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# Human Capital As the Driver of Rural Territories Self-Development Through the Analysis of On Line Social Networks (Republic of Karelia Case Study)

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**Abstract.** The paper is dedicated the research of the on line social network Vkontakte (as a representative example of social media, the most popular among Russian population). The use of social media is seen as the new innovative tool to help rural people cooperate and and counteract economic, political and social problems of the territory. The hypothesis of the research is that on line social media makes the process among locals, business and authorities possible and easier. One village of the Republic of Karelia was taken as a representative example and akk its group Vkontakte were anylised. The analisis of the group included the content analysis to understand the the theme the most discussed in those groups. The second step of the analysis was to chose the most popular and active groups and then to determine their attitudes towards realizing regional projects. According to the analisis of the most popular posts of the most popular group, we can ascertain, that locals care about the ecological education, better quality environment and cultural education for their territory.

## 1. Introduction

The strategy of rural development in Russia today needs to be rethought due to the fact that vast territories of the Russian Federation stay unused, the country lacks of agricultural products. Moreover, according to the researches of Morozova T.V. et al. (1) the countryside suffers from unemployment (Vlasov S.D., (2)), low quality of life, low incomes and the out-migration, notably, of the youth. We are sure that sustainable development of the country is not possible in case the countryside stay poor. We argue that at the present time the concept of the endogenous development of the countryside can be feasible thanks to the integration into the digital economy and with the help of its tools.

There is an opinion that the Russian village is in the process of marginalization and the social ties have been weakening after the Soviet Union times. This assertion, in case it is true, makes more difficult the important process of cooperating in and outside the community. On the other hand, in the era of digital economy people widely use Internet, and we argue that social networks can redevelop social ties and become a new tool to make the community more resilient and efficient in the process of endogenous development.



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That is why we researched the content and the attitudes of the village's groups of the on line social network VKontakte (as a representative example of social dia, the most popular among Russian population). The hypothesis was that in the era of digital economy with the help of on line social networks the population of the countryside can revitalize their social ties and start partnership to withstand internal and external economic, ecological and even political stresses and to develop their rural territory. The second hypothesis was that the population of the countryside is not as apathetic as it used to be ten years ago (Morozova T.V. et al. (1)) and its civic position now is higher. In case the first and the second hypothesis are true we can talk about bottom-up development or self-development of the countryside. At the present time this ascertainment is very arguable. To work out those hypotheses we researched all groups of the on line social network concerning its main content. The next step was the research of the most active groups to understand whether we can regard them as the social capital of the rural territory.

## 2. Literature Review

Taking into account the phenomena of “networking”, we consider its core point that it is focused on relations among actors. So we also can say that the major role of networking among actors, both internal and external, is partnership. According to Westholm E., (3) well-developed traditions of partnership, or efficiently planned and organized partnership, can be feasible to reach the aims of endogenous development and counteract economic problems of the countryside.

According to Han Ei Chew et al.(4), rural administration and leaders benefit from creating and using online social networks due to the fact that they attract the youth and can make them more engaged into the community life. The study of Kánská, E. et al.(5), considering agricultural farmers, shows that locals of the countryside use online social networks mostly as a source of information, not for marketing purposes.

We can tell that networking with the help of on line social networks can be also named as informal networking. And as Marquardt, D. et al. (6), Michael J. Stern and al. (7) argue that it is essential at the first steps of realizing a project or establishing partnership. Moreover, it has impact on the realizing policy measures. Quan-Haase, A. and Wellman. B. (8) define networks appearing in the Internet as a new form of a social capital which can improve interacting among actors.

On the other hand, abovementioned lack of trust among farmers and around the population of the countryside is the problem we face not in Russia only, but also in other postsocialist economies (9). On the contrary, we also assume, as Bosworth G. and al., (10) and Michael J. Stern and al. (7), that once rural community joint for implementing a project they work more cohesive than urban citizens. That is why we assume that partnership in the countryside should be reconsidered and worked out and its informal paths should not be ignored.

According to Cecchini S, Scott C, (11), Grimes S. (12), Townsend L. et al. (13), (14), the digital era provides new opportunities for rural areas, but to get profit of it, territories require “network-efficiency”, mentioned by Salemnik K. et al. (15). Michael J. Stern and al. (7) name social networks formed on the Internet with the help of ITC “digital capital” and also assures that it has strong “impact on civic participation” in rural community activities. Barry Wellman B. et al., (16) name it “participatory capital” which is being increased with the use of Internet. For Russia, this point is also important because there is an opinion about low civic participation and low civic position of the population in the countryside. That is also a great problem to be tackled in case we are talking about endogenous or neo-endogenous development. Anyway, Internet becomes an efficient tool in strengthening the ties among countryside population, when proposed platforms are available and up-to-date, as it is argued by Stern M. and Adams A. (17), that is why the easier and faster a platform works the more popular it is. On-line social networks which are available from smartphones are very popular and perspective at the present time.

The strategies of the neo-endogenous and endogenous development, proposed by Ray C. (18), Van der Ploeg et al. (19), Steel C. E. and Mitchell C. J. A (20), Aleksandrov I.N. and Fedorova M. Yu.(21) are seen to be feasible for the economy diversification of the countryside. As we see, it in the

researches of Vasilieva A. V. (22), Aleksandrov I. N., Fedorova M. Yu. (23) Dyakonova M.V., Stepanova S.V. (24), rural and ecotourism provide some ways of producing non-importables for needed diversification of the rural economy. Kolesnikov N. and Kolesnikova N.(25) propose to use local resources. But to realize these strategies locals must cooperate with external and internal actors. Evseeva S. et al. (26) propose different innovative projects aiming the sustainable development of a city. As Uskova T.V. (27) argues that locals should be attracted to brain-storming in search of solutions to the economy diversification.

Social media can serve as an innovative tool in searching new resources, making people gather and cooperate, etc.. We also think, that the crowdsourcing process as one of the tools for managing rural territories of the Republic of Karelia and finding new resources, proposed by, Simakova A.V. and Kozyreva G.B. (28), Bril, A. et al., (29), Rostova O. et al., (30) can be boosted with the help of social media. We assume that at present time social media can serve for this purpose, and we find in the research of Reutov E. V. and Reutova M. N.(31) that 40-50% of population of the youth and middle-aged Russian people use on-line social networks for self-organization, finding adherents and gathering people for different activities.

### 3. Methodology

The very first step of the research was to find out the content the most discussed in all social groups in Tolvuya. These findings helped to understand the main theme and problem to be discussed and solved in the village. Then these findings were correlated with the groups and the most important problems of the village to understand whether locals are in the process to find a solution to revitalize their village with the help of partnership through the Internet social networks.

The social groups of the social net VKontakte, the most popular social net in Russia, were taken to research the community ties in the village Tolvuya. Firstly, we chose all social groups containing the word Tolvuya and categorized them according their real activity. The groups which do not function for a long period of time for the present moment were excluded of the research. The second step was to categorize the groups according to their popularity. The following rates as the amount of participants, amount of likes, amount of shares, amount of comments, amount of posts and ER post and ER view were used to choose the most popular and active groups. ERpost is calculated with the help of the equation (1), where ERpost means engagement rate or the rate of engagement by a post of the on line social network users, total reactions of post is the sum of likes given to a post and followers is the sum of followers of the group.

$$ERpost = Total\ reactions\ of\ post / Followers * 100 \% \quad (1)$$

ERview is calculated with the help of the equation (2), where ERview means engagement rate or the rate of engagement by a view total reactions of post is the sum of likes given to a post and total amount of post's view.

$$ERview = Total\ reactions\ of\ post / Total\ amount\ of\ view * 100 \% \quad (2)$$

Choosing the most popular groups the research were undertaken on the the themes the most discussed, the activity of the audience, the audience of the groups, etc.

### 4. Research

Tolvuya village was chosen for the research as a representative example of the villages of the Republic of Karelia. This is a typical village located in the Republic of Karelia, in the District which does not possess many natural resources and quiet remote from the Republic centre. Formerly, the main enterprise of this village was the “sovkhoz” (state farm), but after the dissolution of the Soviet Union it gradually lost its profits. According to the Federal Statistics Service of the Russian Federation on the 1th January 2019 the amount of the population of Tolvuya makes 1118 people, and the amount of people aged from 7 to 70 years old makes 870 people. We ascertain that people of this age make the share of the on line social networks users.

All the active groups of the on line social network VKontakte connected with the village Tolvuya are presented in the Table 1. The most numerous group is the group “Tolvuyane obedinyajtes” (The locals of Tolvuya village unite). But according to the amount of likes this group is not very popular in comparison to the group “Kak zdorovo” which number of participants is almost the same but the quantity of likes and shares exceeds many times. The third most numerous group is the group “Tolvuya”. The majority of posts in the group are advertisings. It should be mentioned that the quantity of posts is almost as high here as in the group “Tolvuyane obedinyajtes”. But the quantity of likes and comments is too low. As to the shares, it is zero. So we can categorize this group as a very unpopular one and exclude it of the research. Almost the same is with the group “Podslushano v Tolvuya” (Overheard in Tolvuya). It possesses more likes but no shares. The majority of posts is also devoted to advertising but there are also announcements about the village events or other messages. That is why we can say that this group is more active than the previous one “Tolvuya”. But we also exclude it from the research due to its low popularity. According to ER post rate and ER view rate which make correspondingly 10.676 % and 3.017 % the group “Dom kultury, Tolvuya” is a quiet new one but one of the most popular. That is why we take it into our research. We also include into the research the group MKOU “Tolvujskaya SOSh Shkola i detskij sad”, which is not a numerous due to the fact it has been opened lately, but the most popular according to its ER post rate and ER view rate which make correspondingly 34.144 % and 4.078 %, the most high rate among all group of Tolvuya.

The content of the group “Doska obyavlenij v Tolvuya” (Announcement board (Tolvuya)) is mostly advertising. The content of the group of Tolvuya my tebya lyubim\*) (Tolvuya, we love you) is also mostly advertising, but the commercials are not too annoying, very often it is done by locals. Anyway we can tell that the amount of 106 is quiet enough to fulfill our interests due to the fact that it makes about 10 % of the Tolvuya population. As to the ER post and ER view rates, they are quiet high also and make as to be interested in researching this group.

**Table 1.** On line social groups of the social network VKontakte, the village Tolvuya

Group	Amount	Likes	Shares	Comments	Posts	ERpost, %	ERview, %
Kak zdorovo	682	8557	724	384	675	2.86	1.93
Tolvuyane obedinyajtes	690	2735	146	253	978	0.46	1.73
Tolvuya	488	666	0	29	943	0.02	0
Podslushano v Tolvuye	349	1037	0	58	427	0.8	1.51
Dom kultury, Tolvuya	229	3468	149	54	183	10.68	3.02
Doska obyavlenij v Tolvuya	263	108	8	29	884	0.06	1.1
Tolvuya my tebya lyubim*)	167	252	0	36	160	1.07	0
Podslushano v Tolvuye	117	304	1	83	73	4.45	0
MKOU “Tolvujskaya SOSh Shkola i detskij sad”	91	624	42	8	21	34.14	4.08

After the first analysis, the second step of the research was to examine the three most popular following groups, which were chosen according to their popularity rates. The groups are “Kak zdorovo”, MKOU “Tolvujskaya SOSh Shkola i detskij sad” and “Dom kultury, Tolvuya”.

The group “Kak zdorovo” (Table 2) was created by a teacher of the Tolvujskaya school to broadcast interesting news about events and projects in the village, in Karelia or in Russia. The most

popular post of the group is about the new book of poems written by a local women. The post is full of comments with congratulations. Comments to other posts also express congratulations, joy and approval. There are reposts also which are popular nevertheless they could be viewed in other groups. The posts marked with a star are the posts which are reposted and we can find them among the most TOP 10 popular in the group below.

The group “Dom kultury, Tolvuya” (Culture House) (Table 3) is responsible for different events in the village. The group was created and is running by two women, the administration of the Culture House of Tolvuya. It maintains close ties with the administration of the local school and the kindergarten. Moreover, it cooperates with locals and attract to participate in different activities and projects. The most popular post of the group is devoted to the news about the new furniture in the local library and the appreciation messages for volunteers. That is the part of the grand local project “Tolvuyskiy ostramok” having been realized for a long period and broadcasted in social media.

The group MKOU “Tolvujskaya SOSh Shkola i detskij sad” (Table 4) is one of the most viewed and reposted for the present time. The group was created just at the beginning of June by a teacher and the director of the Tolvujskaya school. The official name of the school is MKOU “Tolvujskaya SOCh Shkola i detskij sad” due to the fact that it is joined with the kindergarten of the Tolvuya village. So the majority of posts are dedicated to school and kindergarten life. The most popular post in this group is devoted to the new elaborated excursion in the village Tolvuya. The excursion was presented to primary school pupils by the local teacher of history who is also responsible for the Museum of Local Lore in Tolvuya. We see that the information was gotten with great attention. Another popular post is about tourist event organized for the pupils of the school of Tolvuya was shared 6 times, even more than the previous post. Another popular post expresses gratitude from the Administration of Tolvuiskaya school for voluntary work to support the realization of the Local initiatives programme. One more popular post is dedicated to the World Cleanup Day and the lakesides' and streets' cleaning event. The next popular post dedicated to new verandas in the local kindergarten was commented by extra photos. The project “Karelia – the World of national cultures” is the regional project to interconnect different nationalities and cultures. Another popular post which did not get too many likes but was shared maximum (5 times) is the post about the material aid for everyone needed.

**Table 2.** Content analisys of the on line group “Kak zdorovo” of the social network VKontakte, the village Tolvuya

#	Event	Likes	Shares	Comments
1	New book of poems written by local women	132	4	17
2	Participation of one teacher in the International Moscow Global Forum “City for Education”	38	2	2
3	International Day of Older Persons – Congratulatioans and the invitation to the local concert	24	2	0
4*	Tourist event for pupils	20	0	1
5*	New furniture in the local library + Appreciation messages for volunteers	20	0	3
6	Congratulations to pupils and parents with the first school day	19	3	0
7*	Ecological autumn project in the kindergarden – activities with fruit and vegetables	17	0	0
8	The first day at school – short story from the special event	15	0	0
9*	Excursion around Tolvuya	15	1	0
10*	Gratitude for voluntary work	15	1	0

**Table 3.** Content analysis of the on line group “Dom kultura, Tolvuya” of the social network VKontakte, the village Tolvuya

#	Event	Likes	Shares	Comments
1	New furniture in the local library + Appreciation messages for volunteers	74	3	5
2	Seminar “Development of local communities in the countryside”	34	7	0
3	Autumn children's event in the library	33	3	0
4	New furniture in the local library	28	1	0
5	Kuzaranda village and its museum	11	1	0
6	New books in the library + Appreciation messages for authors and readers	6	0	0
7	Opening of the theatre studio	6	0	0
8	Meeting with the poet in the library	4	1	0
9	Opening of the outdoor ice rink	1	0	0

**Table 4.** Content analysis of the on line group MKOU “Tolvujskaya SOSh Shkola i detskij sad” of the social network VKontakte, the village Tolvuya

#	Event	Likes	Shares	Comments
1	Excursion around Tolvuya	84	5	0
2	Tourist event for pupils	74	6	0
3	Gratitude for voluntary work	65	4	0
4	Local cleaning event	57	3	0
5	New verandas in the local kindergarten	44	1	1
6	The first day in the local kindergarten	41	2	1
7	Ecological autumn project in the kindergarten – activities with fruit and vegetables	40	2	1
8	Presentation of the project “Karelia – the World of national cultures” at school	32	2	1
9	Ecological autumn project in the kindergarten – activities around a vegetable garden	26	2	0
10	Local event dedicated to Holocaust Remembrance Day	25	0	0

There is also special group created for a limited period of time, the group Proekt v Tolvue (Project in Tolvuya). Its aim was to broadcast the information about the realizing of the local initiatives programme. According to the programme locals could propose different projects to be realized. If the initiative had been approved by locals, the local leading group prepared an application, and in case it is granted by regional authorities, locals start gathering money to co-finance the programme. Regarding this little group and its high amount of likes we can see that locals today join to develop their village and even do not afraid of partnership with authorities to get financial help.

## 5. Discussion

The most popular word of all Tolvuya's group content is "children". Other popular words are "gratitude", "Karelia", "Russia", "project", "pupils", "guys". As we see, at the present time, locals care a lot about children. If we look at the most popular posts abovementioned, the majority of them is also represented by the information about projects devoted to improve the rural space for children. This finding is a very optimistic one, firstly, because, as a rule, rural children spend their spare time all along, so they are strongly in need of comfort being, secondly, we identify this strategy as a long-term one in order to make children believe in good and comfortable life in the countryside and to prevent the out-migration in future. As we know, at the present time the great part of people left the countryside is the youth. At the same time, to make the countryside develop we are in strong need to attract young people full of ideas, energy and creativity.

According to the Federal Service of Statistics of Russia the amount of population in Tolvuya in the 2018<sup>th</sup> was 1118 people. 234 of them are children from 0 to 6 years old and 14 people are older than 70 years old. So the rest part, 870 people, is potentially the most active users of the Internet and on line social networks. Unfortunately, we have to admit that children start using smartphones and on line social networks from the school time. But we argue that the share of little children in on line social networks connected with Tolvuya is also little. That is why we also can say that the amount of users of the the group VKontakte is quite high in comparison to the amount of the whole population of Tolvuya and the amount of Internet users.

Regarding the content of the most popular groups of the social network VKontakte and other social groups dedicated to Tolvuya we can tell that locals are interested in the life of their village. Such posts as "New furniture in the local library", "Seminar "Development of local communities in the countryside", "Opening of the outdoor ice rink" are the part of the grand project of local initiatives. In the framework of this project locals apply for grants to improve something in the environment of their village. With the help of those grants locals finance projects of different buildings or places restoration or build something new. It should be mentioned that almost all the projects require co-financing from locals. We also can see that there are posts devoted to the ecology and people even gather themselves to clean territories. It should be mentioned that meetings for cleaning territories are organised several times during the year.

Another important theme of the groups' content is local culture and education. According to organised events and the attitudes to them, we see that the population of the village is interested in preserving local poetry and local history. That is also very important for preserving the territory's authenticity and developing the sense of self-sufficiency within the community.

Three last posts of the group "Doska obyavlenij v Tolvuya" are interesting to discuss because they are dedicated to possibilities of local self-governance. At the present time, the programme of local self-governance is broadly discussed in Russia. We also find that for dying villages this programme along with the strategy of self-development could be a solution to counteract tough times. The seminar "Development of local communities in the countryside", in fact, was dedicated to discussing possibilities and creating of local self-government. But the post about the Seminar in the local group, with high degree of confidence among locals, is almost the most popular one, when three posts dedicated the same theme from unknown people were overlooked. That is why we highlight the point that the bottom-up strategy of the countryside development is more feasible due to the network efficiency which better developed within the village in comparison to relations with external actors.

And one more point observed is that the creators of the most popular groups and events are teachers or teachers in their past. Moreover, they organise, participate and initiate the majority of local events devoted to cultural, educational and ecological development of the village. According to the analysis of the ERpost and ERview of the group MKOU "Tolvujskaya SOSh Shkola i detskij sad" locals are very interested in the content provided by teachers.

## 6. Conclusion

According to the most popular posts of the most popular group, we can ascertain, that locals care about the ecological education, better quality environment and cultural education for their children. We also can say that people participate and initiate different projects to improve local environment. So

firstly, the ascertainment about the marginalization of the countryside is not totally true, secondly, we also cannot say that the civic position of locals is too low and apathetic. Looking at how locals apply for grants, gather money for cofinancing, participate in realizing big territorial projects, we also can say they are very active and try to do their best to improve the quality of the environment they live. They are ready for partnership and even for volunteering nevertheless of their low income. So we can say that the strategy of neo-endogenous development can be feasible for rural territories but the countryside needs support from external actors, both business, authorities, educational structures, to realize it in very difficult conditions. We also can ascertain that the population of the countryside uniting in on line social networks increases the human capital of the region, because the level of self-organisations becomes higher, contribute to the implementations of different projects and achievement of territories development strategic goals.

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