The life and death of online communities

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The more heterogeneous the community of an online chat channel, the more chances the channel has to survive over time. This has been concluded in a new joint study carried out by researchers of the University of Haifa and the New Jersey Institute of Technology. "This study has shown that an essentially social characteristic significantly influences the survival chances of an online community," says Dr. Daphne Raban of the University of Haifa who took part in the study.

The study, headed by Dr. Quentin Jones of the New Jersey Institute of Technology with Dr. Mihai Moldovan of NJIT and Dr. Raban, aimed to examine what factors could best predict the chances of an online community to survive over time. Researchers have previously claimed that there are too many variables influencing the survival or demise of such channels and that there is therefore no way of testing it, and earlier studies have primarily focused on group size and activity.

The current study included an analysis of social characteristics, such as the group's homogeneity and heterogeneity. A group is considered homogeneous when its member turnover is small - namely, when the members who established the group are still the main members after some time. A group is considered heterogeneous when it has turnover and new members are continuously joining it.

A sample 282 chat channels all "born" on the same month was used for survival analysis which explored the relationship between the overall user activity in each channel at its inception and the channel's life expectancy. The researchers carried out the survival analysis over the

course of six months after "birth". A chat channel was considered "born" when at least three members had exchanged at least four messages in 20 minutes. It was considered "dead" when it had zero activity for four weeks.

The researchers observed the influences of variables at four points of time: two hours after "birth"; on the channel's first day of activity; over its first week of activity; and over its first two weeks of activity.

Results show that the variable that best predicts the chances of a community to survive is its level of heterogeneity: the greater the member turnover, the higher the chances that the group will sustain itself over time. On the other hand, the number of members and the number of actual message posters do not predict the chances of survival.

According to the current study, another reliable predictor is the number of messages that are posted between members of an online community. This number does not have much significance over the first two hours of the group's existence, but the higher the number of messages between members over the following three time phases, the higher the chances of the community's survival over time. The study also revealed that if the ratio between the number of messages and the number of members in a group remains the same after two weeks of the community's activity, the chances of "death" are higher, while an irregular ratio predicts survival. It should be noted that neither an increasing ratio of messages between members nor a decreasing ratio were found to influence the chances of survival.

"The present study shows that prediction of an online community's survival chances cannot be based on quantitative data relating to the size of the group or even to its growth rate alone. A social predictor, on the other hand, can much better predict its chances," concludes Dr. Raban.

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