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DIGITIZATION OF BUSINESS AS A METHOD OF ECONOMICS AND ENTREPRENEURSHIP RESEARCH

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Abstract. Digitalization of business is becoming an integral part of the modern economy, providing entrepreneurs and researchers with unique opportunities to study economic processes and increase the competitiveness of companies. This article examines key aspects of digital transformation, such as the introduction of digital technologies,

the use of big data and artificial intelligence, the effects on economic growth and new business models. The challenges and opportunities associated with digital platforms, cloud technologies, as well as the impact on trade, financial services and production processes are highlighted. The study highlights the need for business to adapt to the digital age and identifies development prospects in the context of modern economics and entrepreneurship. Digitalization also opens up new horizons for creating sustainable business models that promote more efficient use of resources and lower costs. Special attention is paid to the role of digital transformation in the development of small and medium-sized businesses, which, thanks to new technologies, gain access to global markets and opportunities for innovation. The impact of digital innovations on the competitiveness of companies and their ability to adapt to changing market conditions is considered. The importance of data management and information security in the context of the digital economy is highlighted, and the social and economic consequences of digitalization for various business sectors are discussed.

Keywords: Digitization of business, digitalization of the economy, digital platforms, innovation in entrepreneurship, digital transformation of companies

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БИЗНЕСТІ ЦИФРЛАНДЫРУ ЭКОНОМИКА МЕН КӘСІПКЕРЛІКТІ ЗЕРТТЕУ ӘДІСІ РЕТІНДЕ

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Аннотация. Бизнесті цифрландыру кәсіпкерлер мен зерттеушілерге экономикалық процестерді зерттеуге және компаниялардың бәсекеге қабілеттілігін арттыруға бірегей мүмкіндіктер бере отырып, қазіргі экономиканың ажырамас бөлігіне айналуда. Бұл мақалада цифрлық трансформацияның негізгі аспектілері қарастырылады, мысалы, цифрлық технологияларды енгізу, үлкен деректер мен жасанды интеллектті пайдалану, экономикалық өсуге әсер ету және жаңа бизнес үлгілері. Цифрлық платформалармен, бұлттық технологиялармен байланысты сын-қатерлер мен мүмкіндіктер, сондай-ақ саудаға, қаржылық қызметтерге және өндірістік процестерге әсері қамтылған. Зерттеу бизнесті цифрлық дәуірге бейімдеу қажеттілігін көрсетеді және қазіргі экономика мен кәсіпкерлік контекстіндегі даму перспективаларын анықтайды. Цифрландыру сонымен қатар ресурстарды тиімдірек пайдалануға және шығындарды азайтуға ықпал ететін тұрақты бизнес үлгілерін жасау үшін жаңа көкжиектер ашады. Жаңа технологиялар арқылы жаһандық нарықтарға және инновациялар мүмкіндіктеріне қол жеткізетін шағын және орта бизнесті дамытудағы цифрлық трансформацияның рөліне ерекше назар аударылады. Цифрлық инновациялардың компаниялардың бәсекеге қабілеттілігіне және олардың өзгермелі нарықтық жағдайларға бейімделу қабілетіне әсері қарастырылады. Цифрлық экономика контекстінде деректерді басқару мен ақпараттық қауіпсіздіктің маңыздылығы атап өтіледі, сонымен қатар бизнестің әртүрлі секторлары үшін цифрландырудың Әлеуметтік және экономикалық салдары талқыланады.

Түйін сөздер: Бизнесті цифрландыру, экономиканы цифрландыру, цифрлық платформалар, кәсіпкерліктегі инновациялар, компанияларды цифрлық трансформациялау

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ОЦИФРОВКА БИЗНЕСА КАК МЕТОД ИССЛЕДОВАНИЯ ЭКОНОМИКИ И ПРЕДПРИНИМАТЕЛЬСТВА

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Аннотация. Цифровизация бизнеса становится неотъемлемой частью современной экономики, предоставляя предпринимателям и исследователям уникальные возможности для изучения экономических процессов и повышения конкурентоспособности компаний. В данной статье рассматриваются ключевые аспекты цифровой трансформации, такие как внедрение цифровых технологий, использование больших данных и искусственного интеллекта, эффекты на экономический рост и новые бизнес-модели. Освещаются вызовы и возможности, связанные с цифровыми платформами, облачными технологиями, а также влияние на торговлю, финансовые сервисы и производственные процессы. Исследование подчеркивает необходимость адаптации бизнеса к цифровой эпохе и выявляет перспективы развития в контексте современной экономики и предпринимательства. Цифровизация также открывает новые горизонты для создания устойчивых бизнес-моделей, которые способствуют более эффективному использованию ресурсов и снижению издержек. Особое внимание уделяется роли цифровой трансформации в развитии малого и среднего бизнеса, который благодаря новым технологиям получает доступ к глобальным рынкам и возможностям для инноваций. Рассматривается влияние цифровых инноваций на конкурентоспособность компаний и их способность к адаптации к изменяющимся рыночным условиям. Освещается важность управления данными и информационной безопасности в контексте цифровой экономики, а также обсуждаются социальные и экономические последствия цифровизации для различных секторов бизнеса.

Ключевые слова: Оцифровка бизнеса, цифровизация экономики, цифровые платформы, инновации в предпринимательстве, цифровая трансформация компаний

Introduction

The digitalization of business not only transforms current economic paradigms but also opens new horizons for research and entrepreneurship. In the rapid development of digital economy technologies, companies are compelled to adapt in order to remain competitive and efficient. From the use of big data and artificial intelligence to the implementation of cloud technologies and digital platforms, digitalization is reshaping business operations and interactions with consumers.

This article examines the role of digitalization as a method for studying economics and entrepreneurship. It highlights key aspects of this transformation, its impact on economic growth, the creation of new business models, and changes to traditional industry structures. The article also analyzes the challenges and opportunities facing entrepreneurs in the process of digital transformation, and discusses future development prospects in this field.

Today, digitalization not only defines the day-to-day operations of companies but

also guides strategic decisions, promoting the formation of flexible and innovative business approaches. In this context, it becomes clear that future success in entrepreneurship and research will be closely linked to the ability to effectively use digital technologies and analyze data to make informed decisions (Averkin, 2011).

Business digitalization in today's economy goes beyond mere technology implementation. It's a strategic transformation that rethinks entire enterprise structures and operational processes, guiding them towards new levels of efficiency and competitiveness. Among the key aspects of digital transformation, it's crucial to highlight the use of data as a strategic resource capable not only of optimizing current business processes but also of predicting future market trends and consumer preferences.

The integration of artificial intelligence and automation opens new opportunities for enhancing customer experience and resource management, significantly improving business operational efficiency and flexibility. Simultaneously, digital platforms and cloud technologies not only provide access to advanced functional capabilities but also stimulate the development of new business models based on collaboration and shared data usage.

The role of digitalization as a method for studying economics is becoming increasingly significant in the context of collecting and analyzing large volumes of data. This allows researchers and analysts to uncover new patterns and correlations across various aspects of economic activity, leading to a deeper understanding of market conditions and the development of more precise and adaptive entrepreneurial strategies.

Ultimately, effective use of digital technologies and data analytics opens new perspectives for entrepreneurial innovation and achieving sustainable competitive advantage in a dynamically changing economic environment (Belov, 2022). Process automation is one of the primary methods to reduce costs across any level of business, from departmental operations to large enterprises. Automation eliminates the need for manual handling of routine tasks. For instance, processes that previously required two employees can now be managed by one after automation.

Despite the rapid growth of the IT sector, many business owners and managers still lack a clear understanding of what process automation entails and how it works. In previous articles, we discussed business processes and their proper modeling. In this article, we delve deeper into automation — what every business owner, manager, and specialist should know about it:

What is process automation and how does it differ from digitalization?

Which processes can be automated?

Who needs automation and who does not?

Who handles automation and how much does it cost?

What systems facilitate process automation?

Examples: How automation optimized sales processes in a company.

How to learn more about business process management.

Process automation is a specific form of optimization that helps businesses save time on routine tasks. Algorithms execute repetitive tasks faster, allowing teams more time for other activities.

For example, you can track orders and manage accounting manually in a notebook, and calculate profits and taxes using a calculator. Alternatively, you can integrate CRM and online accounting systems. These programs autonomously process orders, pull payment data, send emails to clients, and generate reports for tax authorities.

This is the essence of automation. It involves implementing software that helps perform routine tasks faster, more productively, and efficiently.

Let's break down how automation works using the example of sales on marketplaces. Managers often face numerous routine tasks such as calling customers back, tracking payments, checking inventory status, printing labels, and packaging orders.

Automation minimizes the number of these operations. After receiving an order, the manager only needs to package the item and send it to the customer.

Business process automation enhances labor productivity and reduces costs. The key is to implement automation correctly; otherwise, it may not deliver the desired results, or worse, lead to financial losses.

Automation is not the same as digitalization. Digitalization goes much deeper and is more complex. For instance, consider a sales manager in a company who daily calls customers and manages deals in Excel.

To simplify these processes, the company installs a CRM system. In this scenario, the manager is still needed to operate and manage the program by clicking buttons. This is automation. Digitalization represents the next level of automation, where tasks are fully automated without human intervention. Digitalization is designed to exclude humans from the process entirely.

You can delegate any business process to algorithms. The easiest to automate are typical operations:

- processing deals;
- SMS and email marketing;
- document management;
- accounting and inventory management;
- payment processing.

Our advice is to start automation with these. There are ready-made cloud solutions for each typical process that can be implemented by yourself or with a small team of integrators. This is convenient for small businesses. More complex operations, such as production management, product quality control, and personnel management processes, can also be automated. But this is more suitable for medium and large businesses. You'll need complex systems, a development team, and a significant budget (Bessonova, 2022).

Processes can be automated in businesses of any size, but complex automation is not necessary for everyone.

First, you need to determine which processes you want to "put on the rails" and calculate the amount of time employees spend performing them manually. Based on this, you need to understand how feasible their automation would be.

It's better for small businesses to stick with standard solutions and not invest millions in custom projects. Almost every cloud-based program has a trial period or a free plan with basic functionality. You can test it out and see if the program suits your needs.

For instance, previously the company received 10 requests per day. A manager processed them in 3 hours, spending the rest of the time preparing documents, communicating with suppliers, and handling other routine tasks.

Now, the company receives 50 requests per day — the manager doesn't have enough time in a day to handle them all. What should be done? You can either hire a second manager or automate request processing using a CRM. If the flow of requests continues to grow, it's better to do both.

Large companies often automate not just individual processes but all their processes at once. As a result, they get a unified system. This is expensive, but the efficiency

To implement this, you need to develop custom projects, use complex programs, delve deeply into processes, and break down the entire business model of the company to the molecular level. Without automation, it is difficult for large businesses to scale (Egorov, 2022).

When is automation definitely not needed? Here are five cases when it's better to postpone process automation:

- the business is in the startup phase;
- the company works with regular customers and does not attract new ones;
- the company's turnover is up to 1 million rubles per month;
- the company's business processes are not established and frequently change;
- the costs of automation exceed the obvious financial benefits.

Any typical solutions like CRM systems or mailing services can be configured independently. But to do this, you need to understand them: read the instructions, build funnels, develop documentation, and train employees. Most often, entrepreneurs do not want to spend their resources on this and invite contractors.

Usually, automation is handled by integrators. This is a group of experts who take on the implementation of programs in the business and their debugging. They model processes, select, configure, and refine software solutions according to the company's requirements.

You can find them in advance, and then the contractor will select the solution for automation. Or you can first choose the solution and then invite integrators.

In our experience, this usually happens as follows:

- An entrepreneur selects a service for automation. For instance, a CRM or ECM system. They register for a trial period and explore how everything is set up. Usually, at this point, they realize that their company cannot configure such a system on its own.
- When the trial period ends, the service offers implementation — either by the company's own efforts or with the help of an external integrator. Typically, services work with several integration companies and offer their services for selection. Conditions and costs vary with each integrator.
- The implementation team arrives at the company and requests the assistance of a company employee. This employee introduces them to the company's operations, explains how the work is organized, and familiarizes them with the business model and processes.
- Integrators describe the processes that need to be automated, conduct analysis, and create an implementation plan. This plan outlines the functionality solutions of the chosen service that need to be implemented in the company.
- Integrators configure and fine-tune the system to ensure everything works as it should. The more complex the functionality, the longer the implementation takes. For example, implementing a simple cloud CRM takes 1–2 months. If modifications are needed, it takes longer. Implementing a complex document management system can take up to six months.
- Integrators train employees — showing them how to work with the system. Sometimes they issue certificates and attestations.

Often, the implementation is organized online: negotiations and training are conducted via video calls, and the system setup is done through remote access.

There are many groups of software solutions for automation. They are categorized

based on their purpose. Sometimes, a single program contains elements from multiple groups.

CRM (Customer Relationship Management). These systems are for managing sales and customer service. They help automate the collection of customer databases, processing of applications, and communication with company clients.

The system gathers all applications and orders into a common sales funnel, sends messages to clients, dispatches documents, and automatically calls the customer. At different stages of the funnel, you can set up specific automated actions.

HRM (Human Capital Management). These systems are for automating HR departments and personnel management. They are useful for managing a large staff — from 50 people onwards.

HRM systems help automatically calculate salaries and maintain HR documents. Additionally, they assist in working with job applicants, maintaining a database of vacancies and employees, managing vacation and sick leave calendars, and monitoring the relevance of medical examinations and safety training.

ECM (Enterprise Content Management). These systems manage corporate digital content. Their primary function is electronic document management.

ECM systems simplify working with all company documents. Without them, all documents — contracts, acts, invoices, orders, protocols, notifications — are prepared on paper, agreed upon, and signed manually. In an ECM system, each document has a digital version that can be signed and sent to the recipient without leaving the office.

BPM (Business Process Model). These systems are for modeling and managing business processes within a company. They don't simplify specific aspects of business operations but help visualize processes and find ways to optimize them. They are used for planning and structuring business processes in a company.

WMS (Warehouse Management System). A system that helps manage inventory, warehouses, and warehouse accounting from the moment goods or materials arrive at the distribution center until they leave the warehouse.

WMS automates the reception, movement, storage, picking, and shipping of goods. The system shows statistics for each operation.

TMS (Transportation Management System). A group of systems that help businesses manage logistics. Large companies use them to plan and track shipments, choose the most convenient mode of transport, plot the optimal route, and monitor the location of goods batches. It's a kind of CRM specifically adapted for logistics but with more complex functionality.

ERP (Enterprise Resource Planning). A group of systems that combine other automation tools — for example, CRM, HRM, ECM, WMS. This is a solution for large companies.

ERP is much more expensive and complex than any other system, but it doesn't have to be purchased in its entirety. Companies usually connect only the modules they need. For example, they buy accounting, bookkeeping, and website request management modules separately (Klyueva, 2022).

Let's consider the automation of business processes in a company that sells roofing materials, using the OkoCRM example.

Client requests are received from several websites and processed by four managers. All tasks are recorded in a notebook and Excel, and clients are called using regular phones.

The task is to optimize the processes of handling requests and approving deals.

The optimization tool is the implementation of OkoCRM and integrations.

✕ Problem #1: Requests are received via email — managers do not see them immediately. Clients wait a long time for a response. Often, not waiting, they go to competitors.

✔ Solution:

The CRM system automatically collects requests from all websites and creates deals → the manager receives a task notification in Telegram: "You have a request" → reaction time is reduced to 3–5 minutes.

The CRM has a queue set up that distributes requests among managers. If one of them is busy, requests go to the free one.

All website requests are in the common funnel. Each manager has their own funnel with orders for which they are responsible.

✕ Problem #2: Clients do not always get through to the office — missed calls are not recorded.

✔ Solution: Integration of CRM and IP-telephony. The service distributes calls between managers on their personal phones, based on their availability. If one manager is on a call, the call automatically goes to another. This way, the client will get through in any case.

✕ Problem #3: Lack of control — the manager does not know how many requests have been received and what work is being done on them.

✔ Solution: The CRM sets a deadline for each deal. After it expires, the request goes into the overdue list. The manager ensures that there are no such requests, and if necessary, manually changes the responsible parties. By the end of the day, all deals are processed, and all managers are evenly loaded. At the end of the week, the manager looks at the analytics and sees how everyone worked.

It is visible which tasks are in progress, which ones have been forgotten, and which ones still need to be resolved.

✕ Problem #4: Manual document preparation — filling out one invoice or contract takes 20 minutes. The manager spends time on routine tasks.

✔ Solution: The CRM has created standard document templates. The system itself uploads data from the client's card into them. Document preparation time is reduced to 2 minutes.

You can add as many files with variables as you like — the system will replace them with the client's personal data.

✕ Problem #5: Managers lose client messages in messengers — clients go to competitors.

✔ Solution: Integration of messengers with CRM. All messages are received in the system and are automatically linked to the necessary card. The CRM automatically creates tasks "Reply to the client" for managers.

Which unifies client inquiries from WhatsApp, Telegram, VKontakte, and other communication channels.

Process automation has reduced the time for processing requests and agreeing on deals. Clients are always in touch with managers — lost sales have become much fewer.

Automation is the implementation of software solutions into a business that take over part of the processes. It makes running a business easier and scaling up simpler.

Process automation is not needed by everyone. It is beneficial for developing companies with good dynamics — it helps them grow even faster. If there is no noticeable growth, it is better to first think about how to achieve it without automation.

Automation is configured with the help of integrators. These are experts who, for a fee, fine-tune processes, help select a service, and implement it into the business.

There are many groups of programs for automation — they are divided according to the directions of processes that need to be optimized. It is not worth implementing everything at once. It's better to choose the directions that most urgently need algorithmic assistance and automate them first.

How to learn more about managing business processes:

If you are just starting to get acquainted with business process management, read our article — "The Big Guide to Business Process Management: The Essentials Every Manager Should Know."

This article describes in detail the process of modeling business processes: why modeling is needed and how to conduct it.

Learn to build clear business processes, make informed decisions, effectively allocate resources, and find growth points in the Skillbox course "Effective Manager."

Business process: definition, examples. A business process (BP) is a set of sequential operations as a result of which a product is produced and sold (a service is created and provided), and the business operates. Simply put, business processes are all the actions and interactions of employees that make a company work.

Let's look at examples.

In the field of wholesale sales. Imagine a sales manager working in a company where the BP is not automated. He must: meet with the client, discuss the possibility of cooperation, return to the office, prepare a commercial proposal, then bring it to the client, and after repeated discussion, draw up an agreement. The difficulty is that negotiations are usually conducted with several customers at once, and there is also routine work. Consequently, at each stage, the manager may forget something important (include the required item in the structure of the commercial proposal, call the person back on time). All this affects the result of the work.

It's another matter if a company's business process automation program has been implemented. Then the work is carried out remotely, each stage is noted in the client's card, and the system automatically notifies about urgent tasks (Ivanov, 2022).

In the field of marketing. Without automation of business processes, companies are forced to order billboards, hire promoters, make calls to a cold base, mass mailings to an acquired database of addresses, etc. It is expected that all this will contribute to an increase in orders, although it is difficult to say exactly what actions triggered the growth in revenue.

Thanks to marketing automation, you can set up the display of advertising messages for the target audience (for consumers who are looking for this product or service and are ready to make a purchase), prepare unique offers for different clients thanks to market segmentation, and check the effectiveness of ads for each promotion channel.

An accountant has to manually calculate staff wages, taxes, vacation pay, sick leave, and if it is catering, then also the cost price, cost of meals, etc. At the same time, all documentation must be kept in order, reporting submitted on time. On the one hand, this takes a lot of time, on the other hand, it often causes trouble (even one mistake significantly affects the result).

Another thing is the implementation of a business process automation program. Thanks to it, you just need to enter the required numbers, and the system will perform the calculations automatically.

Types of business processes. Immediately before automation, you need to classify business processes. They are:

- the main ones are BP aimed at producing products or providing services, sales and other operations that bring profit to the enterprise;
- auxiliary - these are those without which the main business processes cannot be carried out: accounting, document flow;
- managerial - they cover the management functions of the entire company and each individual business enterprise, and come down to strategic and operational planning, business assessment of personnel , motivation, etc.;
- developing - aimed at improving products or services, production technologies, improving the skills of employees, etc.

There are other classifications according to which the supporting BP are distinguished (meaning financial, engineering and technical support, personnel supply) and accompanying ones. The latter indirectly affect the production of goods. So, for enterprises this will be the repair of equipment on which products are produced.

Any business process can be automated, provided that it brings a positive result. That is, labor productivity after automation will increase, but product quality will not suffer.

Methods for describing BP. After classification, it is important to describe the selected business processes. To do this, two main methods are used:

- functional, or vertical - it comes down to designating hierarchical connections and their sequences, giving an answer to the question: “What should be done?”
- process, or horizontal - describes hierarchical connections, sequence, relationships, tools, materials for implementation, gives an answer to the question: “How should it be done?”

Interestingly, the correct description often contributes to the improvement of business processes. A visual demonstration allows you to understand where they can be optimized.

How to describe a business process correctly. BP can be described as:

- text - in this case, the steps are written down point by point, forming instructions, regulations (however, a lot of information is obtained, but the emphasis is not placed on hierarchy and relationships, which complicates the perception of the document);
- tables - in this case, several parameters are highlighted: the beginning of the BP, the input of the process, the description of the step, the result, etc. (that is, the data is better structured);
- diagrams - it displays blocks showing hierarchical connections, their sequence, and interconnections.

Since information in the form of a flowchart is structured as much as possible, it is easier and faster to perceive. Therefore, the method is considered one of the most effective.

Business Process Automation: Definition, History.

Automation of business processes is the transfer of routine tasks of employees to automated systems. They can accept orders, make calculations, generate and issue invoices, etc., thereby facilitating the work of staff and reducing costs.

The term “automation” was first used by F. Taylor and G. Gant at the beginning

of the twentieth century in relation to production, and later to the concept of "business process", when it began to be studied more. In the 80s A new concept of power supply appeared, and new devices began to be developed. At first these were typewriters, then - photocopying machines, personal computers. With the advent of the Internet, systems for automating business processes of enterprises began to be created.

BP automation goals. Competent automation allows you to:

- save time - for this, routine but important tasks are transferred to an automated system (this could be the distribution of tasks or keeping calculations);
- eliminate errors due to the human factor (for example, when issuing invoices in a goods delivery company, it is easier to accept orders if settlements and post offices are already entered into the system; then the manager can simply select what he needs, rather than write it himself, hoping that he heard everything correctly);
- improve business processes or perform some of them instead of an employee (for example, calling clients or participants in some conferences is often entrusted to a robot; this is especially helpful if there are several hundred phone numbers in the database);
- increase revenue - thanks to automation, it is possible to serve more clients (for example, when placing an order in an online store, the system itself can send an invoice to the client, and when it is paid, a notification to the manager; thus, the load on the latter is reduced, and profits increase).

By the way, as a result of automating business processes, resources are freed up. At the same time, the manager receives more data for analysis and manages the company more effectively. Finally, there is an opportunity to scale the business - expand production or open branches and establish effective management of each of them.

Automation tools.

Small companies can use Microsoft Excel or Google Spreadsheets to calculate and forecast financial indicators. Large enterprises usually choose accounting programs - 1C, Delovod. They allow you to calculate salaries, taxes, issue invoices, create acts, etc.

Other tools:

- employee and working time management systems - Hurma, BambooHR;
- customer management systems - Bitrix24, Terrasoft; in such programs client cards are created, which display the progress of negotiations, signed contracts, etc.; this is convenient because, if necessary, clients can be easily picked up by other managers;
- complex automation systems - SAP ERP; the tool is difficult to configure, but allows you to integrate several business processes; in the basic installation - about 20 thousand database tables;
- ESP systems - used by email marketers and carry out mass email campaigns; the most popular are SendPulse, MailChimp, eSputnik, GetResponse, etc.

Business process automation tools also include CMS - content management systems. Thanks to them, not only a developer, but almost anyone can now administer a website. The most popular CMS: WordPress, Joomla, Drupal, Tilda, etc.

Finally, project management systems - Trello and others. With their help, you can set tasks, control the timing and quality of their implementation.

Implementation of BP automation: methods, stages.

The implementation process is long and requires attention to detail. It begins with the selection of business processes that will be automated and their optimization. At the same time, all work on automation in an enterprise can be done independently (a working

group is created, selects a power supply unit, tools, and then carries out automation) or with the help of private consultants and companies.

There is also an optimal option - to automate everything that is possible on your own, and entrust the work with complex business processes to professionals (Ivanov, 2022).

During implementation, the following stages can be distinguished:

- analysis of business processes, problems that arise (lack of staff, long routine work, high risk of error, etc.);
- description of the business process that will be automated;
- selection of software (software) or system;
- implementation, configuration, testing;
- employee training.

A separate stage can include a staff survey after a certain time has passed after automation. In practice, people can give advice on how to improve the program so that it makes the job even easier.

Main directions and software. Depending on the company's budget and strategy, a number of areas or individual processes in these areas can be automated.

By the way, you can automate not only complex tasks, but also simple ones - calculating discounts, grouping and analyzing data.

There are many examples where automation of business processes has improved the quality of work performed, reduced costs, including personnel costs, and achieved higher performance. The main thing is to implement it correctly in order to relieve the manager and employees without compromising the quality of work or products.

Table 1. Implementation of power supply automation

Region	BP groups	BY
Control	Financial management, legal support, etc.	1C: Enterprise, QPR Metrics, SAP R3
Organizational tasks	Document flow, secretariat	Oracle Business Process Management Suite and etc.
Production	Supply of raw materials, production processes, logistics	SAP R3, BAAN, Sage and T. d.
Finance	Accounting, taxes, planning	1C: Accounting, FinGrad
Marketing	Direct marketing, sales, customer service	Megaplan, Sisyphus (Sisyphus), ClientBase.ru, etc.
Work with personnel	Selection, personnel accounting, professional development, motivation	Oracle/Human Resources

Benefits of automation.

By automating business processes, the company will be able to make personnel changes or free staff from routine duties, thereby giving them time for creative and important work. Along the way, coordination and coherence improve, and therefore the quality of goods and services.

Moreover:

- staff actions are coordinated;

- human factor is excluded;
- the reproduction of cycles is accelerated by shifting routine tasks to an automated system;
- profits are growing.

Trends in power supply automation.

The market is gravitating towards the use of low-code platforms. They allow you to create applications and adapt them to business needs even for people who do not have programming skills. With the help of such platforms, it is easier to automate business processes and, if necessary, make changes without stopping work.

Interestingly, the first platforms appeared in the 1990s. (eg Lotus Notes). They made it possible to quickly create applications by integrating them into a single system. With their help, we automated work with documents and more. Another thing is that the platforms had a small set of designers, with the help of which a limited set of applications was created. And depending on the degree of customization, the help of a programmer might be required.

At the same time, it is assumed that new low-code systems will be free of shortcomings and will allow experienced managers to quickly automate business processes and lead the company to success .

Types of automation that are most often used in the world.

Widely used:

- Amazon Web Services - allows you to approach the process comprehensively; it is a cloud, thanks to which consumers receive virtual servers, databases, software, and development tools;
- virtual digital agreement - facilitates cooperation between companies (no need to scan and forward documents, since access to them and the history of edits is provided 24/7).

Also popular are applications and systems for management, financial accounting, and interaction with clients, for example, email newsletters.

How to choose software for power supply automation.

When choosing software, it is important to understand which business processes will be automated, then it is easier to understand what functionality is needed. By the way, the program itself can be either standard (it is cheaper, easier to implement, but difficult to adapt to the needs of a particular company) or individual. The latter is developed specifically for business.

When choosing a system, it is important to make sure that it:

- allows you to depict the steps of the BP in graphical form, so they are easier to perceive and analyze;
- has a clear interface and ease of use;
- provides access from anywhere in the world;
- integrates with existing systems;
- can generate and send notifications about the progress of the business process, status changes;
- draws up charts showing the company’s progress;
- makes it possible to create and launch several parallel power supply units that can launch each other;
- stays within budget.

If it is difficult to make a choice, it is better to consult with specialists. You can also

use the experience of business colleagues (although everything is subjective and individual).

Table 2. Key financial indicators for the project

Financial indicators	Index
Amount of required investments, thousand tenge	12,000
Net present value (NPV), thousand tenge	93 504
Internal rate of return, IRR, %	77.4 %
Discount rate, %	18.1 %
Payback period not discounted, years	1.5
Payback period – discounted, years	1.7

Source: Financial model sheet J

From an economic point of view, the project is attractive. The economic net present value (ENPV) of the project is 347 million tenge at a discount rate of 11.8%. The economic internal rate of return (EIRR) of the project is 19.6 %.

Table 3. Calculation of ENPV and EIRR, million tenge/%

Calculation of economic efficiency	2022	2023	2024	2025	2029	2030	2031	Total
Project implementation period	0.25	1.25	2.25	3.25	7.25	8.25	9.25	
Cumulative macroeconomic effect	22	277	407	490	490	490	490	4 138
Discounted SME	21	239	312	335	209	186	165	2 264
Discounted SME with cumulative total	21	260	572	907	1,913	2,099	2 264	12 414
Investment costs	9	3	0	0	0	0	0	12
Operating costs	0	77	111	130	130	130	130	1,099
Indirect costs	19	172	236	278	278	278	278	2 370
Total economic costs:	28	252	347	408	408	408	408	3 480
Discounted economic costs:	27	218	266	278	174	154	137	1,917
Total discounted economic costs with cumulative total:	27	245	511	789	1 626	1,780	1,917	10,641

Source: Economic Model, Sheet G

Below is the free cash flow statement from which the net present value and internal rate of return are calculated. The total amount of discounted free cash flow is 105,504 thousand tenge. The sum of the net discounted cash flow, including discounted investments, is NPV.

Table 4. Free cash flow report, thousand tenge

Free Cash Flow (FCF)	2022	2023	2024	2025	2026	2032
	0.2	1.2	2.2	3.2	4.2	10.2
Cash received from operating activities	0	5 885	21,067	32,931	32,931	32,931
Not discounted FSD	0	5 885	21,067	32,931	32,931	32,931
Discounted FCF	0	4,772	14,276	18,646	15 580	5 303
Not discounted investment	9,000	3,000				0
Discounted Investments	9,000	3,000	0	0	0	0
Net discounted cash flow	-9 000	1,772	14,276	18,646	15 580	5 303

Source: Financial model sheet J

Table 5 shows profitability indicators for 2023, 2027 and 2031. As can be seen from the table, these indicators demonstrate the economic efficiency of the project. Analysis of the dynamics of changes in profitability indicators allows us to identify a positive trend in the enterprise's activities.

Table 5. Profitability indicators

Index	Value in 2023	Value in 2027	Value in 2031	Description
Gross profit margin	23 %	29 %	29 %	Demonstrates the company's gross profitability - the ratio of gross income to gross revenue.
Operating profit margin	4 %	18 %	18 %	Demonstrates the company's operating profitability - the ratio of operating income to gross revenue.
Net profit margin before tax	4 %	18 %	18 %	Demonstrates the company's net profitability before tax expenses - the ratio of net income before tax to gross revenue.
Net profit margin	4 %	18 %	18 %	Demonstrates the company's net profitability - the ratio of net income to gross revenue.

Source: Financial model sheet B

Conclusions

Analysis of the indicators of this project allows us to conclude that with the projected sales volumes, capital investments, current market prices and production costs, the project is reliable and profitable. In general, the successful implementation of this project creates favorable prospects for strengthening the company's position in the market in terms of key indicators, obtaining and further increasing the volume of net profit.

The conducted marketing analysis shows the presence of favorable trends in market development, which will allow the project initiator to implement it in the shortest possible time and achieve the planned indicators of financial and economic activity.

The financial calculations carried out for the project and the analysis of the obtained values of indicators of the commercial efficiency of investments for the project allow us to characterize the project as profitable, with a moderate level of risk, high profitability of current activities and a moderate payback period.

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