Knowledge Management using Gamification

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ABSTRACT

The Knowledge management is the systematic approach on the organisation’s knowledge assets for the purpose of creating value and meeting tactical and strategical requirements. It consists of the initiative process, strategies and systems that enhance the storage, sharing and creation of knowledge. Making the knowledge to be shared requires motivation. This motivation can be achieved using Gamification. Gamification helps to motivate the use of knowledge management systems, to create and share content. Our work is social hub which has some major gamification features like rewards, challenges, leader board, experience points, badges and Communities. This work includes a specific feature for the users to retrieve the best solution for queries from the discussion board. The best solution can be retrieved by the users based on three options: chronologically, based on votes, based on rank. The user can obtain the best solution for the queries from any of the above three options. To achieve more motivation and interaction, the reward points are allocated for each action inside the community. Special events and tasks will be available for the users based on their interest. It is proven that Gamification had made huge impact with an increase of 40% in the knowledge sharing.

INTRODUCTION

Knowledge is the core of human competence. It is built and enhanced through education, training, work experience, dialogue, participation and social interactions. In the last few years, Knowledge management seemed to be the major ingredient of success in business. Therefore Knowledge management provides a strong tie to organisational goals.
and strategies. Gamification is a business strategy which applies game design techniques to the non-game experiences to drive user behaviour. Gamification uses techniques in the non-gaming context to make employees and related audiences to analysis, change behaviour and develop skills to drive innovation. Game mechanics, game dynamics and game design are introduced in the underlying techniques to derive the business benefits from Gamification.

Gamification applies to most crucial functions in most organizations. The HR team can use it for effective onboarding, Marketing teams can use it to invite branding ideas and drive employee engagement, L&D team can use it for effective capability development.

Here are some KM areas that can effectively leverage Gamification:

- **Content Management**: Host competitions to contribute content to the intranet. Launch Recycle drives for keeping content relevant.
- **Sharing knowledge**: Besides featuring top contributors on forums, promote them as forum leads/experts/evangelists. Also, design indicators that show the impact of sharing on departmental/organizational growth.
- **Capturing knowledge**: Games/activities that engage the larger workforce helps capture behaviors, FAQs. Leverage social technology to showcase organizational sharing patterns.

1.1 How Gamification Contribute to KM:

Knowledge management works better when people invest time and energy in it, engage with it in a meaningful ways, contribute something and work together to solve the problems.

- Better data quality
- Greater contribution of content
- Improved documentation of processes
- Increased interaction and use

LITERATURE SURVEY

We had reviewed various journals and research articles whose authors have their footprint in the Knowledge management using Gamification.

Sergej Rinčič[1] introduces the technique for integrating the gamification with knowledge management. They analyse the frequencies of gamification terms in knowledge management articles and tries to answer the question if only organizational learning would be improved by integrating gamification or there are other knowledge management areas that would benefit by it.

The results of his analysis were drawn in a graph with the terms of “gamification” and “knowledge management” in the content.

Scott Thiebes[2] explained about the gamification mechanics and dynamics. His synthesis of mechanics and dynamics has 5 clusters - system design, challenges, rewards, social influences and user specifics. His research approach is of two steps - systematic literature review and data analysis.

The 5 clusters:

- System design describes how a gamified application has to be designed and developed to motivate the users.
• Challenges are used to motivate users.
• Rewards are used to motivate users when certain actions were successfully taken.
• Social influences were aimed to motivate users or a group of users by social dynamics and influences, such as competitions, gaining status or user high scores.
• User specific are used for motivating users by directly influencing the individual personality by promoting self-expression.

Based on the study[^2], the organizations need to recognise that Gamification is more than a buzzword and requires meaningful designs in order to integrate Gamification into IS. This clustering identifies the main aspects that should be considered when applying Gamification approaches.

Michal Durinik[^4] suggested a method for integrating gamification in Knowledge management. He provided a detailed description about the game elements that is used in the system. The game elements were points, badges, challenges, awards and rankings. The explanation of the psychology of gamification that motivates the user to engage actively in it.[^4] Mentioned that gamified KMS is not only competitions, though points and achievements are earned by one’s abilities and help nourish one’s self esteem. So gamification can be of great benefits also in cultures that rely on individualism so heavily.

Thomas Wiegard[^3] has explained the classification of gamification approaches and instruments. The discussion involves how gamification is created. The method uses some selected gamification instruments for his model. Method section is the second of four main parts of an empirical paper. There are typically three or four major subsections in the Method although there can be more.

**EXISTING TECHNIQUE AND APPROACHES**

Organization finds gamification an effective tool for Knowledge management. One such organization is Accenture. The goal of Accenture’s approach is to ensure that the best knowledge and experience of the firm is available to individual teams on individual engagements so that knowledge and experience can be easily delivered to all.

The main elements of Accenture's approach is connect, contribute and cultivate.

The key feature of the Accenture approach is to collect, store and retrieve statistics associated with the desired activities. They can also keep tracks of

• Individual contributors
• Blog posts
• Blog post readers
• Microblog posts
• Downloads for documents

The users receive points for their activities. The points are limited for each specific activity in each quarter. The users accumulate the points and badges / awards are provided that appear in the user’s profile. Accenture approach has 5 levels:

• Novice
• Problem solver
• Expert
• Master
Visionary

The drawback of this approach is that there is no technique for sorting the solutions or blog post for the post posted in the communities.

PROPOSED WORK

A survey on knowledge management using gamification says that there has been 40% increase in knowledge sharing using gamification. Organisation have started to move towards integrating Knowledge management and gamification. Every gamification technique has its own elements.

The proposed system has the gamification elements\(^4\) like points, badges, challenges, rewards and rankings. The proposed system has communities which is suggested to the users based on their need. The communities holds the place to the users to place some post or blogs. If a blog post or some queries are posted, the system refers the post with the previously answered post to deliver the solution. The rewards and points are given to the users based on their activity. The users are given the privilege to vote the answer for the blog post. Based on these votes, the user can retrieve the best solution for the posts.

The algorithm for retrieving the best solution consists of three methods: chronological, votes, rank. The chronological method will display all the solutions based on the timeline. Each solution can be voted by the user. The second method is that, the solutions are arranged based on the votes received (From most to least). The last method is based on the ranks. The solution provided by the user with higher ranks will be displayed first, followed by other solution in descending order of ranks.

Challenges and events will be conducted in the communities to engage the users to participate actively in it. Rankings will be provided for the users based on the points they gather from their activities.

IMPLEMENTATION

It is important to make a proper design for integrating Gamification with Knowledge management. This project has a proper design which satisfies all the game mechanic elements. This site will be the social forum where the users can gather together and share the knowledge. The users are joined into the communities based on their interest provided in the profile. The communities will have several sub communities. The parent communities will act as the news feeds of all the sub communities. When the user needs knowledge about some specific domain or knowledge, then the user can join that particular communities to post or share his knowledge. The communities will host special events, discussion boards on major topics. The users are allowed to create communities once they reached a particular rank gathered from the experience points.

Our project is a web service, so it will be hosted using some online vendors or hosts. The design and contents of the site is developed using soft wares like Dreamweaver, Photoshop etc. In the first phase, database for our project will be established. In the second phase, the web site’s look and feel will be done. In the third phase user page in the web site will be developed. The game design mechanics will be implemented in the fourth phase. Once site is ready, it will be hosted with the help of the hosts.
CONCLUSION AND FUTURE WORK

The Knowledge Management systems achieve greater importance with the use of gamification. Though the gamification is a difficult process to develop, we require a proper design for the system to make it an effective one. Thus the proposed system will act as an effective knowledge management system with the gamification techniques. The work can be further expanded, by introducing techniques that enhance the user interactivity and motivates them to actively involve in knowledge sharing.

REFERENCES