

Modeling the usage of social media as a signaling channel in the labor market

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In the context of the digitalization of the economy, social networks are gaining more and more value as a source of information necessary for decision-making by companies and individuals. Social media influences not only the way firms interact with consumers, but also their relationship with actual and potential employees.

In the labor market, there is inevitably information asymmetry, which could be reduced by the transmission of signals about unknown characteristics. Scientific developments dedicated to the study of signal transmission in the labor market take their beginning with the seminal work of Spence [Spence, 1973].

Workers can also use the quality of their social connections [Montgomery, 1991] as a signal of high productivity. By Montgomery's assumption, workers with higher ability are more likely to belong to the social circle of other high-performing workers. The "quality" of social connections is often understood as the ability to get a recommendation from an authority. In this case, it is usually assumed that, in contrast to education, employee's social connections do not affect his type (productivity). On the other hand, the question remains about the relationship between the intelligence of the individual and his ability create "high quality" social connections.

Social media is in constant flux and evolves to become more and more user-friendly; the attitude of users to corporate presence on social media also changes. While research at the beginning of the millennium (for example, Gaffney, 2001, Retie, 2001) showed extremely negative attitudes towards publications of corporate accounts as they interfere with the continuous stream of online activity (especially from users who are most actively involved in content creation [Schlosser et al., 1999]), modern studies [Taylor et al., 2011] show that the attitude of users has ceased to be negative.

SNS-platforms strengthen the two-way communication between companies and the audience they want to reach - consumers, employees, shareholders, media, etc. It is noted [Salehan et al., 2017] that currently, social media has become so essential in the workplace that some people create separate accounts solely for work purposes. They also have to differentiate the image that the individual presents to the company (managers), and an image that is subscribers approve of [Creary et al., 2015].

There are studies, which show that the active presence of an organization in social media used by workers has a positive effect on their self-identification as part of this organization, contributes to the growth of bonding social capital within the company and bridging social capital between its divisions [Sias, Duncan, 2020]. On the other hand, monitoring of social networks by management is perceived extremely negatively primarily by generation Y [Hurrell et al., 2017].

In this study, the characteristics of the process of signal transmission in the labor market and the peculiarities of the dissemination of messages in social networks were identified. Social media forms a unique signal transmission platform both from applicants to firms and from employers to potential employees, consumers and shareholders.

Within the framework of this research, a *game-theoretic model of social media as a signaling channel in the labor market* was developed. In the model, both workers and firms have private information - thus 2 types - "high" and "low". A feature of this model is that not only employees, but also firms signal their type by posting on social media.

The type of employee in this work is understood as the quality of his social connections, which affects its labor productivity, the type of firm means the characteristics of the workplace environment not reflected in contracts, the atmosphere in the team, the relationship of employees and managers, etc.

In this case, workers of the "high" type receive additional utility if they receive contracts from firms of the "high" type, while for employees of the "low" type only the salary characteristics of the contract are important.

Of interest are the characteristics of the separating equilibria in the presence of investments in maintaining a favorable image of companies and / or individuals in social media, as well as the impact of the possibility of mutual signaling on public welfare.

Current theoretical models of signaling in the labor market do not take into account the peculiarities of the dissemination of information in social networks, such as the phenomenon of para-social interaction, the ability to interpret any message as a marketing message (in relation to "personal brand" for ordinary users), distribution of messages on the principle of electronic word-of-mouth and low signal transmission costs. In addition, in the literature, usually only the transmission of signals by workers to firms is considered, while SNS-platforms provide an opportunity to transmit signals in the opposite direction.

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