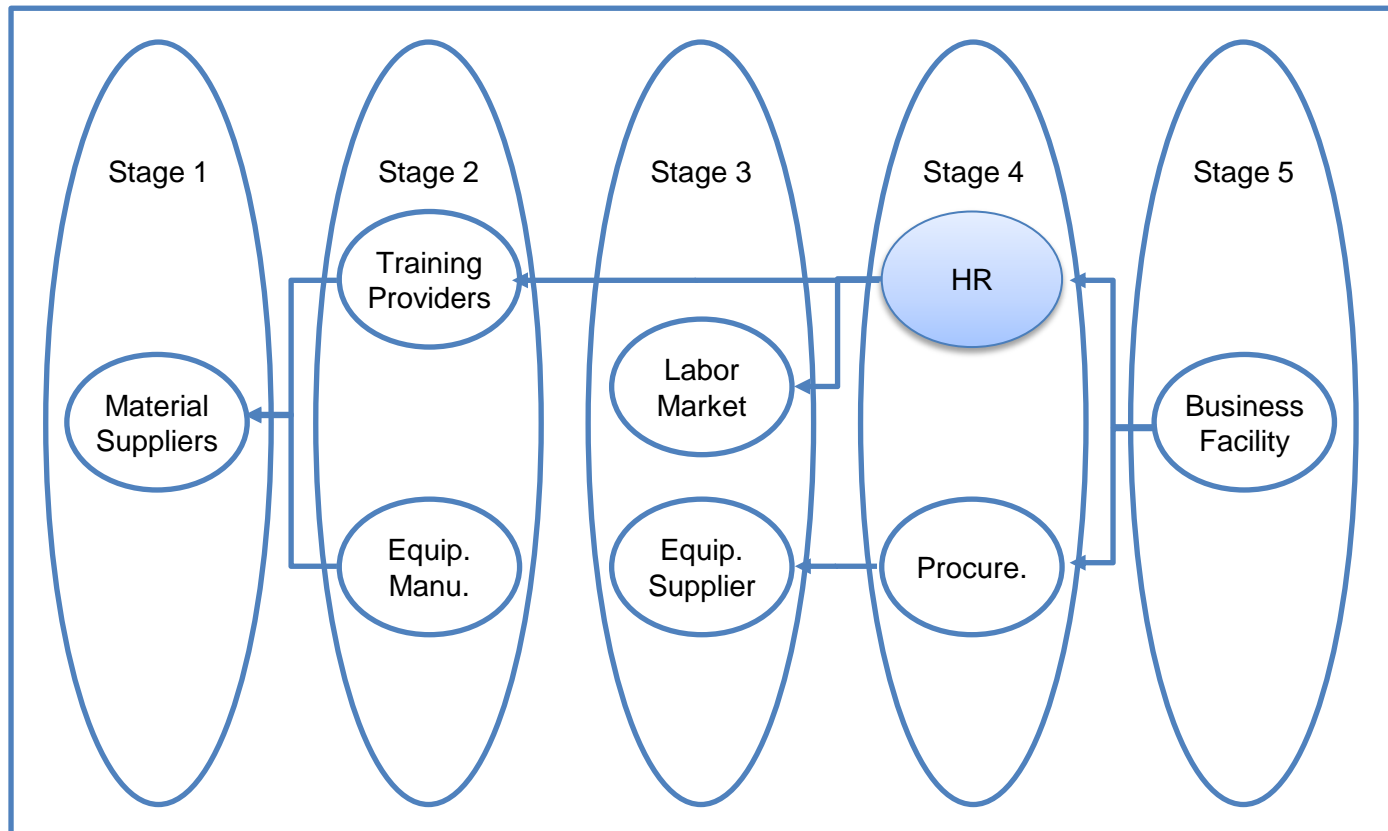
$$R_S = R_1 * R_2 * R_3 * \dots * R_n$$

Parallel Model

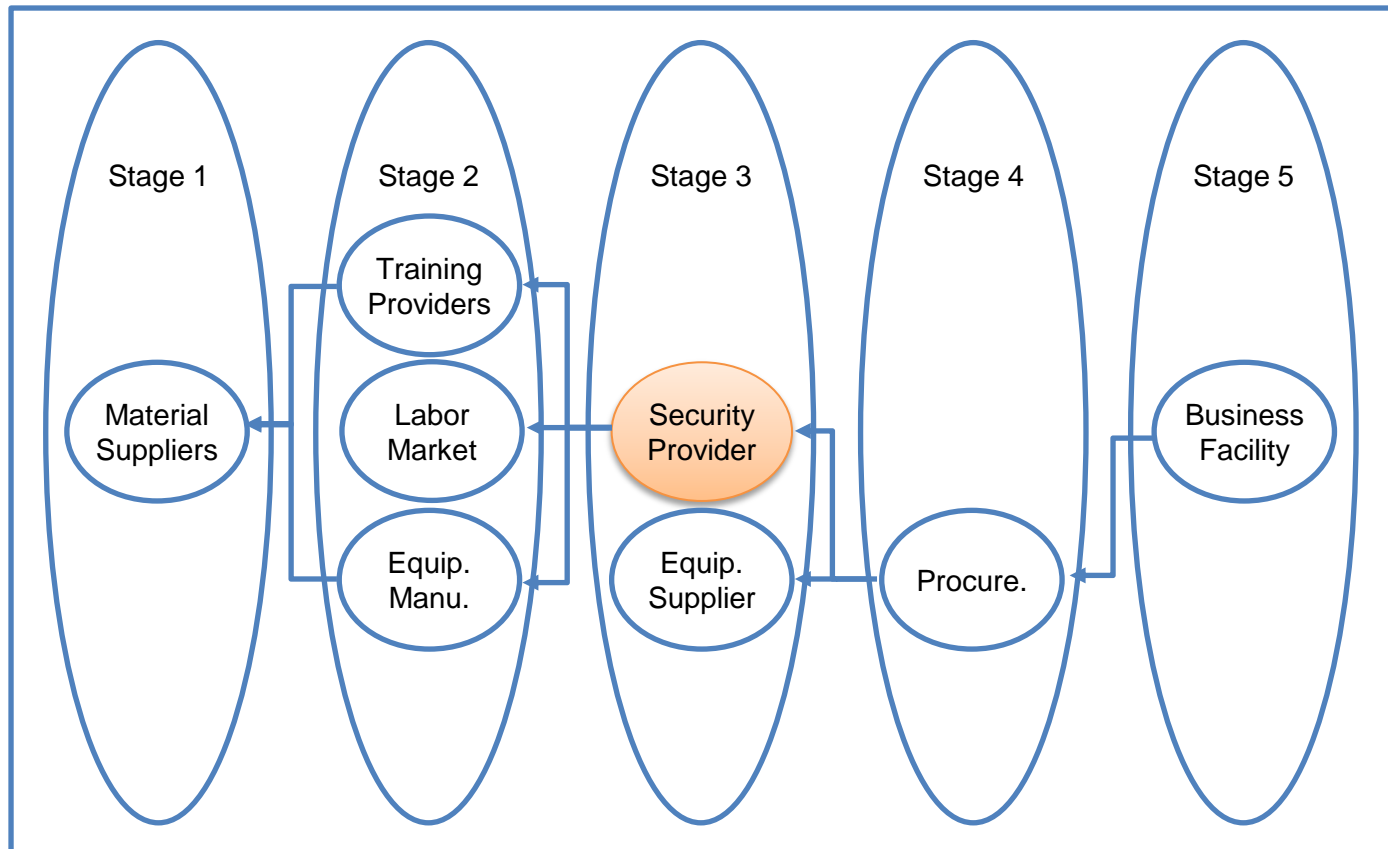


$$R_S = 1 - (1 - R_1) * (1 - R_2) * \dots * (1 - R_n)$$

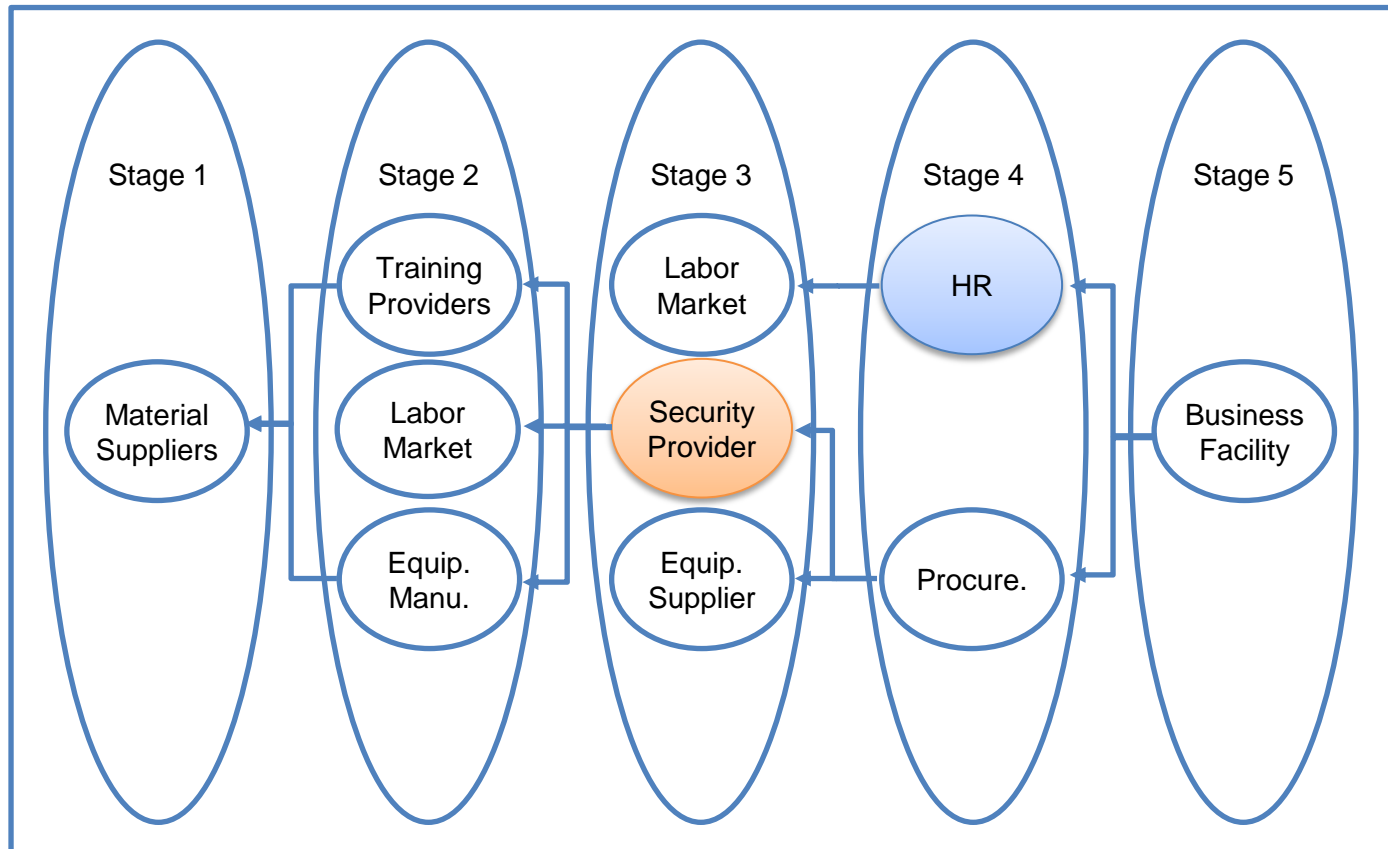
Security Services Supply Chain



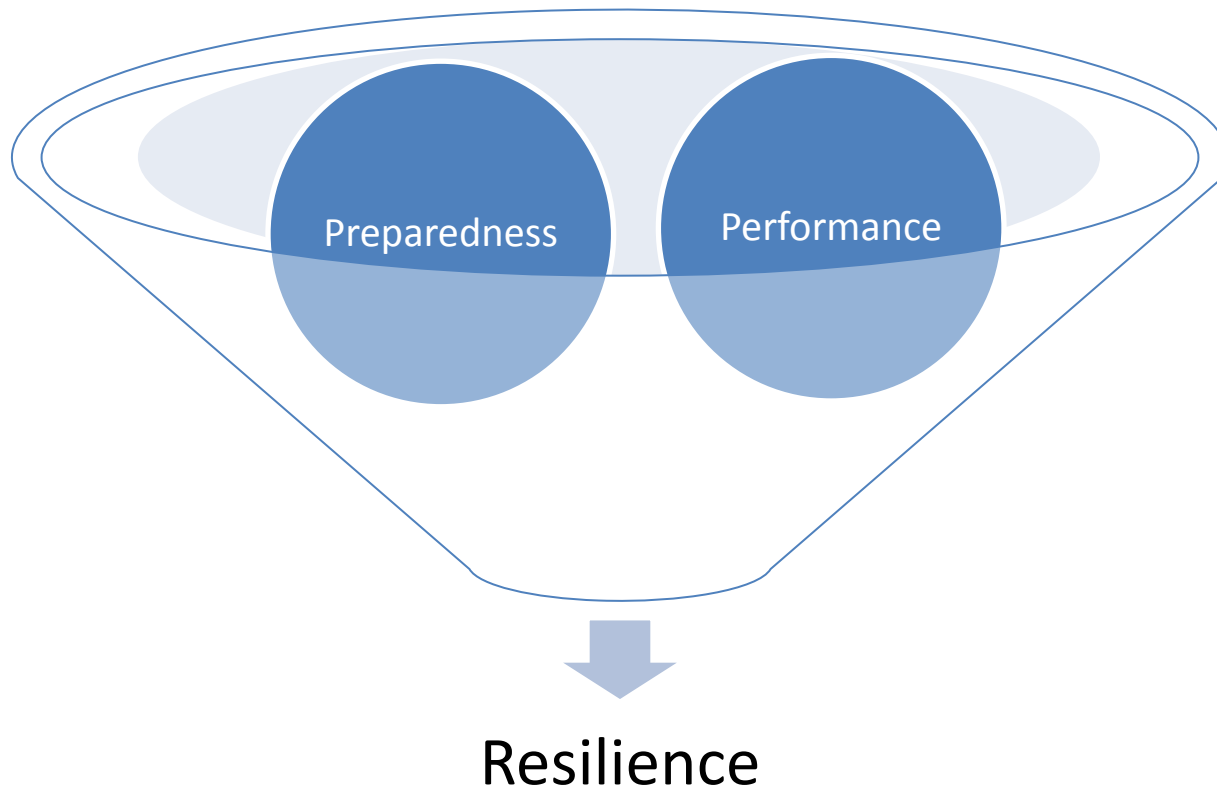
Security Services Supply Chain



Security Services Supply Chain



Identifying SCR KPI's



Identifying SCR KPI's

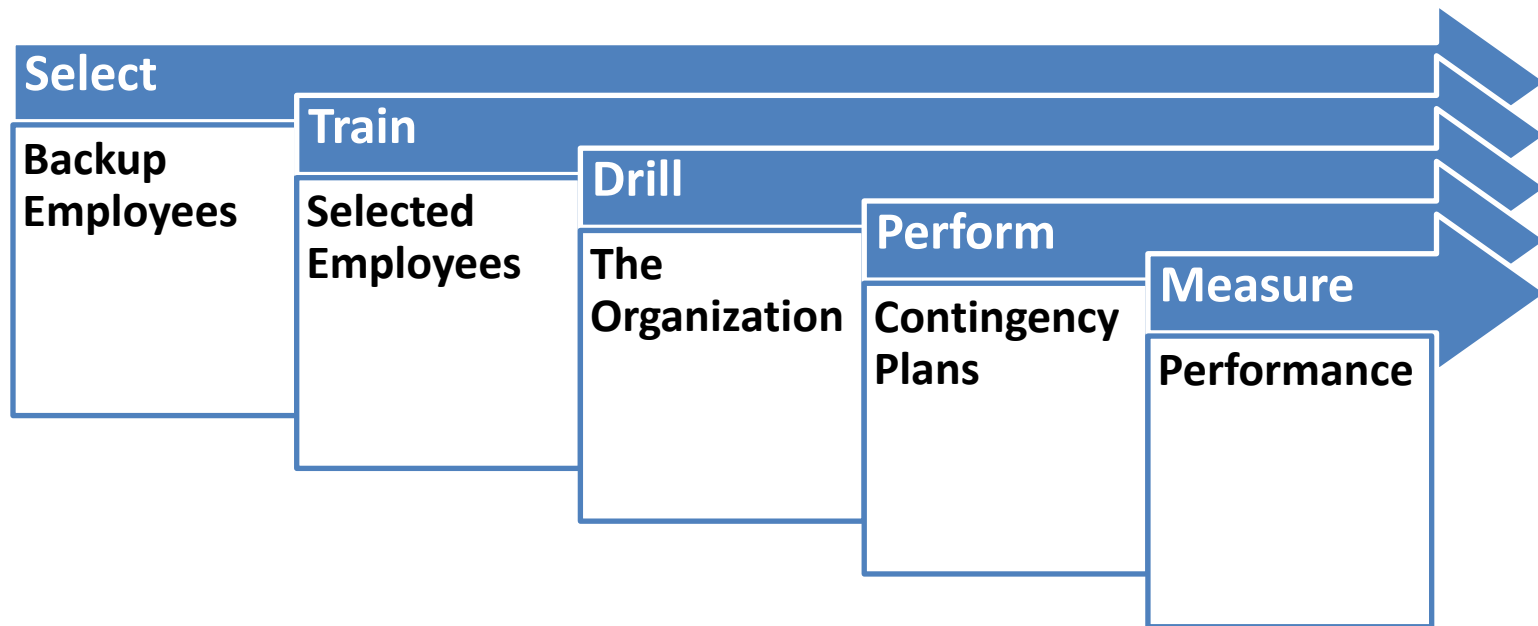
Preparedness

Risk Identification		Response Planning		Risk Monitoring and Control	
RID	Threat	Response Plan	Owner	Status	Notes
SR1	Lack of enough security personnel to perform the required security processes due to security employees' strike. All facility entry doors need protection.	P1. Train 10% of company employees on security processes. P2. Close all the entry doors and stick to one entry point.	Head of Security and Head of Crisis Management	In progress	Training completes on April 12, 2015
SR2	CCTV system is down and there are no maintenance spare parts because the system is discontinued.	P1. Relocate the working cameras in the most critical areas. P2. Study the viability of installing a new system. P3. Issue a priority list of locations covered by CCTV.	Head of Security and Head of Procurement	Approved	New system procurement from the risk management budget if available.
SR3	The electronic gate for weapon detection at the facility entrance does not function.	P1. Use handheld scanners.		In progress	

Identifying SCR KPI's

Performance

- Can the organization perform the contingency plans?



Measuring KPI's

- **Preparedness Reliability Evaluation** $RR_R = SR1_R \times SR2_R \times SR3_R$

Criteria	SR1	SR2	SR3
1. Up-to-date (within the last quarter)	1	1	1
2. Has at least one viable contingency plan	1	1	1
3. The contingency plan has its owner	1	1	0
4. Employees are trained to perform contingency plan	1	1	1
5. The contingency plan approved by the top management	0	1	0
6. Monitored and controlled	1	1	1
SR Reliability	0.833	1	0.667

Measuring KPI's

- **Performance Reliability Evaluation** $Pe_R = C1_R \times C2_R \times C3_R$

Criteria	Number Attempts	Number Success	Reliability
1. Performing personnel scanning for weapons at entry	20	17	0.85
2. Retrieving Video from CCTV system	10	8	0.8
3. Registering facility entrants	20	19	0.95

Measuring KPI's

$$RR_R = 0.556$$

$$Pe_R = 0.646$$

$$SCR = RR_R \times Pe_R = 0.556 \times 0.646 = 0.359$$

Measuring KPI's

Security Services Supply Chain Resilience Report

1. Current resilience level is 0.359
2. Identifying all the owners of the risk register contingency plans
3. Acquiring the approval on all the contingency plans in the risk register
4. Conducting a crash course to the employees assigned to operate CCTV system

Conclusion

1. The research introduces three proposed models for security services supply chain.
2. The research identifies two KPI's to measure the security services SCR.
3. The research proposes reliability models to measure SCR KPI's.
4. The research recommends that organizations attempt to apply the proposed models to acquire better security services capable of facing future uncertainties.

Thank You