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Company Health in Mobile Software Ecosystem (MSECO): Research Perspectives and Challenges

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***Abstract*—This paper presents initial perspectives in the search for diagnosing the health of a Mobile Software Ecosystem (MSECO) company. The research intends to investigate a companys health through user reviews about mobile applications (Apps) and build and present indicators that can identify problems, failures and differences in the quality of the apps to guide the company in the search for "immunization" or "medication" so that it does not become "sick" from the adoption of measures related to the use of indicators for the type of "disease".**

***Keywords*-Health; MSECO; indicator; Diagnosis;**

I. Introduction

The content in the app user reviews enables the extraction of new knowledge about the company and this knowledge can drive innovations and new products. Users often rely on others reviews or recommendations either from online purchase web sites or review sites to finalize their purchasing decisions in [8]. Users review in apps store can be an excellent repository for obtaining knowledge about apps aspect and consequently about company profile.

The research objective is investigate and evaluate a method to measure the health of a Mobile Software Ecosystem (MSECO) company, from indicators of immunity for prevention and immunization of identified diseases. This paper presents initial perspectives in the search for new knowledge to diagnose the health of a MSECO company.

A. Know to diagnose

A Software ecosystem, as defined in [10] is a set of businesses functioning as a unit and interacting with a shared market of software and services along with the relationships between them. These relationships are often supported by a common platform or technological company and functions through the exchange of information, resources and artifacts.

A review might contain information about the users experience with the apps and opinion about it, feature requests and bug reports. Hence, reviews are valuable not only to users who would like to find out what others think about an app, but also to developers and software companies interested in customer feedback [8]. In this context, the consumer, by means of his/her reviews and shared feelings on the web in relation to what he acquires or consumes in his daily life, contributes and influences in important aspects in the growth of a company and it may also direct the company, as part of this scenario, to know its own differentials not yet explored.

The health of an ecosystem directs its ability to sustain and remain variable and productive over time [13]. In this context, it can be concluded that the individuals in this environment have habits and practices that allow the permanence, productivity and longevity of the ecosystem, thus being able to be characterized healthy.

Manikas and Hansen [13] define the health of an ecosystem as the ability of the same to support and to remain variable and productive over time. In this context, it can be verified that the individuals of this environment have habits and practices that allow permanence, productivity and longevity of the ecosystem, and can thus be characterized as healthy.

Over time, many software ecosystems have been successful. Several organizations are opening their software projects to outside companies, creating a multi-organizational community to develop their software platform [3]. In this context, knowing the health level of the company in a MSECO is necessary to diagnose the degree of immunity and predict possible diseases that may in some way affect the healthy development of this company in the environment.

B. Search for methods and solutions

The extraction and preparation of the research base will be carried out through the use of data mining to select and apply techniques that are more appropriate to the problem in question. For Fayyad et al. [6] this form of extraction in large bases allows the discovery of possible associations between the data, so that one of its techniques can be used among classification, clustering or even detection of data deviations in extracted.

Nayebi and Abran [8] investigate the emergence of different domains of opinion mining, such as social networks (Facebook, Twitter, Instagram, App Store), ecosystems App, microblogs, etc.). The focus of the studies changed to short texts, spam detection and contradiction analysis. The authors state in their researches the existence of a large number of research studies on opinion mining and analysis of feelings in artifacts and techniques of Software Engineering for analysis polarity detection literature.

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As the works of of Pang and Lee [15] will contribute in a very significant way to the studies of opinion mining research and analysis of feelings covering applications, great tasks of opinion mining, extraction and summary, classification of feelings, which are also challenges of this research, considering the existing complexities that involve opinion mining in relation to MSECO.

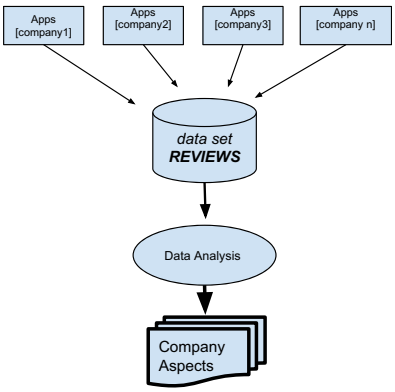

Fig. 1. Phases of data mining

Data mining will be used to extract data from the database. This will make it possible to describe underlying patterns and trends in the repository that may provide possible interpretations for the results obtained. The research will also carry out the stage of detection of relevant topics and evaluated by users, as shown in Figure 1.

Consideration will be given to the aspects of the apps detected in the knowledge discovery process. For Bosch [2] companies increasingly tend to reposition themselves as networked organizations and reduce their own number of employees; external partners carry out significant developmental parts. In addition, companies are introducing App-stores as a means of offering their products to increase the wealth of functionality provided to their customers.

II. Conclusion

It is intended, in general, to establish an artifact that will allow an effective diagnosis and prediction to prevent future problems that may occur in the company and affect the health of the MSECO population as a whole. Providing raw material is essential for building a basic set of health indicators in MSECO that facilitate the monitoring of the health level of the ecosystem.

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