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Avoiding IT Project Pitfalls: Effective Approaches to New Technology Selection

Karel Urbanec, Eastern Mediterranean University

Abstract— This study will be highlighting the main external issues threatening the IT projects, which could be develop during the project life cycle to be real risk. The expected external risk will be clarify and consider the risk in each IT project phases.

The main parts of this article is to be guideline to avoid the external risk of adopting new technology, the first phase is focuses on the understanding of the risk system and concept by define what is risk behind adopting new technology, risk management process, response and analysis ended by reducing risk and increase the probability of IT project success. This part will discuss how to select selected the right IT technology and avoid the technology risk, as technology now is become part of our life not only on the IT environment, and it is the main player when it will come to the IT evolution, either it is new implementation, operation, replacement, upgrade, or any kind of projects.

I. Introduction

Some of IT people accept and take the approach of not adopting new technology and this is a risky approach, for example you can find some people on the street still driving a 40 years old car, and the main reason behind this that they are not interested to adopt a new car, and easily they can say it is working fine.

So end of the day, the new technology should be accepted. Because after some period will not find a support for the old car, and ever will not find a spear parts, moreover the maintenance will be too expansive, as few technician can fix the old car, and all this need a lot of time to find the replacement parts, mechanical engineer, so as a result, will find that a lot of money, time, efforts has been spent and still using the old technology, and nothing can survive for all life.

II. Adopt new technology

usually people think many time when they need to change to new technology, but before deciding to go and adopting a new technology a lot of things it has to be done, such as consider and think deeply to take such decision specially if it is used for critical mission like finance system, HR system, banking system.

Before take such decision to adopt new technology, it is worthy to answer below questions:

- Did enough Investigation of the new technology has been made?
- Does this technology fit the organization requirements?
- Is the new technology is integrated with the running technologies?
- Is there is good expertise available on the market to install the new technology?
- Are the organization environment ready for the new technology?
- What are the real benefits to the organization behind having the new technology?
- Did a comparison list has been made to compare the new technology with the existing technology?
- Is the offered support for the new technology is up to the expected level?
- Is the vendor forcing for this new technology like upgrade?
- Is the old existing technology has been obsolete?
- What will happen if the company don’t adopt the new technology?
- Is the IT staff is ready for the new technology.
- Is the IT staff is enough to handle the new technology.

Once the above questions have been answered, then will have a clearer picture about the actual needs and will be able to decide if this is the right time to move to the new technology or not. On the other hand keep in mind that new technology need more work, support and efforts from the IT staff, is the IT staff ready for this challenge, more details will be discussed in this chapter, will help to take the right decision on the right time.

Measure and evaluate the new technology benefits

As all know that market has a lot of new technology on monthly or even on weekly bases, most of the vendor usually make a lot of advertising before even release the new technology as kind of marketing method, like they announce on their portal, send emails to customers, make seminars and workshops to introduce the new technology to customers. By discussing all the new benefit of having the new technology on place, and try to meet the customers face to face or even they can go further step and make a proof of concept or demo for the enterprise customers.

The best way to make decisions easier is for a trusted person to encourage customers to use the product/service which called word of mouth marketing.

Word of Mouth is more trustworthy than the best truthful marketing and sales as it is able to touch most of the users faster. So it is requested to be more powerful than traditional market methods. Moreover, it is users and customers made as they are offering their recommendations and experiences on a services or product that are in their concern.

Again as the customers offered product information, advantage, disadvantages, problems, and all other concerns like describing attributes in term of usage circumstances and real experiences. And once users need to discover information about any products or services, will not look to the advertising as hundreds of advertising is publish every day and all of it is offering the bright side of the products.

As most of the vendors is saying that they don't have any challenge or issues in their products and services, but customers usually says what they face especially if they faced a hard issues, this is why still people belief customer and users recommendations. As a result e-WOM is a vital marketing channel.

III. e- WOM

Electronic- Word of Mouth is sharing users feedback, attitudes and behaviors on the Internet, which is related to services or products which has been tried before by this users, is titled as Electronic Word of Mouth. It initiates as personals and individuals users with strong views for products or services and nowadays Internet provide the decent tool to share the customer's feedback and opinions.

The main difference between both regular and electronic word of mouth is that e-WOM, feedback, advices and comments are usually proposed from anonymous persons on the internet, and this is makes it hard for clients to decide the reliability and credibility of online users. On the other site, discussions and opinions that are shared during face-to-face meetings which is usually called Word of Mouth depend on the memorial of personals involved. E-Word of Mouth stays etched on web sites and is easy to be accessible by all.

The Internet growth nowadays allowed all users and reviewers to share more and more information, feedback, opinions and even make discussions based on other users recommendations and experience. There are three kinds of e-WOM media channels and each type has different features than others, as shown below.

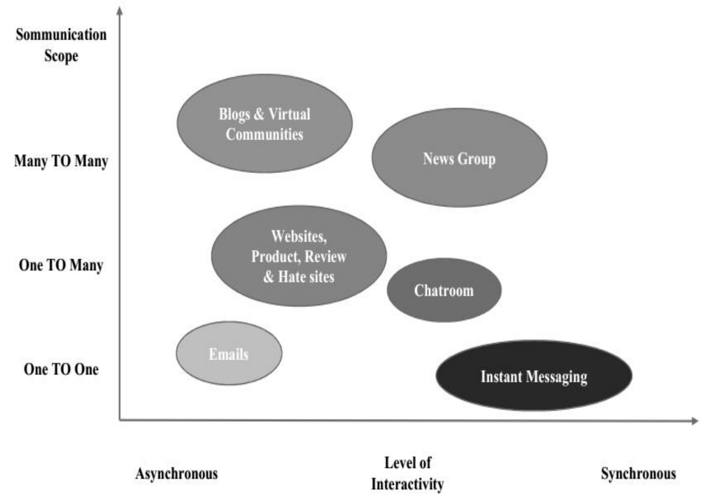

Figure 1. e-WOM topologies

First type of e-WOM connect one user with another user, like emails. Other channels connect one user to large range of customers, such as web pages. Instant messaging and group e-mail is an asynchronous, one-to-one medium. This is one of the advantages of e-WOM marketing because it offers capacities to make mailing lists which is not compare with electronic mailing costs. Once a list is created it becomes an extremely resourceful as a resource of communication among the provider and its old and possible guests.

A website is another asynchronous, one to many medium, which is usually used to make the initially buzz in order to encourage e-WOM. But needs to be careful as the effective and real website must not only share customers opinions, information and feedback but also generate the desire job to make extra study about the services and product. Review sites, blogs, communities, newsgroups, and chat rooms can be considered as a marketing communication channels as each has its own interactivity level.

A. *Impact of e-WOM*

In the real life usually most of the people listen to other experiences, especially when if doing something for the first time, so the first think coming to the mind is to look for other people experiments and talk to those how tried this before, this is actual the human nature.

In this case users seek to online people advices, as whenever they plan to make a purchase, first they start collecting online informed about the subject, like users feedback, product or services prices, challenges and support. Today online reviews are used as an important source of information.

The second point is that people trusts other people, as normally belief on the opinion of a real person more than rely on the advertising and marketing news through the media or on a corporate website. As per the users feedback that e-WOM has a great effect on other consumer buying decisions. And of course users can be either positively or negatively influenced.

The main different between the e-WOM and the normal word of mouth, that e-WOM is less trusted than the normal WOM, as on the internet everyone is a publisher and followed persons on social media are not trusted as a real friends. So pay more attention to the status of the writer, their network, number of followers, feedback of the followers, and their arguments.

According to Nielsen's Global Trust in Advertising report, 92 per cent of customers say that they trust friends and family recommendations more than other forms of advertising.

University of North Carolina's Center for Integrated Marketing and Sales research conducted that the suggests customers who buying products or services based on a referral, are more likely to buy more than people who find company through traditional marketing methods.

So it is a good idea to start the suggested project plan by looking first to friends who tried this services or products before, and try to collect as much information as available. On the same time look for more information and feedback from the internet users, by making a list of the main advantage or disadvantage, negative and positive feedback, and later if there is any concerns about product or services, share the concern with the owner for more clarifications.

So e-WOM is a good way to have idea about the other users feedback and experiences, it help you for more understanding of the requirements and marketing challenges.

Unclear benefits of the new technology

Now it is the time to re-ask again what the real benefits of the new technology, and how the new technology benefits can be calculated? To answer this questions starts imagine the new system implemented in place and see what is the actual different between this two systems, the different list between the two technologies is the real benefits for the organization. But if the running technology is too old and out of support and maintenance then serious action must be taken, as if the old technology stopped, then IT department and organization will face hard time, this case will be discuses deeply later.

If the benefits of the new technology is not clear, then wait as it is very difficult to convince and justify your decision to management.

IV. Lack of Integration

Systems integration is important and make sure that all systems will work to gather before select any new technology, in some special cases third party product needed to make the integration, but at least integrated system will be on place at the end of the day.

Now the basic question is, what if the new technology is not integrated with the other technology, what will happen?

Decision needs to be taken wither today or later, but it depends on the business needs and importance, a lot of questions need more clarifications and answers, like what is the added value, what is the risk, what organization will lose if technology has been implemented and what if not, all this questions need to be answered, more question could be added based on the case complexity.

One of the good scenario is to implement this technology as standalone system, but again this solution may not offer the full functionality of the system, as it is not connected and integrated with the other organization systems.

V. Ready for New Technology

This is a basic question, as one of the biggest mistake it could happen, is adopting new technology but the IT or company environment is not ready for that changes, first of all check the environment and the prerequisite for the new technology, and what is the IT cost from adopting the new technology, to answer all this questions then below questions needs to be answered:

- Is all the new technology details and prerequisites is clear and available?
- Is the infrastructure ready to implement the new technology?
- Does the running hardware, software or network equipment needs to be upgraded or changed to be compatible with the new technology?
- Is the IT resource skilled enough to handle the new system after implementation?
- Is the IT staff ready and have time to adopting the new technology?
- Is my IT staff needs to be trained?
- Is new IT staff needs to be employed?

Once the above questions have been answered, then a clear idea will be created if shall IT department go further and adopt the new technology or wait a while till the organization be ready.

What if the technology owners forces the upgrade? Every certain period of time, technology vendors release new version and offer a certain time to end users to make the upgrade, in this case the old version will be out of support then organization will be in greater risk, as there is no more fixes. Usually vendors will not stop the old version support within short time, so there time to plan the upgrade and make the environment and IT staff ready, as there is no other options.

As discussed early in the study, that the new technology needs to be considered in the IT plan in a proper way, but the risk of the new technology must not be avoid, as the right process needs to be followed to avoid this risk.

Be patient when it comes to the new technology. Do not buy too early especially if it is major changes or critical system. Evaluate the technology along with the support and maintenance.

VI. Selecting the Proper Software Package

Generally people think many times when they selecting the proper software for the environment. many ideas could by in minds, like should software developed by the IT department to be 100 per cent fit the real requirements, or is the ready software products should be fine with the IT needs, but it could not fit the actual requirements 100 percent and then change or customize the real requirements based on the available market software, most of the organization prefer the second option, as this option will be cheaper and with less risk.

Before selecting any software, below questions needs to be answered to avoid using risky product:

- Do they have the specific features which you are looking for, if not what is the missing feature in this product?
- Is the software is leasing or perpetual licenses?
- How the new software will interact with the current systems?
- Is the integration is needed, if yes, what is the size of this work?
- Is there is any third party needed to do the customization or integration?
- What is the payment terms and conditions? Is it monthly, quarterly, yearly or one time?
- What is the budgetary cost for next year, and is this price will include support only or licenses with support?
- Is the new version, release and upgrades is free with the support renewal or not?
- What is the pricing schema and are the price is prices based on terminal, sites, server, or per user?
- What is the minimum hardware and operating system requirements for installing and running the software on the server?
- Does the current infrastructure meet those minimum requirements?
- Will the new product allow to export data to an external file type, such as a database?
- Will the program allow to import data from external file type, such as a spreadsheet?
- Is the product updated regularly and when?
- Does the software make it easy to perform manual backups? Schedule automatic backups?
- How soon can the vendor provide on-site help or replacement equipment?

Available software on the market has limited flexibility once it come to modify and customization, and not all software vendors allow to share the source code to

VII. Conclusion

As a conclusion the best scenario if there is existing software already running in the environment is to keep it running fully backup until having the maximum customization and testing for the new software, but if there is no running software on place, and it is new solution, so customize as much as possible to fit the maximum requirement before go online, and test all the feature with real data as a demo tell make sure that the new software does not have any problem and it can work smoothly.

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