

Mobile Applications for Effective Management of Field Staff Tasks

Slabakov Denis

*Managing Partner, New Mining Company
New York, USA*

Abstract: During the pandemic, many companies in Russia and abroad switched to a remote format. Even though it is now no longer needed, there are still employees who work out of the office most of the time. They are called field employees because the presence of such employees in the office is not required, but from this, the importance of their professional activity does not decrease. The relevance of this study is that control over field personnel today is necessary and requires a well-built system to achieve coherent and effective work. This system shows the best results when modern information technologies, such as mobile applications, are used. With this in mind, the purpose of this paper is to determine the usefulness and effectiveness of task management of field staff using an application. The work will rely on electronic Internet resources, as well as on scientific literature. The material in this article will be of practical value to managers of companies with field staff.

Keywords: personnel, application, field, audit, employees, office, management, system.

Introduction

Field personnel are employees of an organization who engage in professional activities outside the office. They play a significant role in the development and promotion of the company. For example, field personnel can include agents, real estate agents, designers, and marketers. In the modern world of information technology, many professions have emerged that do not require constant presence in the office. However, along with this, management has started to notice some problems that significantly impact the company's efficiency.

For instance, low productivity, poor quality of work, and the absence of employees from their workplaces. Management cannot often track the exact location of an employee and how much time they spend on work tasks. Consequently, the situation in the personnel management market demands the creation of a special approach, one of which is the use of information technologies or a mobile application to manage field employees.

To assess the effectiveness of this approach, it was decided to review information resources from 2021-2024 to determine how beneficial modern technologies are and what results they can achieve. Among the selected sources for study were works by the following authors: O. Chebulaeva, I.A. Ivanov, V.N. Pulyaeva, and K.H. Abdurakhmanov.

1. Organization of Work and Task Control

In 2020, when many companies were unable to operate offline, numerous innovative technologies emerged to simplify the interaction process. For example, video communication platforms such as ZOOM, Google Meet, and Telemist (by Yandex). These technologies remain in demand as they help field employees maintain communication with management.

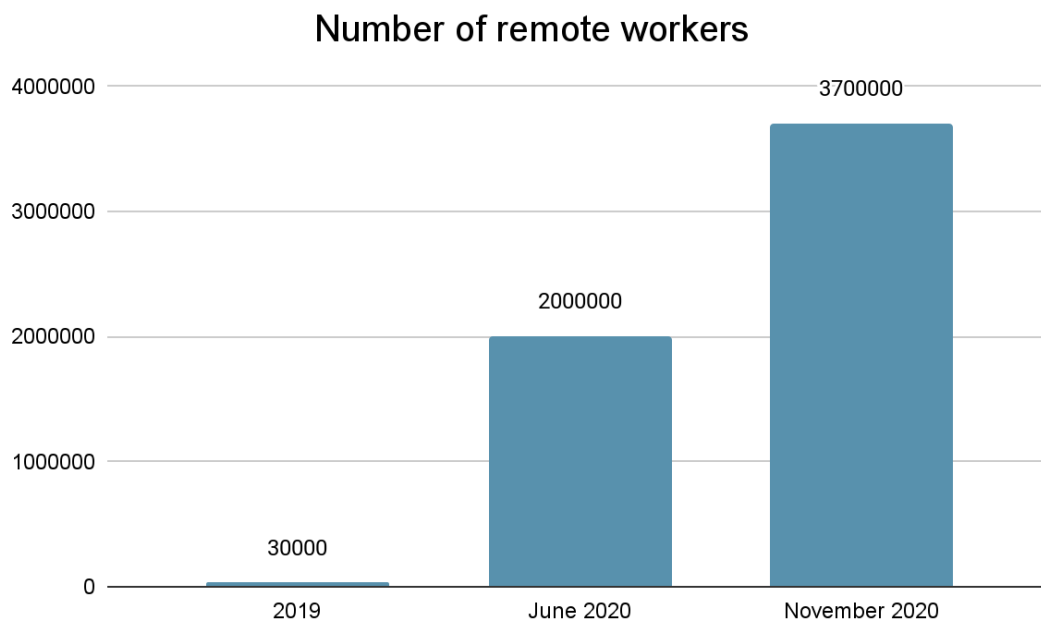


Figure 1: Surge in the number of remote employees from 2019 to 2020
(Sources: Ministry of Labor of the Russian Federation, government materials)

Field employees work in a hybrid format and often represent the face of the company, especially in sectors like hospitality, real estate, construction, and public utilities. Field personnel interact directly with the company's clients or work on other processes that play a significant role in the company's operations. Sometimes, field employees are provided with corporate equipment for more effective work, and sometimes they are not. It depends on how fully the company requires the employees to be integrated and whether there is a need for corporate equipment. If providing separate equipment for field employees is not feasible, management can develop a custom application that gives them access to the company's internal programs and portals.

However, the application also serves another purpose, ensuring a systematic distribution of responsibilities among field personnel. In addition, crucial tasks for management include monitoring and effectively managing tasks. However, the application does not solve all these issues entirely, as much depends on the managers themselves. Before characterizing the role of the application in organizing the work processes of field personnel, it is necessary to assess the importance of management in the lives of employees.

Effective task management for employees involves optimizing work processes and includes organization, collaboration, task tracking, oversight, and individual communication with each employee. When management makes mistakes at the task-setting stage, it disrupts the entire chain, from missed deadlines to significant gaps in the company's operations. Such situations lead to breaches of agreements with clients and partners, and inefficiency and misunderstanding of what needs to be corrected only exacerbate the situation. It is important to understand that personnel management is a continuous interaction through which real results are achieved, so one must not forget about the psychology of personnel management.

2. Psychological Aspects of Management and Employee Motivation

The psychology of management includes functions such as planning, organization, motivation, and control. However, when examining each of these functions, the focus is on the fact that behind each function is a person performing these activities. This means that every individual has a unique set of personal characteristics and psychological qualities. These traits determine how each function will be carried out and what results will be achieved through their implementation. It is also important to note that performing all tasks requires attention from the employee executing them, so managers should not assign multiple large tasks to a field employee simultaneously. This will lead to tasks not being carried out systematically, which can severely affect the nature and results of management.

The goals set by the manager mustn't contradict each other. Managers must be able to allocate their resources appropriately, as well as distribute the efforts of their employees. Thus, when developing goals, the question arises: "What functions will be involved in achieving each of these tasks?" Understanding and

answering this question can lead to impressive results in overall company management. Employees are highly motivated for success and with a high readiness to take risks are less likely to have accidents than those with a high readiness to take risks and a high motivation to avoid failure (protection). Conversely, when a person has a strong motivation to avoid failure (protection), it hinders their motivation for success—achieving the goal. However, in the vast majority of cases, researchers limit themselves to listing the necessary qualities of a manager without disclosing their optimal values, desired degrees of manifestation, or levels of expression. The success and quality of leaders and project managers are determined by functional and psychological criteria. The functional level includes theoretical knowledge, practical skills, and abilities, as well as the level of professionalism.

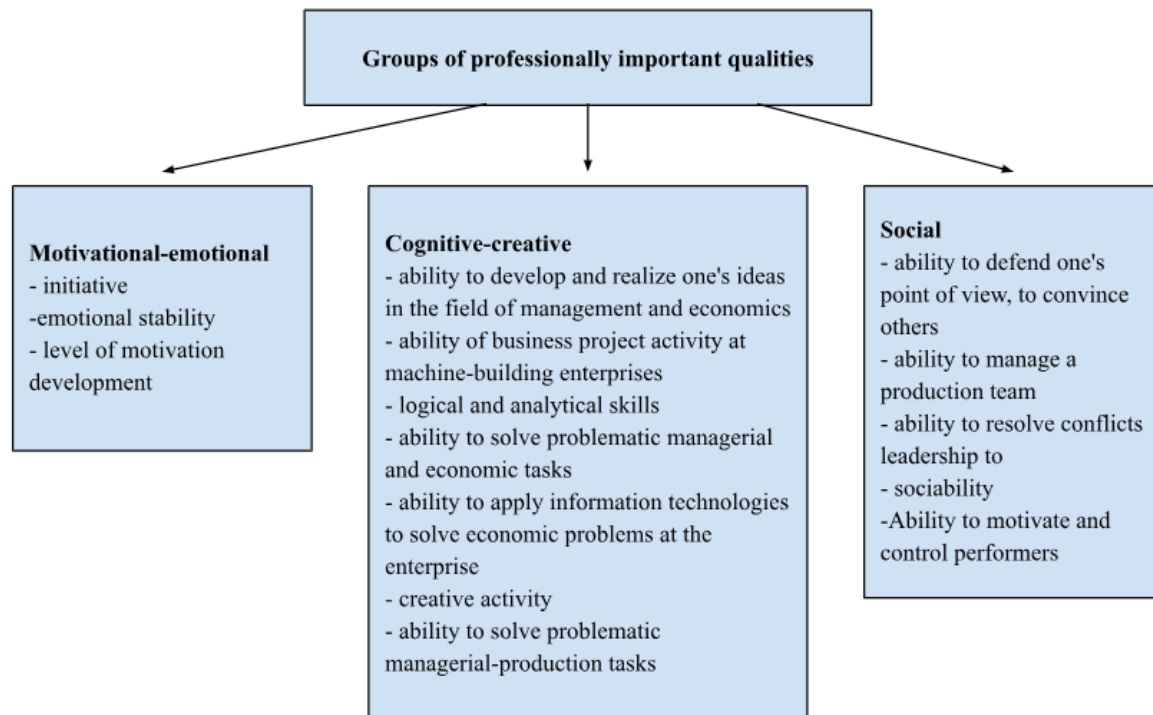


Figure 2: Professionally Important Qualities of a Manager

Psychological criteria are more general and are often used to assess a specialist's professional activities. Summarizing the data, it can be concluded that among the personal qualities of project managers, the undeniably significant ones are the motivational, communicative, and organizational groups of qualities, which include professional orientation, discipline, determination, honesty, organizational abilities, emotional stability combined with extraversion, openness, and teamwork skills.

The role of a manager is to guide people towards achieving predetermined goals. Managerial activity is considered effective if it ensures the realization of goals and the resolution of tasks through the optimal use of available resources. The criteria that determine the effectiveness of a project manager's activities are very diverse. In this study, the criteria are the satisfaction coefficient of project managers with their professional activities and the effective performance indicators of the project manager, which consist of the following parameters: number, volume, nature of projects, and cumulative work experience.

A mobile application or service for managing mobile employees is a tool necessary for supporting and expanding the capabilities of field staff. The application can also be confidently called one of the useful tools for management. The purpose of using a mobile application is to increase the productivity and efficiency of employees while saving company resources.

The application helps track the location of employees and provides access to work processes in real time. Typically, mobile applications can include the following features:

- Checklists
- Gallery for control photos
- Labor reports and calculations
- Automation of application processing
- Efficiency analytics

- Integration with accounting systems
- Time control
- Movement tracker
- Price planogram

With convenient forms that can be embedded directly within the application, processes can be quickly automated to enhance the management of field personnel. Most applications operate on modern operating platforms, which support even more functionality than the points listed above. The mobile application as an element of personnel management is also beneficial for employees. Thanks to push notifications, they can receive current information wherever they are and adjust the workflow based on changes in the plan previously set by the manager.

The main advantage of the application is that the manager can independently choose which functions will be relevant for their department. For example, one company may need an online broadcast function from the event site, while another company might be interested in functionality that includes ordering food from nearby fast-food chains. The application easily adapts to any activity, and the interface can work even for employees in hard-to-reach areas where network reception is poor.

It also solves other tasks, such as helping new employees adapt. There will be no need to use numerous questionnaires and documents that confuse not only the staff but also the manager. The manager will feel reassured knowing that they can assist an employee on-site and guide them without having to visit the site.

Another example is communication. It is undeniable that not all staff are comfortable with face-to-face communication. This can create difficulties when awkward pauses arise between employees, further hindering interaction. In the application, it is easy to find an employee's profile and write to them using a virtual dialogue. Alternatively, one can join a group chat and respond only to certain messages.

3. The Impact of Technology on Work Efficiency

Today, many professions are crucial for a company but require managerial oversight. As managers often deal with multitasking, they may not always be able to assist and encourage employees. In the application, managers can leave reactions, send pictures, and share other media materials. This shows that information technologies significantly simplify work processes, but managers must also possess empathy and passion for their work to support and effectively manage their employees.

Here are some real-world examples of how mobile applications have improved the management of field personnel:

Slack has become one of the most popular mobile applications for internal communication globally. This instant messaging tool for iOS and Android is used by both large enterprises and small businesses. It is widely adopted by major corporations such as Airbnb, TD Ameritrade, Target, Cole Haan, Zendesk, Fox, and HubSpot. Over 12 million active users from more than 150 countries communicate on Slack daily. The application keeps field workers informed about ongoing events. If they have questions, need help related to specific work, or want to quickly report on their status, Slack delivers messages in real-time.

Beekeeper is a mobile personnel management platform. A notable example of its use is demonstrated by Holcim, a leading producer of construction materials like cement, aggregates, and ready-mixed concrete for infrastructure and building projects. In its branches in Italy and Switzerland, Holcim employs 1,500 field workers across 70 sites, including factories, quarries, and construction sites. When Holcim acquires a new client or partner, they share the news through Beekeeper. The ability to convey such positive messages to each worker has boosted productivity. Additionally, Beekeeper helped the company save \$50,000 by reducing printing costs.

Railyard is another mobile application showcasing success in managing field teams. Green Cargo, a company providing efficient and sustainable rail logistics across Scandinavia and Europe, illustrates its effective use. Initially, the mobile application was developed as an assistant for rail yard workers to record wagon damages. However, after successful implementation, the application quickly expanded, providing personnel with all the necessary tools to perform routine tasks. Developed in three months, the application now includes eight processes: wagon details, schedule change notifications, wagon reception, safety checks, readiness reports, tag assignment, and damage reports. This application enabled the company to save €250,000 in one year.

Among the innovative proposals for further integrating mobile applications into the work processes of field personnel, the following can be highlighted:

Seamless integration with other systems. Most companies use a variety of information systems, from customer relationship management to enterprise resource planning and others. To be effective, mobile applications for field workers must be able to integrate with these existing systems. Good solutions will have connectors for the most common systems or, at the very least, be able to export data in a standard format that can be easily imported into other systems.

The continued growth of the Internet of Things (IoT) is leading to more and more devices being networked, which will need to be managed by the teams that install and maintain them. This will create opportunities for developing even more sophisticated applications that can not only manage devices and sensors but also diagnose and repair them.

The latest trends in the development of mobile applications for field personnel include:

1. **Utilizing augmented reality (AR) capabilities.** Augmented reality overlays digital information onto the real world, providing technicians with deeper knowledge and guidance, and this has a significant impact on the future of field teams. For example, Apple's ARKit has already brought the power of augmented reality to the Salesforce Field Service Mobile App. With Apple's ARKit, technicians can easily create detailed 3D renders of large areas, measure spaces, and map objects using simple image capture. As the cost of AR technology decreases and the technology itself becomes more powerful, field employees will see necessary information, diagrams, and step-by-step instructions directly in their field of view. This level of guidance will simplify troubleshooting, reduce downtime, increase the speed of repairs, and make the workplace safer.
2. **The upcoming months will see the continuous integration of AI-based chatbots** into mobile platforms, simplifying communication and providing instant information and support to field technicians. At the same time, data input and retrieval will become possible through voice technologies, offering even greater speed, security, and accuracy in the work of field service specialists.

This study analyzes the multifaceted roles and challenges faced by field employees and demonstrates the significant impact of technological solutions on improving efficiency and productivity. By utilizing these tools, companies can address common issues such as low productivity, inadequate work performance, and the inability to track employees' locations and task completion times.

The primary contribution of this study lies in a detailed examination of how mobile applications can optimize the management of field personnel. These applications offer features such as real-time location tracking, task automation, performance analysis, and integration with company systems, collectively enhancing operational oversight and streamlining workflows. This technological integration not only supports the efficiency of field personnel but also provides managers with essential tools for better task allocation and performance monitoring.

One of the key findings is the importance of balancing technological tools with effective managerial practices. While mobile applications can significantly aid in managing field personnel, the ultimate success of these tools depends on the manager's ability to use them effectively. This includes setting clear, achievable goals, maintaining open communication, and providing continuous support and motivation. Psychological aspects of management, such as understanding individual employee needs and creating a supportive work environment, are equally important for achieving desired outcomes.

The study acknowledges several limitations, including the variability of mobile application effectiveness across different industries and organizational contexts. The adaptability of these tools to a company's specific needs and the readiness of personnel to embrace new technologies are crucial factors that can influence the overall success of such implementations. Additionally, the initial costs and efforts required for developing and integrating these applications can be significant, posing challenges for some organizations.

Furthermore, this study highlights the evolving nature of workplace dynamics, particularly in the context of the increasing prevalence of remote and hybrid work models. The ability of mobile applications to support these models by ensuring seamless communication and task management underscores their relevance in the modern work environment. However, continuous development and updating of these technologies are necessary to keep pace with changing business needs and employee expectations.

Conclusion

In conclusion, the strategic use of mobile applications for managing field personnel provides organizations with a valuable opportunity to enhance their operational efficiency and employee productivity. By effectively integrating these technological tools with robust management practices, companies can overcome traditional challenges associated with field personnel management. Future research should focus on longitudinal

studies to assess the long-term impact of these applications and explore their potential in various industry-specific scenarios. Emphasizing the human factor in conjunction with technological advancements will be crucial for ensuring sustainable improvements in workforce management.

References

- [1]. *Lukyanchikova T. L., Semyonova E. M:* Improving the quality of enterprise personnel by improving the procedure of [8] recruiting // *Vestnik agrarnoi nauki*. - 2022. - №. 3 (96). - C.114-123.
- [2]. *Oleg Chebulaev:* Corporate Solutions: Import Substitution, Key Requests, Complexities [Electronic resource] // *BOSS Magazine*, 2022.
- [3]. *Patrusova A. M:* Personnel management in the conditions of digital economy development // *Scientific result. Business and service technologies*. - 2021. - № 3. - C.71-83.
- [4]. *Management of human resources of the organization. : textbook / I. A. Ivanova, V. N. Pulyaeva, K. H. Abdurakhmanov [et al] ; ed. by Y. G. Odegov, M. V. Polevoy, V. S. Polovinko*. - Moscow: Knorus, 2021. - 583 c. - ISBN 978-5-406-02757-8. - URL: <https://book.ru/book/936564> (date of reference: 23.05.2024). - Text: electronic.
- [5]. *Ziborev A.V.* ANTIPATTERNS FOR BUILDING MICROSERVICE APPLICATIONS IN HIGH LOAD PROJECTS // *Universum: technical sciences*. – 2023. – No. 11-1 (116). – pp. 29-34.