

## **Are user innovators also humane entrepreneurs? Ideas for an Exploratory Study**

**Background:** User innovation is the phenomenon of new products and innovations being developed by customers and end users, for their own benefit, rather than by manufacturers (von Hippel, 1988; Von Hippel, 2017). A research field complementary to user innovation is user entrepreneurship, which refers to “the commercialization of a new product and/or service by an individual or group of individuals who are also users of that product and/or service” (Shah and Tripsas, p. 124, 2007). User innovators are likely to start-up new firm if the expected profits from the commercialisation of the innovation are higher than the user’ profits threshold to initiate the entrepreneurial process (Shah and Tripsas, 2016). Most of such literature focused on what conditions are more likely to stimulate users to become entrepreneurs (e.g., decisions about the patenting of innovation). To date, scholars did not pay attention on what happens after users created their new firm in terms of business models, corporate strategies, approaches for human resource management and sustainability.

An emerging concept in entrepreneurship that at the same considers a number of these strategic and organisational elements is human entrepreneurship (HumEnt). This concept refers to “the creation and integration of caring for human capital, the environment, and society into a firm’s strategy plans and business model” (Parente et al., 2018). Leadership is the basic element promoting a human way of managing organizational resources and people and achieve financial performance (Kim et al., 2018). The components of HumEnt are entrepreneurial orientation, sustainability orientation and human resources orientation (Parente, 2018). HumEnt can be ideal, moderate, harmful or negative (Kim et al., 2018).

The present exploratory study contributes to the extant literature about user entrepreneurship by analysing how much these users are also humane entrepreneurs. The research question of our study will be: How does HumEnt work in the context of user innovation? Our study is based on the analysis of the extent of HumEnt in patient innovators. They are “patients or their nonprofessional caregivers (e.g., parents, family members, spouses or partners) who modify or develop a treatment, behavioral

strategy, technical aid or a medical device to cope with their ailment” (Shcherbatiuk and Oliveira, 2012). Patient innovators are often crucial actors for the development of innovations improving the quality of life of people affected by rare diseases (Oliveira et al., 2015).

**Data and measure:** Both primary and secondary data are employed for this study. Secondary data come from the online platform “Patient Innovation” ([www.patientinnovation.com](http://www.patientinnovation.com)) where patients, caregivers and other users (e.g., researchers) around the world connect to share innovative solutions for health-related problems, developed themselves or in collaboration with partners. The authors collected the available information about 250 illness-based innovative solutions that lead to new business creation. All the cases were randomly selected with a stratification sampling by year, since the platform launch until today (01.06.2014 - 31.05.2018). These secondary data will be integrated with primary data about HumEnt and firm performance to collect in November 2018 (after the ICSB Salerno Conference). A specific questionnaire will be submit to some of the user entrepreneurs (about 30/50 cases) belonging to the abovementioned sample of patient innovators. Below we summarise the measures of the variables of our study:

- 1) Type of user innovators (already collected): Three categories of user-innovators were identified: the end-user (“Patient”), someone close to the end-user (non-professional “Caregivers”, as previously described) and “Someone Else”, as past-patients, past-caregivers, professional caregivers, researchers or someone who are “leading edge of important trends in a marketplace under study” (Von Hippel, 1986).
- 2) Motivations (already collected): Two distinguished motivations were considered as propulsive elements of the initiative: the utilitarian motive (the personal need, the profit and other forms of functional, instrumental, and practical benefits) and the hedonic motive (fun&learning and helping).
- 3) Openness to partners (already collected): it was measured by the presence of collaborators into developing the idea, as Firms, Hospitals, Government, Civil associations, Doctors or Nurses,

Private Citizens and other collaborators. All variables were measured as dummy variables, denoting 1 for the presence of the attribute, 0 otherwise.

- 4) Type of innovation (already collected): it was divided into more categories: by service and product or by process, organizational and other.
- 5) Firm performance (to collect): financial revenues of the firm in the last 12 months.
- 6) HumEnt (to collect): at this stage, we aim to use the latest available scale about HumEnt in order to measure the concept (<https://www.surveymonkey.com/r/HE2018eng>). However, since the data collection will start after the conference, we expect to become aware of and the use of other scales of measurement.

**Method:** We will adopt statistical tools, such as the polychoric correlation ( $r$ ) and the Odds Ratio (OR). The polychoric correlation (Dragow, 1986) is a measure of the relationship among two underlying normally distributed variables, by considering two observed ordered variables. This feature arises when one or both observed variables are ordered, categorical variables resulting from a polychotomization of underlying continuous variables.

The Odds Ratio (OR) measures the association between an antecedent factor and an outcome factor. The odds ratio is a common way to measure the relative likelihood of a particular outcome across two groups. The odds is a ratio of the probabilities that the event of interest occurs over it does not. The Odds Ratio can be expressed as  $OR = \frac{p_{11}/p_1}{p_{21}/p_2}$ , where  $p_{11}/p_1$  is the “odds” of observing the outcome when the antecedent is present, and  $p_{21}/p_2$  is the “odds” of observing the outcome when the antecedent is not present. Z test statistics helps to verify if the Odds Ratio is statistically different from of 1 (two sides test) or greater than 1 (one side test) to conclude for a significant relationship among variables.

**Results:** We expect user innovators are in large part also humane entrepreneurs. In particular, we expect three main results. First, the overall level of HumEnt is higher when a former patient creates the company. Second, the entrepreneurial orientation of the user innovator is higher if he/she is not a

patient or caregiver. Third, the achievement of the ideal and moderate states of HumEnt is more likely to occur if the user innovator created and manages the firm also with the supported of some partners (e.g., universities, incumbent firms).

Drawing on the results, we will formulate a number of research propositions for scholars of both user innovation and HumEnt. Via our study, we will outline a preliminary profile of the user innovators most likely to act humanly as entrepreneurs.

**Discussion and Conclusion:** Our study explores the link between a solid theory in innovation studies and an emerging concept in entrepreneurship studies. Social innovation can greatly benefit of human user entrepreneurs. The results will contribute to both user entrepreneurship and human entrepreneurship literatures. On the one side, the study will shed light on how user innovators run and manage their firms (Shah and Tripsas, 2016). On the other side, we will try to answer to one of the research questions highlighted in the recent HumEnt literature (Parente, 2018). Various implications will emerge for scholars, policy-makers and practitioners.

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