JEL Classification: D8; D9; M21

UDC 338.24:658.5

DOI: 10.30857/2415-3206.2018.1.9

INFORMATION SUPPORT FOR ENTERPRISE BUSINESS PROCESS DEVELOPMENT MANAGEMENT

O. YERSHOVA[1]
[1] *Kharkiv Petro Vasylenko National Technical University of Agriculture, Ukraine*.

Introduction. Contemporary market realia urge companies towards a transition from functional to process-based management, with processes as the key object of control. Effective business process management enables organizations to reduce costs and increase profitability. In case the management vector is shifted towards a company's business process development, that involves constant monitoring and optimization, it will also contribute to gaining long-term sustainable competitive advantage. Since modern business environment is intrinsically inseparable from scientific information and intellectual attainments and their implementation results (information technology), management of business process development must be supplemented by powerful information support.

The research objective is to provide deeper insights into conceptual framework and structural components of the information support system to facilitate enterprise business process development management as well as to identify the key factors to be considered when designing information software.

Research methods. The following methods were used within the current study: comparison, systematic approach, analysis, modeling, synthesis and analytical framework.

Findings. Modern approaches to building information support framework for an enterprise as a whole. The importance to provide a description of business processes is argued to design an effective information support system for business processes and their development management mechanism. An author's original model of information support structure for business process management has been suggested.

Conclusions. Complete and accurate information support for business processes is critical to ensure their effective operation. The information support for ensuring business process development management mechanism encompasses the formation and subsequent functioning of the overall system which includes information resources, information technology, software, and corresponding personnel, with following up further division by information support subsystems for providing in-depth analysis and ease of convenience, i.e. the information platform of the of business process development management mechanism.

Keywords: business process; the mechanism of enterprise business process development management; information technologies; information support system for business process; information platform.

JEL Classification: D8; D9; M21

УДК 338.24:658.5

DOI: 10.30857/2415-3206.2018.1.9

ІНФОРМАЦІЙНЕ ЗАБЕЗПЕЧЕННЯ МЕХАНІЗМУ УПРАВЛІННЯ РОЗВИТКОМ БІЗНЕС-ПРОЦЕСІВ ПІДПРИЄМСТВ

О. ЄРШОВА [1]

[1] *Харківський національний технічний університет сільського господарства імені Петра Василенка, Україна*

Вступ. Сучасні ринкові умови диктують підприємствам перехід від функціонального менеджменту до процесного, за яким ключовим об'єктом управління виступають процеси. Ефективне управління бізнес-процесами дає можливість організації скоротити власні витрати та збільшити прибутковість. Коли ж вектор управління зміщено на розвиток бізнес-процесів фірми, що передбачає їх постійний моніторинг і оптимізацію, то – ще й здобути та втримати довгострокові конкурентні переваги. Оскільки сучасне бізнес-середовище практично невід'ємне від наукових інформаційно-інтелектуальних здобутків та результатів їх впровадження (інформаційних технологій), управління розвитком бізнес-процесів має підкріплюватися потужним інформаційним забезпеченням.

Мета дослідження полягає у виокремленні концептуальних засад та складових інформаційного забезпечення управління розвитком бізнес-процесів підприємства та визначенні основоположних факторів, що враховуються при його розробці.

Методи дослідження. В процесі дослідження були використані такі методи: порівняння, системного підходу, аналізу, моделювання, узагальнення, аналітичний метод.

Результати. Досліджено сучасні підходи до формування інформаційного забезпечення підприємства в цілому. Виокремлено важливість опису бізнес-процесів задля раціональної побудови інформаційного забезпечення бізнес-процесів та механізму управління їх розвитком. Запропоноване власне бачення моделі структури інформаційного забезпечення менеджменту бізнес-процесів.

Висновки. Повне та достовірне інформаційне забезпечення бізнес-процесів є неодмінною умовою нормального функціонування останніх. Інформаційне забезпечення механізму управління розвитком бізнес-процесів представлене формуванням й подальшим функціонуванням загальної системи, яка включає в себе інформаційні ресурси, інформаційні технології, програмне забезпечення та відповідальний за її роботу персонал, і в межах якої можна виокремлювати для більш детального аналізу і зручності менеджменту підсистеми інформаційної підтримки – інформаційні платформи механізму управління розвитком бізнес-процесів.

Ключові слова: бізнес-процес; механізм управління бізнес-процесами підприємства; інформаційні технології; система інформаційного забезпечення бізнес-процесів; інформаційна платформа.

Problem statement. Modern challenges in the context of an oversaturated marketplace with excess supply over demand, instability and crisis phenomena in the economy permanently urge companies to search for new ways to retain and strengthen their position in the market. From this perspective, business process management has become of paramount importance and a priority in company management. Building an effective system of organization's business processes is a key success factor for its profitable operation.

Business process (BP) is a set of various activity types that employs one or more input resources and as an output develops a new product that has value to a customer [18, p. 89]; a system of interrelated and interacting patterns and activities, the ultimate purpose of which is the creation of products / services that have value for internal and external customers [5, p. 18].

However, there is no point to identify business processes unless they are not designed to be a targeted object of control by a company management (top management, heads of structural units, business processes owners). While proper business process management will facilitate and adjust the company activities towards gaining long-term competitive advantages and therefore capturing greater market share and enhanced profitability. Business process management (BPM) involves the development and clear identification of the key conceptual provisions, principles, factors, functions, methodological aspects and techniques, i.e. building a mechanism for an enterprise business process management.

The interpretation of a management mechanism concept is quite extensive, however, we share V.A. Kutsenko's opinion that views management mechanism as an optimal set of managerial forms, structures, methods, tools and features that might contribute to targeted operational regulation of activities in the areas of performance management to ensure the compliance of the company actual status with the initial parameters set [9, pp. 42–43]. Given the specifics of a particular company, each organization should develop its own mechanism for managing business processes.

Evidence-based practice suggests that managing business processes alone has currently ceased to be sufficient any more, thus driving the need for *business process development management* (BPDM), which is to search and make efforts to enhance the existing BP through the use of modern information technology and the company investment potential. The BPDM mechanism assumes building an adequate ***information support framework for an enterprise and its business process management*** to ensure relevant interaction between information-in-itself, information flows, information resources, external and internal information environments and respective management decisions to enhance the capacity of managers (company business units) to process the data obtained along with providing a range of vector-mode opportunities to adjust (and

sometimes radically change / eliminate) a particular business process within the shortest time possible.

Recent research analysis and unresolved issues. The issues of information support for corporate strategic management processes and strategic sustainability have been explored by A.I. Maslak [12] and Z.R. Mandrazhy [11]. Some aspects of managerial decision making at an enterprise in the context of information support were discussed in the works of A.M. Oleinichenko [13] and T.O. Konovalikhina [7]. Specifically, the research studies by L.H. Lipych, L.O. Yushchyshyna [10], O.V. Pysarchuk, I.V. Nemynushcha [14] were more focused on ensuring information support for managing company business processes (in particular, the issues of BP automation were discussed), B.M. Andriienko [2], H.A. Batkovets, N.O. Zaiats [3] set their research priority in innovative business processes. Such scholars as A.M. Soroka [16], T.V. Bochulya [6] and H.Yu. Bibikin [4] provided further insights into providing information support for company management through the implementation of information technologies and designing information components of management process (in particular, from the perspective of information organization and building information capital).

Despite a vast range of research in the area of enterprise BPM and their information support, in the context of increased competition and consumer markets contraction or even decline, the issues of delivering effective information support for business process development management yet remain unresolved. The contemporary realia suggest a growing need for a shift towards a direct control over business process development against BPM. The mechanism of business process development management (BPDM) involves elaboration of approaches, principles and key instruments in building modern information support for BPDM, since the lack of the latter slows down significantly the pace of company development as well as affects the speed, quality and methods of responding to external market challenges.

The research objective is to construct a conceptual framework and identify the structural components of the information support system for managing the enterprise business process development and reveal the key factors that must be considered when designing information software.

Key research findings. The mechanism of enterprise business process development management (MBPDM) implies a clearly defined set of interrelated elements: principles, functions, methods and business process management techniques. To ensure its further effective performance and operation the need to create a powerful company information support system is paramount.

Hence, according to V.I. Konoplytskyi [8], information support can be viewed as the creation of information environment for the system functioning,

providing all necessary information data, integrating search engines into the system, along with providing tools for information retrieval, storage, accumulation, transfer, processing and data bank arrangement. Apart from the above, well established information support is also critical for building effective automated control systems (ACS).

The structure of enterprise BPM information support is presented Fig. 1. From this perspective, the following observations should be noted.

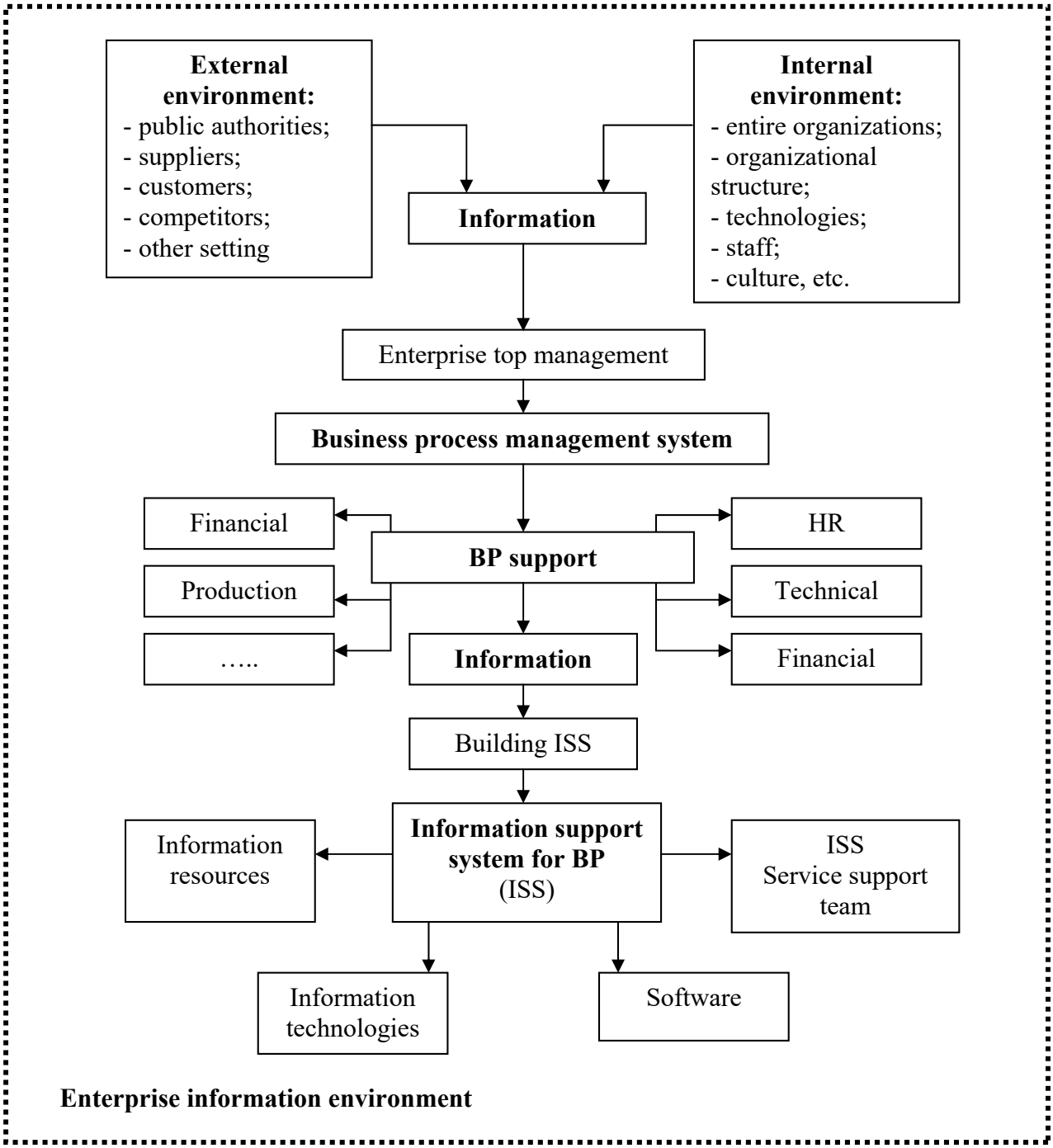

Figure 1. **Information support for enterprise business processes**

Firstly, the creation of information support system (ISS) for business process management is hardly possible without the company business process management system as such. If the company BP have not been identified or partially identified (some of the business processes are described, some are not), eventually there is nothing to provide the support for. In this case, it is more likely to focus on the information support of organization's structural units or divisions rather than on business processes, which is consistent with the functional-based approach to management, not the process-driven one, our immediate concern within the current research agenda.

Secondly, the information support for business processes is not the only type of business process management, since an enterprise requires financial assets and instruments (financial aid for BP), the availability of skilled personnel: managers, professionals, service support team (HR support for BP), production capacity, materials, raw materials, equipment (production support), etc. The above types of support are interrelated, however none of them dispense with processing, recording and analysis of information flows and hence, with information system. Thus, we can argue that each type of enterprise business processes support one way or another lies within the scope of organization's information environment framework.

The stages in building the information support system for BP include:

1) building a BP management system (unless it has not been created), providing the description of company business processes along with mapping the needs and problems related to their information support;

2) making a management decision by top executives as to the intention to create an ISS;

3) assigning responsibility for ISS creation;

4) information flows analysis to accompany business processes [17, p. 136];

5) cost-benefit analysis for ISS design and implementation.

The information system for business processes support involves information resources (all data available, information for decision making), information technology (a set of tools (including technical ones) and instruments for retrieving, processing and releasing of output information), software (a range of software for information processing and programming documents necessary for programs operation [1] as well as qualified staff taking immediate responsibility for the ISS creation, operation and upgrade (system administrators, IT professionals, other service support personnel).

Information sources are basically represented by normative references (normative legal acts, laws, regulations, etc), planning-based information (business plans, projects), factographic information (accounting records from

source accounting documents and supplementary records (inspection findings, audit reports, contracts)) [15, p. 195].

Information technologies are designed to create automated control systems, such as MRP (for material requirements planning), ERP (for *enterprise resource and external relationship planning management*), CRM (for customer relationship management), DSS (for decision support). Such products as 1C, LIGA:LAW, M.E.Doc have become widely used software in Ukraine.

In recent years mobile gadgets and applications have greatly enriched the range of modern information support tools. The formerly common communication channels like telephony and e-mail have been gradually replaced by other forms of transmitting data, in particular through the use of messengers to transfer latest information from one business process owner to another, internally within an organization or between different companies (the most popular messengers in Ukraine are Messenger, Viber and WhatsApp). This significantly reduces the transmission time, thus accelerating all other processes.

However, no information system can operate without specialists in data collection, processing and further transfer of generalized data in different formats like reports, statements, references, etc. Without adequate qualified personnel only ACS will not provide any benefit. Apart from automated control systems, the availability of skilled personnel with relevant competencies is critical.

The BPDM mechanism is operated and managed within the general framework of enterprise business process information support system. The development of a management object involves its qualitative change towards enhancement, further upgrade and efficiency increase. Hence, from the general BP ISS perspective, a special subsystem of information support could be identified, i.e. ***an information platform***, the purpose of which is to ensure immediate support of all management processes related to the business process development mechanism.

The information platform within BPDM mechanism has to be consistent with the overall BP ISS and should include:

a) specific information technology represented by a relevant ACS that is responsible for running a particular BP (e.g., an accounting business process might employ 1C or ART-REPORT support systems, to ensure legal support processes the LIGA:LAW system could be used);

b) information capital – all systematic data available on the business process under study, which lay the foundation for the relevant ACS;

c) an information retrieval and analysis specialist (specialists) focused on the specific BP (traditionally, this is the owner of the BP which is expected to improve).

It should be noted that in the context of business process management we seek to focus on enhancing a particular or adjacent business processes rather than on the overall business process management system. Apparently, the concept of an *i-th* business process (any within the BP system under study, for its further correction) is always more narrow against the general system of information support for business processes and provides the analysis to ensure information support to a specific business process along with suggesting management solutions to facilitate its further improvement.

While building an information platform for BPDM mechanism the following factors should be considered:

- the information must be accurate, complete and be intrinsically related to the *i-th* business process, or at least to the adjacent business processes;
- the information platform must be consistent with the overall system of business processes information support;
- the ACS must ensure regular software updates to prevent incorrect data and settings;
- the owner of a business process, i.e. the person in charge of BP operation must be perfectly aware of all the components of the *i-th* business process;
- in case the general information support system is developed by top management at strategic level, the design of an information platform for managing a particular BP development should be commissioned to an IT specialist with mandatory engagement of the BP owner who is responsible for this particular information support subsystem.

Conclusions. Information support for enterprise business processes is essential for effective functioning of the latter. Lack of adequate information support to the entire BP management system, especially in the contemporary context of rapid development of information and intellectual environment, makes effective management decision making virtually impossible.

The information support for BPDM mechanism encompasses the formation and subsequent functioning of the overall system which includes information resources, information technology, software, and corresponding personnel, with following up further division by information support subsystems for providing in-depth analysis and ease of convenience, i.e. the information platform of the of business process development management mechanism. It should also be noted that in modern realia any type of information support for BPDM mechanism has to respond to fast-changing market environment, and therefore should be adaptive, holistic, coherent and updated regularly. Apart from the above, it must bind upon the organization’s structural and sectoral characteristics.

References

1. DSTU 2938-94. Systemy obroblennia informatsii. Osnovni poniattia. Terminy ta vyznachennia (ISO 2382-1:1993, NEQ) [DSTU 2938-94. Information processing systems. Basic concepts. Terms and definitions (ISO 2382-1: 1993, NEQ)]. Retrieved from: http://online.budstandart.com/ua/catalog/doc-page.html [in Ukrainian].
2. Andriienko, V.M. (2011). Kontseptsiia upravlinnia informatsiinym zabezpechenniam pidpryiemstva na osnovi innovatsiinykh biznes-protsesiv [Concept of management of information provision of the enterprise on the basis of innovative business processes]. Ekonomichnyi visnyk Natsionalnoho hirnychoho universytetu [Economic Bulletin of the National Mining University], No. 4, Pp. 108–113 [in Ukrainian].
3. Batkovets, H.A. (2013). Upravlinnia biznes-protsesamy torhovelnykh pidpryiemstv na osnovi formuvannia efektyvnoho informatsiinoho polia [Management of business processes of trading enterprises on the basis of formation of an effective information field]. Innovatsiina ekonomika. Vseukrainskyi naukovo-vyrobnychyi zhurnal [Innovative economy. All-Ukrainian Scientific and Production Magazine], No. 5, Pp. 309–312 [in Ukrainian].
4. Bibik, H.Yu. (2013). Informatsiini tekhnolohii v upravlinni pidpryiemstvamy [Information Technologies in the Management of Enterprises]. Visnyk Dnipropetrovskoho universytetu. Seriia: Ekonomika [Bulletin of the University of Dnipropetrovsk. Series: Economics], No. 7 (2), Vol. 21, Pp. 69–75 [in Ukrainian].
5. Binner, Kh.F. (2010). Upravlenie organizatciiami i proizvodstvom: ot funktcionalnogo menedzhmenta k protcessnomu [Management of organizations and production: from functional management to process]. Translation from German. Moscow: Alpina Pablisherz. 282 p. [in Russian].
6. Bochulia, T.V. (2013). Orhanizatsiia informatsiinoi skladovoi protsesu upravlinnia v ekonomichnomu prostori [Organization of the information component of the management process in the economic space]. Yevropeiskyi

Література

1. ДСТУ 2938-94. Системи оброблення інформації. Основні поняття. Терміни та визначення (ISO 2382-1:1993, NEQ) [Електронний ресурс]. – Режим доступу: http://online.budstandart.com/ua/catalog/doc-page.html.

2. Андрієнко В. М. Концепція управління інформаційним забезпеченням підприємства на основі інноваційних бізнес-процесів / В. М. Андрієнко // Економічний вісник Національного гірничого університету. – 2011. – № 4. – С. 108–113.

3. Батьковець Г. А. Управління бізнес-процесами торговельних підприємств на основі формування ефективного інформаційного поля / Г. А. Батьковець, Н. О. Заяць // Інноваційна економіка. Всеукраїнський науково-виробничий журнал. – 2013. – № 5. – С. 309–312.

4. Бібік Г. Ю. Інформаційні технології в управлінні підприємствами / Г. Ю. Бібік // Вісник Дніпропетровського університету. Серія: Економіка. – 2013. – № 7 (2). – Т. 21. – С. 69–75.

5. Биннер Х. Ф. Управление организациями и производством: от функционального менеджмента к процессному / Х. Ф. Биннер; пер. с нем. – М.: Альпина Бизнес Букс (Альпина Паблишерз), 2009(2010). – 282 с. – (Серия «Производственный менеджмент»).
6. Бочуля Т. В. Організація інформаційної складової процесу управління в економічному просторі / Т. В. Бочуля // Європейський вектор економічного розвитку. – 2013. – № 2.

vektor ekonomichnoho rozvytku [European vector of economic development], No. 2, Pp. 32–43 [in Ukrainian].

7. Konovalikhina, T.O. (2010). Informatsiine zabezpechennia pryiniattia upravlinskykh rishen u restorannomu biznesi [Informational support for making managerial decisions in the restaurant business]. Visnyk Chernivetskoho torhovelno-ekonomichnoho instytutu [Visnyk of Chernivtsi Trade and Economic Institute], Vol. 3, Pp. 143–147 [in Ukrainian].

8. Konoplitckii, V.I. (1996). Tolkovyi slovar ekonomicheskikh terminov [Explanatory dictionary of economic terms]. Moscow: Alfaterpress. 448 p. [in Russian].

9. Kutsenko, A.V. (2008). Orhanizatsiino-ekonomichnyi mekhanizm upravlinnia efektyvnistiu diialnosti pidpryiemstv spozhyvchoi kooperatsii Ukrainy: monohrafiia [Organizational and Economic Mechanism for Managing the Efficiency of the Enterprises of Consumer Cooperatives in Ukraine: A Monograph]. Poltava: RVV PUSKU. 205 p. [in Ukrainian].

10. Lipych, L.H., Yushchyshyna, L.O. (2010). Biznes-protsesy ta yikh informatsiine zabezpechennia: matematychni metody, modeli ta informatsiini tekhnolohii v ekonomitsi [Business processes and their informational support: mathematical methods, models and information technologies in economics]. Aktualni problemy ekonomiky [Actual Problems of Economics], No. 10 (112), Pp. 202–206 [in Ukrainian].

11. Mandrazhy, Z.R. (2015). Informatsiine zabezpechennia stratehichnoho upravlinnia pidpryiemstvom [Information provision of strategic enterprise management]. Ekonomichnyi analiz: zb. nauk. prats [Economic analysis: Sb. sciences works]. Ternopil: Vydavnycho-polihrafichnyi tsentr Ternopil National Economic University «Ekonomichna dumka», Vol. 20, Pp. 251–256 [in Ukrainian].

12. Maslak, O.I., Korobkova, I.V. (2015). Informatsiine zabezpechennia protsesu upravlinnia stratehichnoiu stiikistiu pidpryiemstva [Information provision of the process of strategic stability management of the enterprise]. Investytsii: praktyka ta dosvid [Investments: practice and

– C. 32–43.

7. Коноваліхіна Т. О. Інформаційне забезпечення прийняття управлінських рішень у ресторанному бізнесі / Т. О. Коноваліхіна // Вісник Чернівецького торговельно-економічного інституту. – 2010. – Вип. 3. – С. 143–147.

8. Коноплицкий В. И. Толковый словарь экономических терминов / В. И. Коноплицкий. – М.: Альфатерпресс, 1996. – 448 с.

9. Куценко А. В. Організаційно-економічний механізм управління ефективністю діяльності підприємств споживчої кооперації України: монографія / А. В. Куценко. – Полтава: РВВ ПУСКУ, 2008. – 205 с.

10. Ліпич Л. Г. Бізнес-процеси та їх інформаційне забезпечення: математичні методи, моделі та інформаційні технології в економіці / Л. Г. Ліпич, Л. О. Ющишина // Актуальні проблеми економіки. – 2010. – № 10 (112). – С. 202–206.

11. Мандражи З. Р. Інформаційне забезпечення стратегічного управління підприємством / З. Р. Мандражи // Економічний аналіз: зб. наук. праць / Тернопільський національний економічний університет; редкол.: В. А. Дерій (голов. ред.) та ін. – Тернопіль: Вид.-полігр. центр Тернопільського національного економічного університету «Економічна думка», 2015. – Т. 20. – С. 251–256.

12. Маслак О. І. Інформаційне забезпечення процесу управління стратегічною стійкістю підприємства / О. І. Маслак, І. В. Коробкова // Інвестиції: практика та досвід. – 2015. – № 4. – С. 23–25.

experience], No. 4, Pp. 23–25 [in Ukrainian].
13. Oliinychenko, O.M. (2010). Informatsiine zabezpechennia yak vazhlyva skladova protsesu pidhotovky, pryiniattia ta kontroliu realizatsii upravlinskoho rishennia na pidpryiemstvi [Information provision as an important component of the process of preparing, adopting and controlling the implementation of management decisions at the enterprise]. Ekonomika kharchovoi promyslovosti [Food industry], No. 3, Pp. 38–42 [in Ukrainian].
14. Pysarchuk, O.V., Nemynushcha, I.V. (2012). Zabezpechennia konkurentnykh perevah za rakhunok avtomatyzatsii biznes-protsesiv pidpryiemstva [Ensuring competitive advantages at the expense of automation of business processes of the enterprise]. Naukovi pratsi Kirovohradskoho natsionalnoho tekhnichnoho universytetu. Ekonomichni nauky [Scientific papers of Kirovohrad national technical university. Economic Sciences], Vol. 22 (1), Pp. 63–68 [in Ukrainian].
15. Simenko, I.V., Kosova, T.D. et al. (2013). Analiz hospodarskoi diialnosti: navch. posibnyk [Business analysis: Teaching. Manual]. Kyiv: Center for Educational Literature. 384 p. [in Ukrainian].
16. Soroka, A.M. (2018). Informatsiini tekhnolohii v upravlinnia biznes-protsesamy na pidpryiemstvakh [Information technology in the management of business processes at enterprises]. Ekonomika. Menedzhment. Biznes [Economy. Management. Business], No. 2 (24). Retrieved from: http://journals.dut.edu.ua/index.php/emb/article/view/1887 [in Ukrainian].
17. Tron, S.P. (2016). Analiz informatsiinoho zabezpechennia torhovelnykh pidpryiemstv [Analysis of information support of trading enterprises]. Naukovyi visnyk Uzhhorodskoho natsionalnoho universytetu. Seriia: Mizhnarodni ekonomichni vidnosyny ta svitove hospodarstvo [Scientific herald of Uzhgorod National University. Series: International Economic Relations and World Economy]. – 2016. – Vol. 7 (3). – S. 135–138 [in Ukrainian].
18. Khammer, M., Champi, D. (2000). Reinzhiniring korporatcii: manifest revoliutcii v biznese [Reengineering of the corporation: manifesto of the revolution in business]. St. Petersburg: Publishing house of SPbGUP. 332 p. [in Russian].

13. Олійниченко О. М. Інформаційне забезпечення як важлива складова процесу підготовки, прийняття та контролю реалізації управлінського рішення на підприємстві / О. М. Олійниченко // Економіка харчової промисловості. – 2010. – № 3. – С. 38–42.
14. Писарчук О. В. Забезпечення конкурентних переваг за рахунок автоматизації бізнес-процесів підприємства / О. В. Писарчук, І. В. Неминуща // Наукові праці Кіровоградського національного технічного університету. Економічні науки. – 2012. – Вип. 22 (1). – С. 63–68.
15. Сіменко І. В. Аналіз господарської діяльності: навч. посібник / за заг. ред. І. В. Сіменко, Т. Д. Косової. – К.: Центр учбової літератури, 2013. – 384 с.
16. Сорока А. М. Інформаційні технології в управління бізнес-процесами на підприємствах [Електронний ресурс] / А. М. Сорока // Економіка. Менеджмент. Бізнес. – 2018. – № 2 (24). – Режим доступу: http://journals.dut.edu.ua/index.php/emb/article/view/1887.
17. Тронь С. П. Аналіз інформаційного забезпечення торговельних підприємств / С. П. Тронь // Науковий вісник Ужгородського національного університету. Серія: Міжнародні економічні відносини та світове господарство. – 2016. – Вип. 7 (3). – С. 135–138.
18. Хаммер М. Реинжиниринг корпорации: манифест революции в бизнесе / М. Хаммер, Д. Чампи. – СПб.: Изд-во СПбГУП, 2000. – 332 с.