

# Digital Transformation Time: Research Results for Ukrainian Community

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**Abstract.** A new direction of the development of Ukraine is digitalization and one of the baselines is the digitalization of the state functions, which is called “The State in a Smartphone”. Project managers with IT specialization should be at the top of the labor market in this case. However, implementation of the “State in a Smartphone” should be realized by specialists who understand what digitalization is. The authors of the paper are researching the main goal to understand how the Ukrainian people understand what is “digital transformation” and “digitization”; which competencies project manager should have to be successful in Digital Era. They created a questionnaire. Seventeen people from the project management area took part. Using Google Forms for them were asked 26 questions. The authors received interesting and unexpected results. The respondents indicated that digitalization is well-known area for the country, but they defined it as informatization. They didn’t indicate project management knowledge for implementation of it and didn’t choose values as one of the important for the digitalization. Personal communication (with approaches for negotiation and conflict resolution) was lost for the list of the important competencies for a project manager. Other interesting results are presented in the paper.

**Keywords:** Digitalization, Digital Era, Project Management, Competencies, IPMA.

## 1 Introduction

There are many factors, which influence a project’s success, for example, risks, budget, schedule, new techniques, methods, etc. Successful business can’t be without using digital approaches in its activities.

The new Ukrainian President on the IForum 2019 [1], one of the biggest forum of the internet-workers, presented some ideas that should be drivers on the next years in the frame of the digitalization in Ukraine. The digitalization of the state functions is one of them. He called it “The State in a Smartphone”.

On the other side, digitalization is concerning not only the State but also all State elements. Digitalization can be presented as the move to the direction of the presenting activities in the digital world. In this context, the programmers and specialists in the Informational technologies come forward. Any change is equal to a new project. Project managers stay in the first positions in the labor market.

In Ukrainian Community terms “Digitalization” and “Digital Transformation” can be heard often. However, as the practice indicated there are many people do not understand definitions of the terms correctly. The paper’s authors decided to go into the matter of how Ukrainians understand these terms and what the important competencies are needed. We have started our research from project managers in different areas. The first results of the research are presented below.

## **2 Digital Transformation**

In the frame of the literature review, that was detailed presented in [2], we can find the next. Nowadays an important element in each aspect of everyday life is “digital transformation” or “digitization”, which are not just catchy marketing slogans. There is no rule on how the economic sector will transform and digitize in the next few years. But those who do not have experience in this area and have good luck will be benefiting.

There are a lot of terms that can refer to digitization such as digital transformation, digitalization, Industry 4.0. This definition has similar meanings but still does not have an agreement on what all of them mean.

Digital transformation starts doing the first steps in the service sector, from the easiest operational functions for solving complex problems. In worldwide for digital transformation, IT is the provider and activator.

The connection between different organizational dimensions is another relevant aspect in the nascence of the digital transformation. Influence on the digitalization cycle appears by digital leadership, human resources management and application of technology. For the formation of flexible and preparation of leadership for the dynamism of the digital environment, they transform into resources [3].

The authors have found 28 sources offering 23 unique definitions of the term “Digital Transformation”. They establish some observations. One of them is availability common phrases such as “digital technologies” in big amount of definition [4, 5], other is relation to the organizations. The last one is depending on types of technologies big differences [6, 7] and nature transformation [8, 9].

## **3 Project Management Skills**

The literature review of the Project Management Skill are detailed found in [2]. Briefly, this information can be presented by the next information in the frame of the section.

Effective managerial skills were explored by one of the first researcher Katz [10]. For effective work leaders showed their skills and the author proposed three skills are

that can be developed which human, technical and conceptual. “Specialized knowledge, the analytical ability within that specialty, and facility in the use of the tools and techniques of the specific discipline” he defined technical skill. Human skill he determined “the ability to work effectively as a group member and to build cooperative effort within the team”, and conceptual skill assign “ability to see the enterprise as a whole including recognizing how the various functions depend on one another and how changes in one part can affect all the others” [10].

15 management textbooks from the beginning of 2000 and 15 management principles books from the 1980s were investigated and they made a conclusion that “Katz’s work was specifically referenced by almost all of the early works and by most of the more recent books” [11].

To solve complex problems [12] defined ten skills for project managers: “Team building, Leadership, Conflict resolution, Technical expertise, Planning, Organization, Entrepreneurship, Administration, Management support, Allocation of resources” [12].

The importance of interpersonal, technical and conceptual skills was mentioned in the PMBOK guide [13].

For project managers, IPMA ICB 4 determine three groups of competencies [14]. Perspective is competencies that need in a peculiar environment and cooperate with the environment. People is competencies that are connected with interpersonal and personal, which related to thriving leading or participation in projects. Practice is competencies that bring success through techniques, tools or methods.

#### **4 Digital Transformation and Competencies in Project Management: Ukrainian Understanding**

As we said before, Ukraine is staying on the way of the Digital Transformation. However, we can’t say that Digital Transformation is something new for Ukraine. The way of the digitization has been starting some decades before.

As the indicate research in the mental spaces [15 - 19] without an integrated understanding of the main definitions we can’t do something good. Action results will have a misunderstanding and have ambiguousness.

First, we wanted to get data about the understanding of a digital transformation as a whole, its importance, and understanding of the main competencies in the digital era. Authors have discovered a lack of practice information reflecting these aspects in the frame of the studies. So it was created a list of 26 questions using Google Forms and sent it to many people who work (-ed) in the project management area from different fields. This research has been starting in July 2019 and continue up to now. In the paper, we want to present the first results. Now, we have 17 responses. All respondents are from Ukraine.

The first part of the questionnaire was consisted of general questions like area, where respondent work or his/her age. The second and main parts refer to digital transformation. What respondents understanding with this term, is this field new or

not and what challenges they meet on the road to digitalization. In the end, were done a list of competencies and respondents should mention which of them are important and which of them needed. The last task was chosen the first three most important competencies to manage projects in the digital era. In the research, we were based on the competencies list of the IPMA Global Standard [14].

Answers of the questionnaire are presented below.

1. **Area of respondents work** (Fig. 1). As we said before, respondents were from different areas. A bar chart is showing that more respondents are working/worked in Education, IT is on the second place and other areas divide the same position. Results show that most projects are implemented in the education area.
2. **Positions of respondents.** Respondents are not only from different areas, they also have different positions such as team leader, head of department, two assistants professor, five project managers, research scientist, consultant, head of department, performance manager/ fundraising, trainer, Vice-Rector, Xamarin Developer, professor.

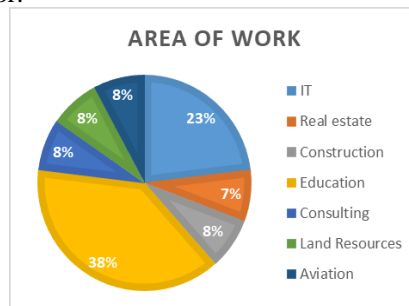


Fig. 1. Areas of working respondents (Source: own pie chart)

3. **The age of respondents** is presented in Fig. 2. A bar chart is showing that the age of most respondents is between 31 to 40 years old. In the second place, the respondents are 41-50 years old. In the third place, the respondents are 21-30 years old. That is indicated that the project management profession is popular for people in active working-age.
4. **The experience in the project management area** is presented in Fig. 3. A bar chart shows that most of respondents have experience less than 5 years. That is indicated that organizations are taken their attention to project managers and they understand that the project success is based on the professional approach.

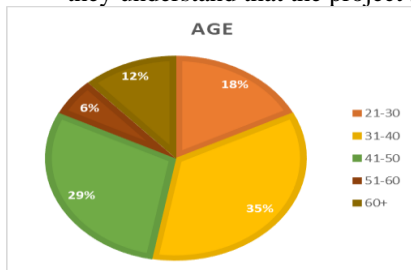


Fig. 2. Age of respondents (Source: own

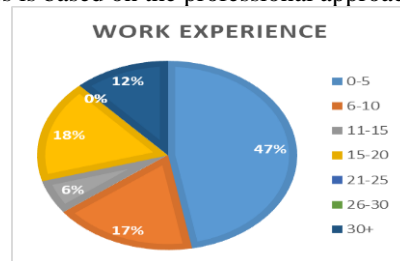


Fig. 3. Experience in project manage-

pie chart)

ment area (Source: own pie chart)

5. **Definition of digital transformation.** One of them told that is “A path from A to B, where A is "now" of a company and "B" is wished by management level of digital involvement”. Another “Automatization of manual daily routine, faster access and exchange of information due to digitalization, better planning and control” and most of the determination was concerning this “Translation of information into digital (electronic) form”.
6. **The term “digitalization”.** What this term means and is this field new or not. Most of them answered that this term is a synonym to the term “digital transformation”, but it was also those who have his/her definition “Automation of processes /activities, minimization of human participation, the introduction of self-service channels, different web applications, mobile applications. Forecasting, analytics, Big Data”. One of the respondents said that it is “the language of the future”.
7. **Is the Digitalization a new for Ukraine area or not?** Respondents divided into two big groups in realizing new this area or not. “Yes” chose four respondents, “no” choose eleven respondents. Some respondents offered the individual point of view “Not. There are various stages” and “The term is new but the area is not”.

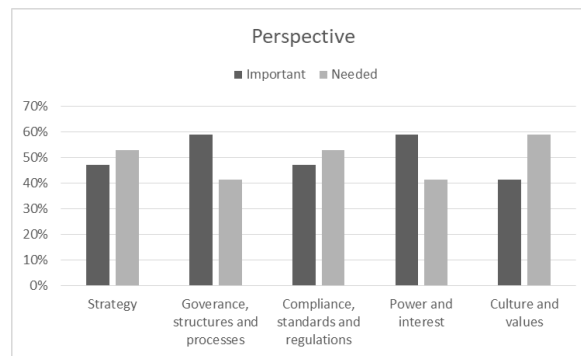
These two last questions (items 6 and 7) gives an understanding of the real situation with knowledge of people that work in the project management area. We can see that people don't think that digitalization is something new in Ukraine. They said that is a known area for Ukrainians. Authors can summarize that the digitalization transformation will be implemented in the Ukrainian Community without any problems because the Community is ready for it.

8. **Barriers and challenges on the road to Digitalization.** The major amount of respondents mentioned people as the main problem to this road “Inert, bureaucratic, limited consciousness of people” and “Sometimes there is opposition to change. We need good leaders, team management, motivation. Need iterative development”. One of them described why people have a problem in detail “People's capabilities and willingness to learn something new; Low understanding what digitalization is really and what it can bring benefits, hence the fear of people on a personal level, hence rejection”. Also, they mentioned other factors “Most of the information is not digitized; if digitized, then in different formats”, “Lack of a developed market for information services; Lack of economic demand; Lack of competencies; Corruption”. To conclude this information should be specified that the biggest problem on the road to digitalization is people because they do not ready for change, do not want to do something new and they also have fear of how their work will look like. There are also other problems as not enough digitized documentation and corruption. First of these two problems can be resolved if more people will digitize information, but the second problem is a risk and hard to solve it, just try to avoid it.

9. **Experience in digitization.** Six from seventeen respondents have written that they had less than ten years of experience, two respondents have the experience between 19 to 20 years, one of them has the experience more than thirty years, and eight don't have experience.
10. **What challenges can be met in digital projects?** As was mentioned above people "Strong resistance of "old school" employees", "the low level of the digital education in the community", "Absent the competences", "Lack like-minded person". Respondents were thought about the technical part of doing digital projects "Lack of procedures, techniques, personnel, transformation technologies" and "The scope does not include enough of change management and no one understands what is value, or only monetary value is at focus". One of the respondents indicates that he/she implements projects in the IT area and they don't need in digitalization. To conclude all information about digital projects one of them wrote "A large amount of development, insufficient understanding of how as is works, not enough analysts and architects to work out the changes, lack of developers and their competencies, no competent planning".
11. **Knowledge of project management standards.** Seven respondents from seventeen knew about standards. They indicated ICB, PMBoK, NCB, P2M, ISO 21500, IPMA, PRINCE2, P2M, Scrum, Agile, Kanban, SWeCOM. Other respondents know nothing. It indicated that one of the reasons for the low level digitalization implementation is incomprehension of the main stones of the project approach and, as a result, incomprehension of how to organize changes on the base of new challenges and values.
12. **Competencies that need in the Digital Era.** One of them wrote than the country does not have Digital Era and the country has a lag in fifty years. Some mentioned "traditional" competencies as "teamwork, readiness for change", IT skills, technical competencies, "soft skills, change management, sustainability embedded into digital transformation projects". Some of them indicated that quickly decision-making and the ability to the formation, analysis, process and transmit information are very important. To have success projects most respondents referred to IT skills then indicated change management and teamwork, and at the end is indicated logical and abstract thinking. That is means only with the good all-around educational base that is included both IT and "soft-skills" competencies can be solved a problem, which called "projects on Digital Era".
13. **Knowledge influence on digital projects.** It was interesting to have information about knowledge types that respondents held important for digital projects. In general, respondents are talking about knowledge in IT, system modeling, technologies, approaches for the transformation of information. Apart from that, soft skills are indicated too. There were team management, people organization, critical thinking. Only two persons indicated project management knowledge as important. And also, we received one very interesting opinion "Neuro-linguistic programming and only it, inasmuch as, the top-managements' skill level don't allow to improve their level of personal ignorance in another way". As a result, authors can say that the respondents understand that the project management approach is important for Digital Era and

Digital Transformation but for, another hand, they didn't link knowledge in project management with Digitalization and Digital Transformation implementation.

14. **Importance of managerial approaches in the Digital Era.** Some respondents answered only that the managerial approaches are important. However, some of them indicated approaches. They wrote about informational, interactive and situational approaches. Some can't say something. Only one person wrote that "PM methodologies are universal" and three respondents had a problem with answering.
15. **Important and Needed competencies from different groups of ICB 4.** Our research is based on the ICB 4.0 [14]. According to the standard, all individual competencies are divided into three groups: Perspective, People and Practice. Authors wanted to get the respondents' opinions about more important and needed competencies. First, respondents should choose more important and needed in each group, respondents should prioritize three competencies that are more important. The results for each group are presented below.



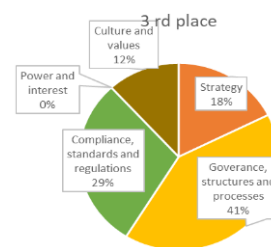
**Fig. 4.** Graph chart of range important and need competencies from the Perspective group (Source: own graph chart)



**Fig. 5.** First important competence in the Perspective group (Source: own graph chart)



**Fig. 6.** Second important competence in the Perspective group (Source: own graph chart)

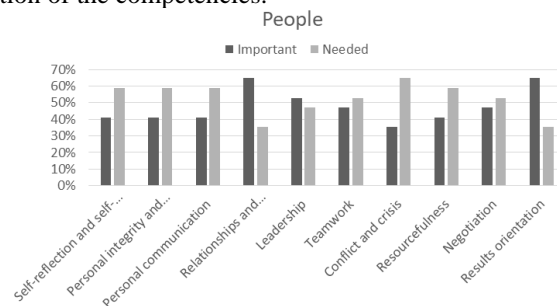


**Fig. 7.** Third important competence in the Perspective group (Source: own graph chart)

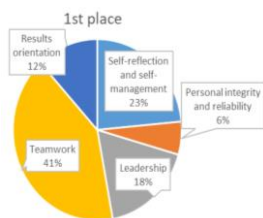
From this graph (fig.4), the chart can be seen that “Governance, structures and processes” and “Power and interest” are most Important and “Culture and values” is most Needed.

Three pie charts (Fig.5-7) are showed an interesting result. Respondents paste on the most important competencies “Governance, structures and processes” (35%) and the same competence is presented in third place with 41%. It may be considered “Governance, structures and processes” have the highest importance of the group. The competence “Strategy” (47%) is placed in second place.

From the graph chart and tree pie charts of the Perspective group can be seen that respondents have no so clear understanding of the competencies in the group. They mentioned “Governance, structures and process” and “Power and interest” as high importance from Perspective group, but didn’t pay attention to “Power and interest” during prioritization of the competencies.



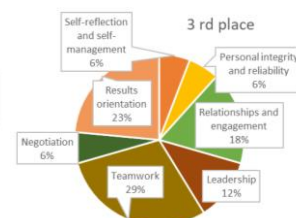
**Fig. 8.** Graph chart of range important and need competencies from the People group (Source: own graph chart)



**Fig. 9.** First important competence in the People group (Source: own graph chart)



**Fig. 10.** Second important competence in the People group (Source: own graph chart)



**Fig. 11.** Third important competence in the People group (Source: own graph chart)

From this graph chart (Fig.8) can be seen that “Relationships and engagement” and “Result orientation” are most Important and “Conflict and crisis” is most Needed and not so far from it “Self-reflection and self-management”, “Personal integrity and reliability”, “Personal communication” and “Resourcefulness” were chosen.

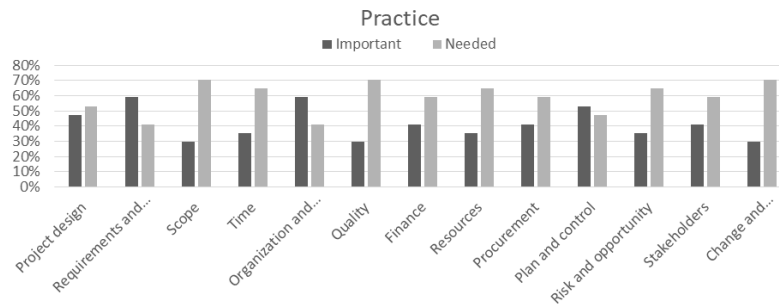
Three pie charts (Fig.9-11) are showed, like the previous chart, an interesting situation. The competence “Teamwork” (41%) is located in the first place and in the third



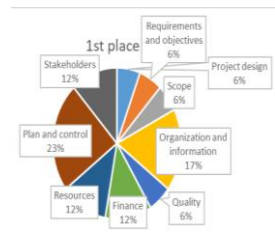
place (29%) simultaneously. The competence “Result orientation” is in second place (18%). We can see some mismatch between indicated Important and Needed and indicated prioritization competencies.

From this graph (Fig.12), the chart can be seen that “Requirements and objectives” and “Organization and information” are most Important and “Scope”, “Quality” and “Change and transformation” are most Needed.

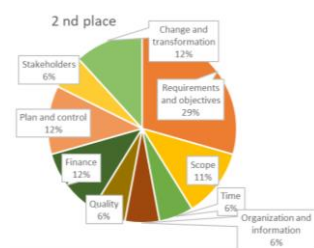
Three pie charts (Fig.13-15) are showed that the competence “Organization and information” (17%) is located in the first place; the competence “Requirements and objectives” is in second place (29%) and the competence “Plan and Control” is in the third place (38%).



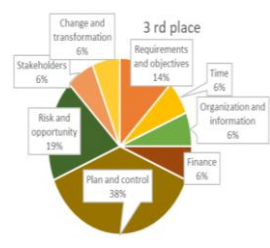
**Fig. 12.** Graph chart of range important and need competencies from the Practice group (Source: own graph chart)



**Fig. 13.** First important competence in the Practice group (Source: own graph chart)



**Fig. 14.** Second important competence in the Practice group (Source: own graph chart)



**Fig. 15.** Third important competence in the Practice group (Source: own graph chart)

In the frame of this group, we can't see any mismatches. In general, all answers are correlated with each other.

## 5 Conclusion

The questionnaire was done and seventeen people from the project management area took part. Using Google Forms for them were asked 26 questions related to compe-

tencies in the Digital Era. As the base of this research was taken the Standard IPMA ICB 4th.

Most of respondents were from the IT or Education area, in general, age falls in two diapasons 31-40 and 41-50 years old. Experience in managing digital projects for less than five years.

The next step was asked to write the definition of the term “digital transformation” and the term “digitalization” and almost all has the same understanding of these terms. They think that “Digitalization” is the same “Digital transformation” and it is the same “Informatization”. Then paper’s authors asked about newness digitalization for Ukraine. Only four respondents answered about novelty, eleven respondents indicated that is not new for the country. We can say that digitalization is not something new and people should understand what it is. However, the results of the integrated understanding of the main terms are absent. That is one of the reasons why digitalization is not popular in Ukraine because people don’t understand the difference exactly.

Talking about barriers and challenges on the road to digitalization the most respondents voted for the bureaucratic, inertness and nonavailability to learn something new.

When was talking about competencies needed in the Digital Era the most respondents said about different skills, IT skills, soft skills, logical and creativity skills are popular.

However, when respondents asked about knowledge influence on digital projects nobody said about project management.

There were interesting results that can be observed in the answers about needed and important competencies for the project manager in the Digital Era. Sometimes we received results that indicated that people don’t correlate their answers. Respondents can indicate certain competencies in the group, but completely different when ranking.

In the group “Perspectives” the competencies “Governance, structures and processes” and “Power and interest” were indicated as most Important and “Culture and values” was most Needed. However, “Culture and values” wasn’t included in the three most Important during prioritization. It demonstrates that respondents didn’t see the values as important. Values aren’t connected with digitalization as a whole. It may be the next reason for poor success digitalization in the country.

In the group “People” the results are more interesting. Respondents indicated “Relationships and engagement” and “Result orientation” are most Important and “Conflict and crisis” is most Needed and not so far from it “Self-reflection and self-management”, “Personal integrity and reliability”, “Personal communication” and “Resourcefulness” were chosen. In the frame of the ranking, respondents chose “Teamwork” and “Result orientation”. Respondents did not view any communication approaches (for example, personal communication, and negotiation) as instruments for teamwork and result orientation. The competence “Personal communication” is absent absolutely. It indicates as new communication technologies influence. People prefer to use technical communication technologies for communication but they can’t use human approaches. Most project manager's working time is spent on communication and personal communication, negotiation, conflicts, and crisis are very important

for the success project results. Sometimes they can be more important than the best technical approaches or the best project plan and scope.

In the group “Practice” the competencies “Requirements and objectives” and “Organization and information” are most Important and “Scope”, “Quality” and “Change and transformation” are most Needed. Only this group is demonstrated a good correlation between indicated Important and Needed competencies with the next their ranking.

This paper shows a lack of “clear” and integrated understanding of how to manage digital projects and which competencies have to project manager in “real” life. These results are given by project managers. As we understand the worst result may be received in the common community. It is only the first results. The authors are planning to research in the future. They think about expanding the number of specified questions and amount of respondents and try to find more amount of research papers from the last decade.

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