

Internal Assessment of Rivers State University in Achieving Threshold, Distinctive, and Dynamic Educational and Business Capabilities

Amadi Alolote Ibim^{1,*}, Amieye Dapiriteye Ibim²

Abstract

Scanning an organization's internal environment is necessary to identify strengths (internal capabilities/competencies) to be built on; weaknesses to be overcome; and potential external linkages, relevant to support. An internal assessment of Rivers State University was carried out via a resource audit, which entailed a survey/evaluation of available resources/competencies as well as deficiencies as a business entity. The internal assessment shows that Rivers State University possesses several core threshold resources and competencies. There are several functional building infrastructures, unique Science and Technology programs/research institutes/partnerships, extensive land coverage, and ICT competence. There are also several human resource competencies, which reinforce core threshold capabilities. This includes robust staff-facing activities with a strong emphasis placed on academic staff enhancement and highly regulated student-facing activities. This is further complemented by a renewed drive towards corporate entrepreneurship, with employability and research initiatives drawn in partnership with key industries in the region. RSU's ability to proactively exploit external linkages and political links for internal support confers distinctive capabilities. RSU must however continue to exercise forward-thinking relevant to sustain such distinctive capabilities which should be underpinned by demand-driven institutional and organic responses that are in sync with its immediate environment.

Keywords: Distinctive capabilities, dynamic capabilities, internal assessment, strengths, threshold capabilities, weaknesses

INTRODUCTION

Internal assessment is typically carried out using a variety of analytical tools, targeted at identifying an organization's key strengths and weaknesses, relative to industry competitors, and their impact on achieving threshold, distinctive and dynamic capabilities [1]. This is useful for understanding and identifying an organization's strategic position and stance relative to its micro/macro-external environment [2]. Ensuring a unique strategic position directly correlates with an organization's distinctive and dynamic capabilities. As such, to evaluate an organization's strategic position, a holistic review of its internal posture is required (Ansoff and McDonnell, 2018) [3]. An analysis of threshold, distinctive and dynamic capabilities internal to RSU is carried out, via the adoption of the prescriptive view of strategic management.

*Author for Correspondence

Amadi Alolote Ibim

E-mail: amadi.alolote@yahoo.com

¹Lecturer, Department of Quantity Surveying, Rivers State University, Nigeria

²Lecturer, Department of Educational Management, Ignatius Ajuru University of Education, Nigeria

Received Date: March 10, 2023

Accepted Date: March 24, 2023

Published Date: April 12, 2023

Citation: Amadi Alolote Ibim, Amieye Dapiriteye Ibim. Internal Assessment of Rivers State University in Achieving Threshold, Distinctive, and Dynamic Educational and Business Capabilities. NOLEGEIN Journal of Organizational Behavior Management. 2022; 5(2): 20–27p.

which subscribes to the school of thought that, despite varying degrees of uncertainties, the operating environment of a business can be reasonably and usefully analysed/predicted to inform a future course of action [4, 5].

PHYSICAL RESOURCES AND COMPETENCIES

As Table 1 shows, RSU possesses several core resources and competencies. Typically, there are several functional building infrastructures, unique ST programs/research institutes/partnerships, and extensive land coverage, which is also centrally accessible [6].

Table 1. Physical resource capabilities/deficiencies.

Strengths	Weaknesses
• <i>Functional building infrastructure for non-ST programs:</i> As a result of the current high level of political interest in RSU, a few of the existing faculties and institutes now have state-of-the-art complexes and functional building infrastructure and equipment. University spaces and auditoriums within these complexes are leased out for external events, to further strengthen the internal revenue base. This suggests a level of adequacy and optimal exploitation of these threshold capabilities. • <i>ICT competence:</i> There is a large ultra-modern ICT center, which is the core of RSU's IT-oriented reconfiguration. Its level of ITC reconfiguration is currently beyond other public universities in the region, which confers distinctive capabilities. It has now fully developed an advanced and functional Learning Management System (www.lms.rsu.com), whilst other universities in the region still rely on the use of Zoom, WhatsApp, and Google Classroom to deliver online lectures. The ICT center set up in partnership with Cinfores (its IT consultant) is also used for running short certificate IT programs. New Hardware and software are also due for installation. • <i>Wide diversity of academic programs:</i> RSU previously ran 37 programs at the undergraduate (UG) level and 86 at the postgraduate (PG) level. The available academic programs were mostly ST and were insufficient to meet changing societal demands towards non-ST programs, implying a level of strategic drift. This further posed a competitive disadvantage, because Uniport, its closest rival, has a wider range (80 UG and over 200 PG) of highly sought ST and non-ST academic programs (https://www.uniport.edu.ng). Currently, a number of new academic programmes have been set up. • <i>Unique ST programs, research institutes, and partnerships:</i> RSU has several unique and highly subscribed ST undergraduate and postgraduate programs with NUC and Professional Accreditation as well as research institutes/partnerships. Typically, it is the only University in the state offering a marine engineering degree. RSU also has five Institutes and six centers. • <i>Extensive land coverage:</i> There is extensive land coverage, which provides flexibility for the future expansion of programs, necessary for achieving dynamic capability. • <i>Central location and easy accessibility:</i> Its central location and easy accessibility within the main town confer an added unique advantage and distinctive capability, particularly in relation to its immediate competitors: Uniport (https://www.uniport.edu.ng) and UOE (https://iauo.edu.ng) which are located at the city periphery. This is particularly valuable for attracting students at the postgraduate level, who mostly reside off campus and commute from their places of work.	• <i>Inadequate infrastructure, facilities, and equipment:</i> Several of the older science and technology departments which founded the University lack adequate infrastructure, and where equipment is available, they are mostly obsolete. Although the University possesses a large functional University Library, there is a limited physical subscription for books. Internet access at the faculty and departmental levels is limited. The level of subscription to foreign journals is currently unsatisfactory. There are also security installation and equipment shortages. This depicts several core threshold deficiencies. • <i>Under-subscribed/low local demand for some ST programs:</i> There are a number of under-subscribed undergraduate and postgraduate programs across several core ST departments due to low local perception/demand. This threatens their long-term viability and existence. This implies sub-optimal utilization of available physical resources or a need for portfolio downsizing.
NB: Related evidence can be found at https://www.rsu.edu.ng	

RSU further possesses ICT competence. Its level of ITC reconfiguration is currently beyond other public universities in the region, which confers distinctive capabilities [5]. It has now fully developed an advanced/functional Learning Management System, whilst other universities in the region still rely on the use of Zoom, WhatsApp, and Google Classroom to deliver online lectures [9]. There is a large ultra-modern ICT center, which is the core of RSU's IT-oriented reconfiguration. Its level of ITC reconfiguration is currently beyond other public universities in the region, which confers distinctive capabilities. A number of the existing faculties and institutes now have state-of-the-art complexes and functional building infrastructure and equipment [5]. University spaces and auditoriums are leased out for external events while its ICT center is also used for running short certificate programs. This suggests a level of adequacy and optimal exploitation of threshold capabilities. RSU currently has a wide diversity of academic programs. RSU previously ran 37 programs at the undergraduate (UG) level and 86 at the postgraduate (PG) level. The available academic programs were mostly ST and were insufficient to meet changing societal demands towards non-ST programs, implying a level of strategic drift. This further posed a competitive disadvantage, because Uniport, its closest rival, has a wider range (80 UG and over 200 PG) of highly sought ST and non-ST academic programs [8]. Currently, a number of new academic programs have been set up. RSU has several unique and highly subscribed ST undergraduate programs with NUC and Professional Accreditation as well as research institutes/partnerships. RSU also has several Institutes and centers. There is extensive land coverage, which provides flexibility for the future expansion of programs, necessary for achieving dynamic capability. Furthermore, RSU has a central location with easy accessibility. Its central location and easy accessibility within the main town confer an added unique advantage and distinctive capability, particularly in relation to its immediate competitors which are located at the city periphery. This is particularly valuable for attracting students at the postgraduate level, who mostly reside off campus and commute from their places of work [10].

However, there are also several core deficiencies in threshold capability, particularly in infrastructure which detracts from its overall ability to better compete within the wider HE sector. The number of duplicated/redundant centers/institutes implies a significant sub-optimal utilization of physical and scarce human resources, who can be redeployed to shore up deficiencies in other areas. Several of the older science and technology departments which founded the University lack adequate infrastructure, and where equipment is available, they are mostly obsolete. Although the University possesses a large functional University Library, there is a limited physical subscription to books. Internet access at the faculty and departmental levels is limited. The level of subscription to top-ranking foreign journals is currently unsatisfactory. There are also security installation and equipment shortages. This depicts several core threshold deficiencies. There are some under-subscribed undergraduate and postgraduate programs across several core ST departments due to low local perception/demand. This threatens their long-term financial viability and existence if RSU is to be run as an independent business entity. This implies sub-optimal utilization of available physical resources or a need for portfolio downsizing. There are also indications of limited dynamic capability. Academic curricula were mostly localized/ST-centered, some of which are under-subscribed. This was a prominent weakness for RSU. The level of program diversity was insufficient to meet changing societal preferences towards non-ST programs, implying a level of strategic drift. However, currently, new programs are being set up [11].

HUMAN RESOURCES AND COMPETENCIES

The most vital assets of a higher education institution are the individual and collective capabilities of its staff. As Table 2 shows, there are several human resource competencies, which reinforce core threshold capabilities.

Typically, there are employability and research initiatives drawn in partnership with key industries in the region, there are robust staff-facing activities with strong emphasis placed on academic staff enhancement, and highly regulated student-facing activities. RSU's ability to proactively exploit

external linkages and political links for internal support confers distinctive capabilities. This is further complemented by a renewed drive toward corporate entrepreneurship.

Table 2. Human resource capabilities/deficiencies.

Strengths	• <i>Employability and research initiatives:</i> There are a number of employability and research initiatives drawn in partnership with industries in the region. The relatively higher level of industrial activities in the region confers distinctive locational advantages for RSU, relative to other universities outside Rivers state. RSUST has to some extent exploited this advantage, demonstrated by the number of endowed professorial chairs with key industries in the region, set up to encourage research (see Appendix). This unique range of partnerships established over time is difficult for other universities to replicate, by virtue of RSU being the first university of science and technology in Nigeria. This confers some level of distinctive capability for research in science and technology. (https://www.rsu.edu.ng) • <i>Robust staff-facing activities:</i> There is a strong emphasis placed on quality assurance and enhancement of academic staff, who retain the disciplinary base and core competence of the university. The university aggressively competes for TETFUND scholarships and supports staff training at more technologically advanced international institutions of higher learning to facilitate knowledge transfer. Furthermore, the application procedure within the university for TETFUND ensures that such development opportunities reach those who can maximally benefit from them. Rigorous appraisals are carried out to safeguard this core competence. In this respect, appraisal guidelines are regularly updated in line with changing national and international standards of scholarships. This dynamic capability minimizes strategic drift in scholarship and research output, relevant to keep up with the rapidly evolving frontiers of scientific knowledge. This ensures that RSU retains a highly qualified and relevant academic in several disciplines, with established local and international networks. This full-time academic staff is complemented by a large number of part-time technical and professional staff/specialists. In this regard, it maximizes the university's limited internal revenue to supplement government-employed full-time staffing. In this way, RSU demonstrates an ability to create value while minimizing cost. (https://www.rsu.edu.ng) • <i>Highly regulated student-facing activities:</i> Quality of teaching content and assessment criteria is continuously vetted by the Curriculum and instruction (C&I) as well as the Quality Assurance (QA) unit. Considerable emphasis is placed on curriculum and assessment with periodic staff training and briefing, focused on delivering academic content according to plan. New ideas and concepts in curricula are thus subjected to scrutiny. There demonstrates a high level of institutional involvement at the lower levels. This has however proven to be both a strength and a weakness. Strength in the sense that it focuses on compliance and ensures academic content is up to defined standards, making it easier to demonstrate institutional teaching competence to the NUC. It is also a weakness, as it is mostly localized, promotes rigidity and less dynamic adaptability of curriculum content to emerging international trends in the knowledge domain, thereby increasing the risk of curricula obsolescence. Localized curricula/mode of instruction further limits the potential to exploit the international distance learning market. (https://www.rsu.edu.ng) • <i>Proactive exploitation of external linkages:</i> The Advances and Linkage (A&L) center is specifically set up to facilitate the exploitation of external linkages, designed to boost the research competencies and further promote external local and international collaboration. The university has also explored external linkages for internal support, <i>demonstrated</i> by its recent partnerships with HP, Samsung, Intel, Cinfores, and Microsoft to launch a Computer for All Program (CAP) (www.rsu.edu.ng). With this initiative, all students and staff of the university can have access to ICT devices, in the face of the coronavirus pandemic. Recent moves have also been made to provide internet connectivity for all staff and students through the campus-wide WIFI to be deployed in partnership with MTN. (https://www.rsu.edu.ng >highlights) • <i>Political links:</i> Several RSU staff and alumni have been consistently appointed as top political office holders in Rivers State. The current governor of Rivers State is an alumnus of RSU (https://www.rsu.edu.ng). This has fostered internal stability and good relations and high political interest from the state government, relative to its immediate competitors. This feature has on several occasions also been useful in the negotiation for better welfare and infrastructure. (Governor Nyesom Wike Breathes in new life into RSUST: https://elombah.com/governor-nyesom-wike-breathes-new-life-into-rsust/) • <i>Renewed Drive toward corporate entrepreneurship:</i> RSU has demonstrated a renewed drive towards deploying corporate entrepreneurial skills as a pathway to increase internally generated revenue. This is typically evidenced by the recent setting up of the University Guest House; the building of a state-of-the-art University shopping mall and the launching of the university e-mart which provides an avenue for staff and students to carry out online transactions with vendors and service providers registered with the institution. (https://www.rsu.edu.ng >highlights)
-----------	--

Weaknesses	• <i>Constraints in governance and internal decision-making:</i> There is a high level of bureaucracy due to its governance structure. University leadership lacks the powers and flexibility, necessary for fast decision-making at upper levels, which poses a competitive disadvantage for RSU, by limiting its ability to seize opportunities. Active lobbying for government approval is continuously needed which impacts cooperate capabilities, and limits self-sufficiency in decision-making and academic control within RSU. (https://www.rsu.edu.ng) • <i>Staffing shortages:</i> Significant staffing scarcity and shortages existed in most of its core ST disciplines, leading to a Poor Staff/Student ratio and resulting in the existing staff being overworked in these areas. • <i>Lack of competitive advantage to attract highly qualified staff:</i> This is exacerbated by the lack of competitive advantage to attract highly qualified staff, which generally exists in public universities, by virtue of poor remuneration and welfare of staff. As a consequence, RSU is characterized by an aging academic workforce with an inadequate number of younger academic staff in most of the ST programs • <i>Localized and restrictive admission policy:</i> Current admission policy is tilted to prioritize Rivers State indigenes, with limited provision for international students. (https://www.rsu.edu.ng)
	NB: Weaknesses are mostly relative to private/foreign universities

There are a number of employability and research initiatives drawn in partnership with industries in the region. The relatively higher level of industrial activities in the region confers distinctive locational advantages for RSU, relative to other universities outside Rivers state. RSUST has to some extent exploited this advantage, demonstrated by the number of endowed professorial chairs with key industries in the region, set up to encourage research. This unique range of partnerships established over time is difficult for other universities to replicate, by virtue of RSU being the first university of science and technology in Nigeria. This confers some level of distinctive capability for research in science and technology. There is a strong emphasis placed on quality assurance and enhancement of academic staff, who retain the disciplinary base and core competence of the university. The university aggressively competes for TETFUND scholarships and supports staff training at more technologically advanced international institutions of higher learning to facilitate knowledge transfer. Furthermore, the application procedure within the university for TETFUND ensures that such development opportunities reach those who can maximally benefit from them. Rigorous appraisals are carried out to safeguard this core competence. In this respect, appraisal guidelines are regularly updated in line with changing national and international standards of scholarships. This dynamic capability minimizes strategic drift in scholarship and research output, relevant to keep up with the rapidly evolving frontiers of scientific knowledge. This ensures that RSU retains a highly qualified and relevant academic in several disciplines, with established local and international networks. This full-time academic staff is complemented by a large number of part-time technical and professional staff/specialists. In this regard, it maximizes the university's limited internal revenue to supplement government-employed full-time staffing. In this way, RSU demonstrates an ability to create value while minimizing cost.

Quality of teaching content and assessment criteria are continuously vetted by the Curriculum and instruction (C&I) Committee as well as the Quality Assurance (QA) unit. Considerable emphasis is placed on curriculum and assessment with periodic staff training and briefing, focused on delivering academic content according to plan. New ideas and concepts in curricula are thus subjected to scrutiny. There demonstrates a high level of institutional involvement at the lower levels. This has however proven to be both a strength and a weakness. Strength in the sense that it focuses on compliance and ensures academic content is up to defined standards, making it easier to demonstrate institutional teaching competence to the NUC. It is also a weakness, as it is mostly localized, promotes rigidity and less dynamic adaptability of curriculum content to emerging international trends in the knowledge domain, thereby increasing the risk of curricula obsolescence. Localized curricula/mode of instruction further limits the potential to exploit the international distance learning market.

The Advances and Linkage (A&L) center is specifically set up to facilitate the exploitation of external linkages, designed to boost the research competencies and further promote external local and

international collaboration. The university has also explored external linkages for internal support, demonstrated by its recent partnerships with HP, Samsung, Intel, Cinfores, and Microsoft to launch a Computer for All Program (CAP). With this initiative, all students and staff of the university can have access to ICT devices, in the face of the coronavirus pandemic. Recent moves have also been made to provide internet connectivity for all staff and students through the campus-wide WIFI to be deployed in partnership with MTN.

Some RSU staff and alumni have been consistently appointed as top political office holders in Rivers State. The current governor of Rivers State is an alumnus of RSU. This has fostered internal stability and good relations and high political interest from the state government, relative to its immediate competitors. This feature has on several occasions also been useful in the negotiation for better welfare and infrastructure.

RSU has demonstrated a renewed drive towards deploying corporate entrepreneurial skills as a pathway to increase internally generated revenue. This is typically evidenced by the recent setting up of the University Guest House; the building of a state-of-the-art University shopping mall and the launching of the university e-mart which provides an avenue for staff and students to carry out online transactions with vendors and service providers registered with the institution.

However, several weaknesses are intrinsic, the foremost of which are the constraints in governance/internal decision-making and poor staff welfare. This poses a competitive disadvantage for RSU, by limiting its ability to effectively capitalize on opportunities. There is a high level of bureaucracy due to its governance structure. University leadership lacks the powers and flexibility, necessary for fast decision-making at upper levels, which poses a competitive disadvantage for RSU, by limiting its ability to seize opportunities. Active lobbying for government approval is continuously needed which impacts cooperate capabilities, and limits self-sufficiency in decision-making and academic control within RSU. Significant staffing scarcity and shortages exist in most of its core ST disciplines, leading to a Poor Staff/Student ratio and resulting in the existing staff being overworked in these areas. There is a lack of competitive advantage to attract highly qualified staff. This is exacerbated by the lack of competitive advantage to attract highly qualified staff, which generally exists in public universities, by virtue of poor remuneration and the welfare of staff. As a consequence, RSU is characterized by an aging academic workforce with an inadequate number of younger academic staff in most of the ST programs.

INTANGIBLES

This is an amalgam of the range of competencies established from the preceding. RSU, being the first university of ST in Nigeria, has developed a reputation for excellence in ST. This is further facilitated by a unique range of research partnerships established over time, by virtue of its locational advantage (Table 3). As Table 3 shows, RSU possesses a culture of demand-driven institutional and organic responses that are in sync with its immediate environment, in line with its mission statement. This is demonstrated by the setting up of several unique institutes/centers/professorial chairs, with terms of reference centered around the environmental challenges of the Niger Delta. This target-oriented ST-centered focus confers valuable distinctive capability that facilitates industry collaboration, which might be difficult for other universities to imitate.

RSU was ranked 6th out of 113 public Universities in Nigeria based on the 4icu university web ranking. This is primarily facilitated by a visionary and creative nature. RSU has now fully Integrated ICT into its management systems, in line with the objective of effective service delivery with cost reduction, convenience, proper data management, and process re-engineering. Typically, it was the first university in Nigeria to digitize all student academic records, for over 15 years. The forward-thinking and creative nature offers both distinctive and dynamic capabilities that create value. This

Table 3. Intangibles.

Strengths	Weaknesses
• <i>ST excellence and a culture of demand-driven institutional responses:</i> RSU possesses a culture of demand-driven institutional and organic responses that are in sync with its immediate environment. This is demonstrated by the setting up of several unique institutes, centers, and professorial chairs, with terms of reference centered around the environmental challenges of the Niger Delta. This is a valuable dynamic capability that facilitates industry collaboration. • <i>Forward thinking and creativity:</i> RSU was ranked 6th out of 113 public Universities in Nigeria based on the 4icu university web ranking (https://www.4icu.org/reviews/3457.htm). This is primarily facilitated by a visionary and creative nature. RSU has now fully Integrated ICT into its management systems, in line with the objective of effective service delivery with cost reduction, convenience, proper data management, and process re-engineering (https://www.rsu.edu.ng >highlights). Typically, it was the first university in Nigeria to digitize all student academic records, for over 15 years. The forward-thinking and creative nature offers both distinctive and dynamic capabilities that create value. This has been demonstrated via other more recent strategic steps. This advantage, however, may be temporary, and as such RSU must continue to exercise forward-thinking relevant to sustain distinctive capabilities.	• <i>Public perception of academic stability in RSU:</i> There is a poor public perception of academic stability in RSU, like most public universities in Nigeria due to its history of frequent disruptions, in its strive for autonomy in leadership and governance. Incessantly disrupted academic activities/system further creates a lack of predictability of the actual durations of academic programs, which may deter potential students from seeking admissions into RSU and better position other higher institutions.

has been demonstrated via other more recent strategic steps. This advantage, however, may be temporary, and as such RSU must continue to exercise forward-thinking relevant to sustain distinctive capabilities.

There was however a poor public perception of academic stability in RSU, like most public universities in Nigeria due to its history of frequent disruptions, in its strive for autonomy in leadership and governance. Incessantly disrupted academic activities/system further creates a lack of predictability of the actual durations of academic programs, which may deter potential students from seeking admissions into RSU and better position other higher institutions. This situation has however taken a turn for the better. There is currently a better public perception of academic stability in RSU in stark contrast to its history of frequent disruptions from strikes.

CONCLUSION

This study has established the range of competencies inherent in Rivers State University, as the first university of Science and Technology in Nigeria. RSU has developed a reputation for excellence. Rivers State University possesses a culture of demand-driven institutional and organic responses that are in sync with its immediate environment, in line with its mission statement. This is typically demonstrated by the setting up of several unique institutes/centers/professorial chairs, with terms of reference centered around the environmental challenges of the Niger Delta. This target-oriented focus confers valuable distinctive capability that facilitates industry collaboration, which might be difficult for other universities to imitate. This is a valuable dynamic capability that facilitates industry collaboration. Also, the forward-thinking and creative nature of Rivers State University offers both distinctive and dynamic capabilities that create value. This has been demonstrated via other more recent strategic steps. This advantage, however, may be temporary, and as such RSU must continue to exercise forward-thinking relevant to sustain distinctive capabilities.

REFERENCES

1. Johnson G, Whittington R, Scholes K, Angwin D, Regner P. Exploring strategy (10. utg.). Harlow: Pearson; 2014.

2. Hooley GJ, Piercy N, Nicoulaud B. Marketing strategy and competitive positioning. Pearson Education; 2008.
3. Ansoff HI, Kipley D, Lewis AO, Helm-Stevens R, Ansoff R. Implanting strategic management. Springer; 2018 Oct 26.
4. Farooq A, Hussain Z. Balanced scorecard perspective on change and performance: a study of selected Indian companies. *Procedia-Soc Behav Sci*. 2011 Jan 1; 24: 754–68.
5. Lynch R. Towards an innovation link between dynamic capabilities and sustainability strategy: options for emerging market companies. *Int J Innov Technol Manag*. 2019 Jun 29; 16(04): 1940003.
6. Blackmore J, Bateman D, O'Mara J, Loughlin J. Centre for Research in Educational Futures and Innovation.
7. Navarro JR, Gallardo FO. A model of strategic change: Universities and dynamic capabilities. *High Educ Policy*. 2003 Jun 1; 16: 199–212.
8. Goolnik G. Effective change management strategies for embedding online learning within higher education and enabling the effective continuing professional development of its academic staff. *Turkish Online J Distance Educ*. 2006 Jan 1; 7(1): 9–21.
9. Ellis A, Phelps R. Staff development for online delivery: A collaborative, team based action learning model. *Australas J Educ Technol*. 2000 May 8; 16(1): 26–44.
10. Parakhina V, Godina O, Boris O, Ushvitsky L. Strategic management in universities as a factor of their global competitiveness. *Int J Educ Manag*. 2017 Jan 9; 31(1): 62–75.
11. Teece DJ, Pisano G, Shuen A. Dynamic capabilities and strategic management. *Strateg Manag J*. 1997 Aug; 18(7): 509–33.