HOCHSCHULE HEIDELBERG
Intelligence in Learning

CLOUD MANUFACTURING DIGITAL PRINT PLATFORM

PRINT PERFECT

1. Introduction

Heidelberg Printing Machines run a vast printing business and provide printing machines to its customers (like small and medium shops). Heidelberg originally started with Platen press in 1914 and has now evolved to offset presses and print related products. HPM is well known brand in printing industry with various services that it offers to its customers.

2. Aim and objective

HPM wants to enhance their services to compete with the other printing organization. In this project, we are trying to make HPM system more efficient and accessible to shops and customers, by helping them to get in to "Cloud Manufacturing Digital Platform". Due to which they can be able to connect with their customers through a proper channel. This enables the print jobs to be easily available with the help of cloud with an expert based print opinion, helping to concentrate in all types of market place and also having the views of all types of consumers.

3. Target state

Consumer will have the ability to choose and communicate effortlessly with a favourable print shop without the need to visit the actual shop for cost estimates, sharing print design or documents online, get an expert based opinion and negotiate a favourable outcome and get their print order delivered or picked up from the store

4. Chances and Risk analysis in the project

4.1.1. Risk Analysis

Some project outcomes and objectives may impact of the risk, the analysis procedure we follow is Risk analysis. By which we can take follow appropriate mitigation steps to avoid the risk. We have some high risk, low risk and acceptable risk (Morgan, M.G., 1993).According to the measure (high or low or acceptable) of the risk, we implement the mitigation steps. Risk Analysis is practiced to mitigate the uncertainties or impact on the project. This can streamline by predicting them before the starting of the project and taking up right measures to mitigate them (Jones, R.N. and Preston, B.L., 2011). This analysis will help in the success of the project and reduces the consequences of risks.

4.1.2. Risk Management

Major risk of the project is to integrate with "Prinect" product by HPM, which might lead to changing the existing architecture of Prinect leading to changes incurring costs. If the Prinect is still not hosted on cloud platform by HPM, then this migration of Prinect and Print Perfect might leads to increase lifecycle of the entire project.

Providing a cloud manufacturing digital platform for HPM can give access to customized templates for the business holders (the small and medium shops and end user), and also connecting them with third party vendors to deliver their products to End Customer. We are dealing with Business (HPM) – Business (vendors) – End Customer. We can observe that it is a complex project, the risk in the project is also high in various categories.

- Security and Data Risk (is mitigate risk)
  As we are providing customized templates for all the printing shops getting products from HPM, there is a possibility of misuse of data like hacking the security details. This is a high risk to the company as it may loss trust which leads to loss of business.

- Technical Risk (is mitigate risk)
  If cloud platform is not working effectively, this impacts the performance of the printing process and time delay.

- Legal Risk (is delegate risk)
  Legal risk will be raised by legal and regulatory obligations by the city, contract risks etc. These rules need to be explained clearly for any new entrepreneur starting up a printing business. And, risk may arise even while processing the customer data and handling the data of customer.

- Operational Risk (is mitigate risk)
  Errors or Omissions made by developer. This affects the work flow and production of the organisation. And, Failure in handling the products or services

- Market Risk (is mitigate risk)
  Market risk may cause due to the competitors, coming up with new competition skills by enhancing their printing skills. And, the changing prices of stock investments also lead to Market risk. This risk is called Equity risk.

- Environmental Risk (is acceptable risk)
  Occurrence of network downtime, because of the fire accident or any other natural incidents.

Here are the various risk fields explained with their severity, probability of occurrence and visibility of risk entry.

Risks	Severity	Probability	Visibility	
Security and Data Risk	4	4	2	32
Technical Risk	4	2	2	16
Legal Risk	4	2	1	8
Operational Risk	3	2	1	6
Market Risk	3	3	1	9
Environmental Risk	2	2	1	4

Table no. 01 Severity, Probability and Visibility scale for the Risks

We have some mitigations for the risk categories according to the above table,

Security and Data Risk:
We are using standard protocols and recommended encryptions for mitigating the possibility of misusing the data.

Technical Risk:
Cloud platform performance will be mitigated by conflict of analysis.

Legal Risk:
Mitigation of legal risk can be handled by any compliance guide like GDPR or BDSG

Operational Risk:
To mitigate the errors or omissions by developer we will do testing and evaluation after every iteration. The product failure can be mitigated by check and balance system.

Market Risk:
The possible way to handle competition is by updating and developing new products which will be even more user-friendly to the printing shops or end customer. Equity risk can be mitigated by utilizing index options.

Environmental Risk:
Natural accidents are not predictable, so we must have a secondary provider for the continuous flow of work.

List of risks in the project are:

1. Security and Data Risk
2. Technical Risk
3. Legal Risk
4. Operational Risk
5. Market Risk
6. Environmental Risk

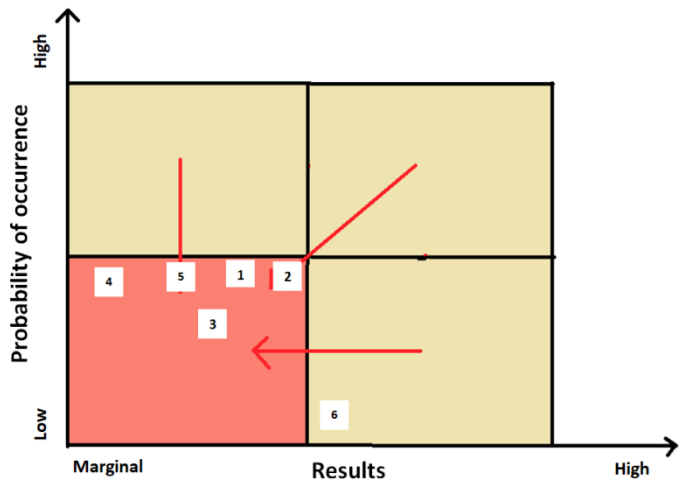

Figure 01 – Portfolio Risk management

4.2. Chance analysis

To achieve a flexible project management, we should perform chance and risk analysis and identification in the project. Identification of the new chances or opportunities in business of the customer could result in an ideal case to a project order

Chances in the project are as below:

1. Developing team: Assigning the already existing developers in HPM for the enhancement of their products and services may result in chances of cost benefit.
2. Business value: HPM already has been in the business as a global leader with much knowledge about print products; their experience can improve in recognizing the user requirements better.
3. Resource management: If there is any resource requirement due to employee health or to complete work even faster, project development team will have chance to be resourced with HPM internal resources
4. Digital platform: If HPM has their own private cloud infrastructure, this product can be hosted internally without depending on other providers. It will lead to drastic cost reduction.

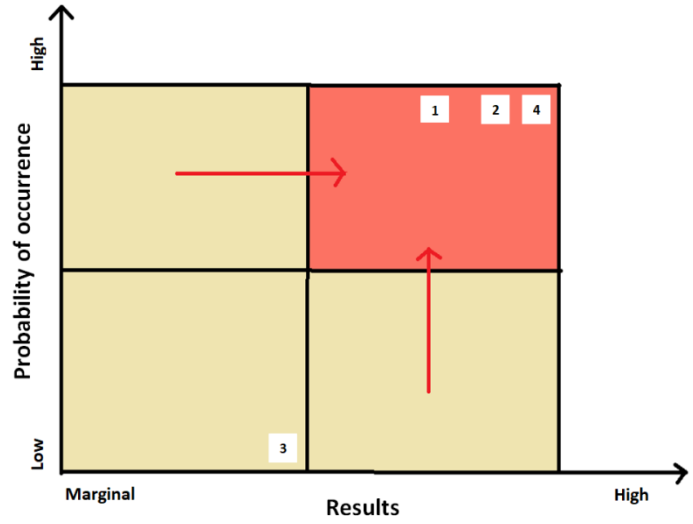

Figure 02 – Portfolio Chance management

5. Stakeholder analysis

In this analysis, we segregate the project stakeholders like individuals or organizations with their responsibilities, interest and influence in the project into groups and make them to communicate with every group. They are the main and crucial groups contributing to the success of the project. So, it is important to identify the stakeholders for the success of project. We can find stakeholders by the following ways,

1. Influenced on project
2. Affected by project and
3. Attitude towards the project.

Stakeholder Management

Groups 'influenced by' and 'affected on' are

- Heidelberg Printing Machines and Management
- Printing shops and Management
- Developing Team
- Cloud service provider (like 'Google', 'Amazon', 'MS Azure' or 'China cache')
- End Customer (Standard or Customized)
- Inventory supplies
- Customer support
- Logistics
- Competitors

Table below demonstrates all the three types with scores from high (4) to low (1)

Stakeholder	Influenced By	Affected By	Attitude towards Product
HPM and Management	4	4	+
Printing shops	1	3	0
Developing Team	4	3	0 to +
Cloud service provider AWS	3	2	+
End Customer	1	3	0
Inventory supplier	4	3	+
Customer support	4	4	+
Logistics	1	2	0
Print shops Management	3	2	+
Competitors	1	3	-

Table no. 3 – Stakeholders score

6. Conclusion

The benefits based on success of this product are more significant than the risks discussed above and the scope of the project in future may drastically change the print market industry leveraging with cloud technologies, resulting in new opportunities for all the print shops.

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