UsPLM

UNMANNED SYSTEM & PRODUCTS
LIFECYCLE MANAGEMENT SOLUTION

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Agenda

- Organizational Assessment and Risk Culture
- Risk Infrastructure
- Risk Identification
- Risk Measurement
- Risk Management
- Contingency Plan and Disaster Recovery
- Lessons Learned

Organizational Assessment and Risk Culture

About the Company

- UsPLM is a software startup based in New York State, USA.
- UsPLM stands for Unmanned Systems and Product Lifecycle Management Inc.
- Their tagline is Data Managed, Mission Achieved.
- This company was founded by Dr. Utpal Roy and Yunpeng Li.

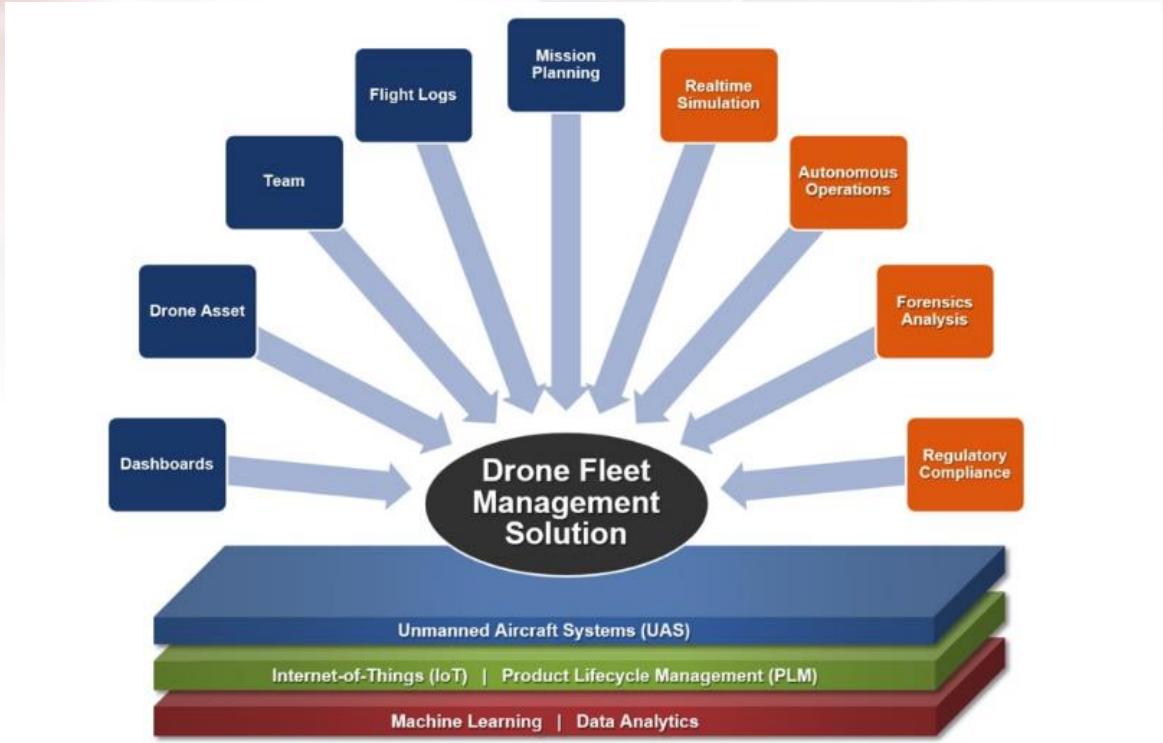
About the Company

- Dr Roy is a Professor and Yunpeng Lee is a PhD student in College of Engineering and Computer Science at Syracuse University. They received $250k after winning Genius NY'18 competition.
- The Genius NY program is the world's largest business competition for Unmanned Aircraft Systems(UAS).
- Recently UsPLM was awarded as 2018 Economic champion by CenterState Corporation for Economic Opportunity.

About UAS

- UAS as a tool or service is used by industrial applications and research scientists.
- Efficient and safe UAS operations require secure data management and smart decision support systems for mission planning, execution, monitoring, real-time data analytics, and regulatory compliance assurance.
- The tools currently available in the marketplace for UAS operations are highly scattered.

Services Offered

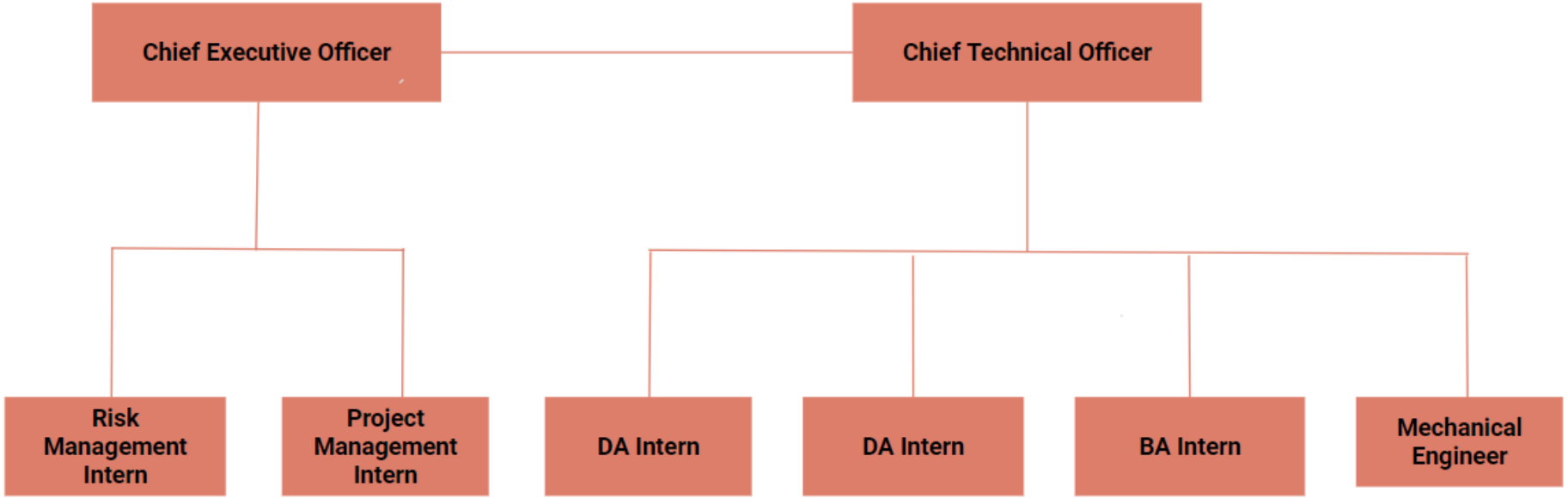


Clients

- UAS operation centers
- UAS manufacturers
- Government agencies
- Research scientists

Risk Infrastructure

Organizational Chart



Risk Identification

Approach

- Industry analysis
- SWOT analysis
- Interviews
- Brainstorming

SWOT Analysis

Strengths	Weaknesses
1. Resources 2. Research 3. Expertise	1. Budgeting 2. Project management 3. Lack of business acumen within the top management
Opportunities	**Threats**
1. Partnerships/ Mergers 2. Traction with customers	1. Losing potential clients 2. Small to medium sized competitors 3. Large competitors 4. Change in regulations for fleet of drones

Risk Types

- Business risk
- Human resource risk
- IT risk
- Operational risk
- Technical risk
- Weather dependent risk

Risk Measurement

Likelihood Scale

Rating	Description	Definition
5	Frequent	Up to once in 7 days
4	Likely	Once in 7 days up to once in 30 days
3	Possible	Once in 30 days up to once in 180 days
2	Unlikely	Once in 180 days up to once in 360 days
1	Rare	Once in 1 year or more

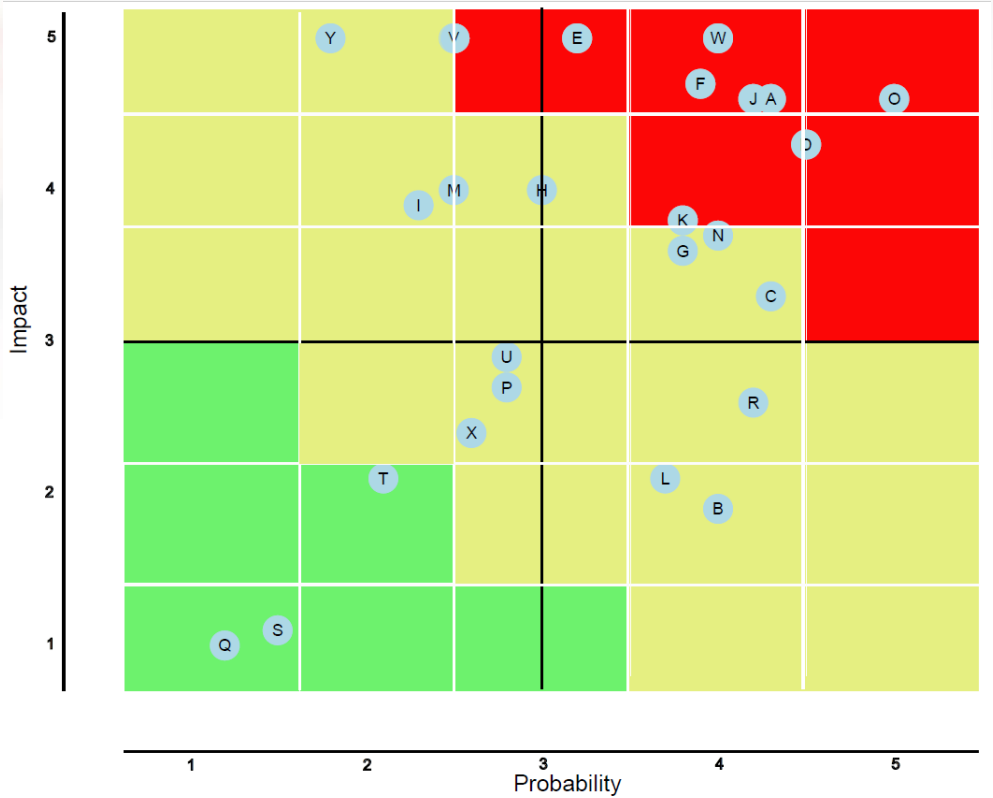
Impact Scale

Rating	Description	Definition
5	Extreme	•Financial loss of $100k or more and possible bankruptcy •Game-changing loss of market share •Significant prosecution and fines •Senior leader leave
4	Major	•Financial loss of $50k up to $100k •Significant loss of market share •Significant blow to customer perception •Unavailability of Interns
3	Moderate	•Financial loss of $25k up to $50k •Finding difficulty in finding funding (grants) •Reduction in business orders •Low morale across the company
2	Minor	•Financial loss of $10k up to $25k •Funding not used properly •Product outcome has some small issues •Interns not performing up to the mark
1	Incidental	•Financial loss of $1k up to $10k •Research is stuck •Product inventory quality needs innovation •Interns not available during office hours

Risks Identified

Order	Risks	Frequency	Loss	Categories	Risk Score
A	Losing potential clients	4.3	4.6	Business Risk	19.78
B	Documentation not done for various changes	4	1.9	Operational Risk	7.6
C	Business process flow not completed	4.3	3.3	Operational Risk	14.19
D	Project timelines are unclear	4.5	4.3	Operation Risk	19.35
E	Revenue generation	3.2	5	Business Risk	16
F	Resource availability	3.9	4.7	Human Resource Risk	18.33
G	No internal auditing or risk management infrastructure	3.8	3.6	Operational Risk	13.68
H	Dependency of resources for each change	3	4	Human Resource Risk	12
I	Unclear motive for partnerships	2.3	3.9	Business Risk	8.97
J	Product marketing is not done	4.2	4.6	Business Risk	19.32
K	Resource allocation	3.8	3.8	Human Resource Risk	14.44
L	Correct task allocation	3.7	2.1	Operational Risk	7.77
M	Hiring reliable and qualified employees	2.5	4	Human Resource Risk	10
N	Back end development of the product	4	3.7	Technical Risk	14.8
O	Database backup	5	4.6	IT RIsk	23
P	Weather uncertainty	2.8	2.7	Weather Dependent Risk	7.56
Q	Drone pilot availibility	1.2	1	Operational Risk	1.2
R	Partial failure/loss of navigation system	4.2	2.6	Technical Risk	10.92
S	Existence of corrosion	1.5	1.1	Operational Risk	1.65
T	Pilot unfamiliar with area	2.1	2.1	Operational Risk	4.41
U	Collision with manned, unmanned aircraft or buildings, power lines	2.8	2.9	Operational Risk	8.12
V	Drones Licences and operation	2.5	5	Business Risk	12.5
W	Data Security	4	5	IT Risk	20
X	Spare parts	2.6	2.4	Operational Risk	6.24
Y	FAA regulations concerning unmanned aircrafts	1.8	5	Businesss Risk	9

Risk Map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Probability

Top 5 Risks

- Database backups
- Data security
- Losing potential clients
- Unclear project timelines
- Product marketing

Risk Management & Contingency Planning and Disaster Recovery Planning

Database Backups

Risk Management Strategies:

- Making multiple database backup.
- Keeping the backups in geographically different areas.
- Storing backups on cloud servers.

Contingency plan:

- Ensure backup servers are functioning properly.
- Make updates, changes, additions to backups as needed.

Database Backups

In the event of a disaster:

- Notify employees to backup their personal computers.
- Assess the cause/severity of the server failure.
- If needed, restart server or transfer data to backup server.
- Determine how employees should continue their work.

Data Security

Risk Management Strategies:

- Implementing pre-established security protocols.
- Investing in security tools. E.g. SIEM tools.
- Hiring dedicated security team led by a senior executive officer.

Contingency plan:

- Review security protocols and tools in place periodically.
- Update as deemed necessary.
- If needed, retrain staff/interns.

Data Security

In the event of a disaster:

- Notify employees to backup their personal computers.
- Assess the cause/severity of the security failure.
- Determine what, if anything, was compromised.

Losing Potential Clients

Risk Management Strategies:

- Following up with potential clients.
- Developing a strong business model and making it customer-centric.
- Using analytical tools to analyze the competitors and their products to improve customer strategy.

Contingency plan:

- Research the competition.
- Follow up with lost clients.
- If needed, implement changes to business model.
- Maintain good relationship with existing clients.

Losing Potential Clients

In the event of a disaster:

- Redesign business model.
- Reach out to existing clients for referrals.
- Hire a sales expert.
- Outsource sales.

Unclear Project Timelines

Risk Management Strategies:

- Using project management tools for better clarity.
- Creating regular documentation and updating it.
- Regular project meetings.

Contingency plan:

- Review employee expectations.
- Review project management tools in place.
- Assign someone to monitor progress in project management program.

Unclear Project Timelines

In the event of a disaster:

- Keep generators on site.
- Have a plan for employees to work remotely.
- Communicate expectations to employees.

Product Marketing

Risk Management Strategies:

- Finding business partners and clients willing to invest in the company and the product.
- Developing a prototype/demo for marketing purposes.
- Using marketing analytics to target specific customer groups.

Contingency plan:

- Reassess current marketing strategy.
- Assess current market needs.
- If needed, develop a new prototype.

Product Marketing

In the event of a disaster:

- Invest in hiring a marketing expert.
- Invest in a new marketing campaign.
- Outsource marketing.

Lessons Learned

Team Perspective

- It is more difficult to analyze risks for a start up than a medium sized firm since they have just started.
- There are wide variety of risks involved in a start up around each department that need quick assessment.
- Risk management is not a priority for start up, it is more of an afterthought.
- It is difficult for start ups to maintain the morale and positive risk culture internally.
- Everything is constantly changing in the firm to fit the needs of customers and resource availability.

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Thank You !!