

EXPLORING THE STRATEGIC LINK BETWEEN KNOWLEDGE AND INNOVATION IN GENERATING COMPETITIVE ADVANTAGE: A BIBLIOMETRIC APPROACH TO CORE COMPETENCIES

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Abstract:

Today's business environment drives managers to identify and develop those analytical tools that will help them to identify those technologies to ultimately gain a competitive advantage.

This paper analyzes the crucial role that SMEs and multinationals play in the context of evolving capitalism, highlighting their significant contribution to global and local economic development. Particular emphasis is placed on the importance of the relationship between innovative knowledge and sustainable competitive advantage for both SMEs and multinationals. The analysis highlights the impact of SMEs in diversifying markets and stimulating economic growth, particularly in Europe, as well as the widespread influence of multinationals on the dynamics of capitalist economies. It also examines how large corporations exploit knowledge management to support continuous innovation processes. In this context, the relevance of a bibliometric analysis of core competencies is highlighted in order to better understand research trends in the field and to identify strategic directions that can strengthen the competitive advantage of organizations in a changing economic environment.

Therefore, the need to study the topic of this report is essential for the personal, professional and social growth and development of individuals, as well as for the progress of society as a whole.

Key words: knowledge, innovation, technology, core competencies

JEL classification: M10, M16, M20, M19, O36

INTRODUCTION

The Industrial Revolution in the 18th century created the need for technical knowledge management to improve production. With the advent of computer technology, management information systems and databases were developed to store and share knowledge. The term 'knowledge management' was introduced and, as books and academic research emerged, the discipline gained strength. Knowledge management systems were implemented in organizations using technologies such as intranets and collaboration software. Globalization and rapid technological change have made knowledge management essential for innovation and adaptation (Valdez-Juárez, García-Pérez de Lema and Maldonado-Guzmán, 2016).

Knowledge of organizational behavior is key to solving productivity and motivation problems, providing managers with the necessary guidance to make effective choices and avoid costly mistakes. Thus, human resource management is a key tool for creating and maintaining competitive advantage (Wagner III and Hollenbeck, 2020).

It is a widely accepted principle in modern innovation management that knowledge is essential for all forms of innovation, including continuous innovation. However, deliberate knowledge management to support innovation is not yet implemented in all organizations. Some researchers see this as a shortcoming, while others argue that overly structured approaches to capturing and disseminating knowledge can inhibit innovation if not applied correctly (Chapman and Magnusson, 2006). More generally, in the knowledge age, knowledge, and in particular KM, plays a crucial role in the growth and economic development of all types of enterprises (Valdez-Juárez, García-Pérez de Lema and Maldonado-Guzmán, 2016). Managers in many industries try to align competitive advantages by manufacturing abroad, rationalizing products and adopting

efficient production practices. When they fail to compete, they form strategic alliances with companies that initially disrupted their competition. While these actions are important, many of them are simply imitations of what competitors are already doing. Imitation does not lead to competitive revitalization, and the success of competitors never stagnates, leaving many executives in a constant race to catch up (Hamel and Prahalad, 1989). The idea that a diverse enterprise is a portfolio of core competencies is widely accepted. These competences combine: diverse technologies (hard and soft), collective learning (multilevel, cross-functional), the ability to share knowledge across businesses and locations. At the same time, to meet the new challenges, managers will need to (Prahalad, 1998):

- ✓ integrate new technologies, e.g. by combining software with traditional technologies;
- ✓ form international teams that learn together;
- ✓ redefine core competencies and apply them quickly across domains and locations, facilitating collaboration between business units.

METHODOLOGICAL APPROACH

The paper focuses on the interconnection between knowledge, innovation and the business environment, analyzed in relation to contemporary global economic dynamics. The article provides a critical review of the literature in the field, interpreting and comparing relevant data. To summarize, the research methodology adopted by the author integrates the following directions and axes of analysis:

- ✓ In the first stage of the research, a rigorous analysis of the literature related to the proposed topic was carried out in order to substantiate the scientific approach in the field of business administration;
- ✓ In step 2 we made a selection of 10 Fortune 500 companies for the year 2025 to analyze, compare and identify successful models of innovation, knowledge management and core competency development in the current global economy. This selection allows an in-depth assessment of the strategies implemented by leading organizations and how they leverage intangible resources to strengthen their competitive advantage.
- ✓ In the next stage of the analysis we conducted a bibliometric analysis on the topic of core competencies in order to identify, synthesize and evaluate the evolution of scientific research in this field, to highlight trends, major contributions, influential authors, reference publications and emerging thematic areas. This approach makes it possible to: delineate the theoretical and conceptual framework of core competences, highlight the links between core competences and other key concepts (such as innovation, competitive advantage or strategic management), identify gaps in the literature that may constitute future research directions. The bibliometric analysis thus provides a clear picture of the level of maturity of the field, the dominant directions of study and the way the scientific discourse around core competences has taken shape in recent years.

LITERATURE REVIEW

"What are the skills needed by future generations of employees?" This is a crucial question, but there is little clarity about what these skills really mean. The term "21st century skills" is broad and vague. Although it is frequently used in education, there is no clear agreement on what it means. Many expressions, such as 'soft skills', 'transferable skills' or 'non-cognitive skills', are used to designate the same competences, and although they are not exact synonyms (Lamb, Maire and Doecke, 2017). In a dynamic and globalized business environment, core competencies are essential for strategy, organization and resource management. To remain competitive, companies must continuously adapt them in the face of innovation and competition. Globalization also requires the development of synergies in supply chains and distribution networks, integrating resources from

different locations. Thus, companies' core competencies must also include establishing effective partnerships to support global objectives (Feng, 2023).

The literature points to two defining elements of a KM strategy, namely the management of explicit information and processes and the management of people and the environment in which they work and in which tacit knowledge is naturally and systematically changed (Manolescu, 2005). Continuous innovation is the ability of an organization to integrate operational efficiency with strategic flexibility, allowing it to leverage existing resources while simultaneously exploring new opportunities for long-term value creation (Kianto, 2011). Although most companies rarely use innovation, some of the most successful firms have begun to adopt it as a primary way of interacting with their markets. Innovation capability is a key source of competitive advantage. Innovations are often related to: changing the knowledge base, knowledge management, changing consumer expectations, value creation, product differentiation or cost reduction, etc (Shqipe, Gadaf and Veland, 2013).

Knowledge is the foundation of firms' competitiveness strategies and the main resource for profitability in domestic and international markets. Explicit knowledge is formalized and systematized information, expressed in words or numbers, and can be shared through documents, manuals, drawings, audio and video recordings, software, etc. It is easily transmitted and stored. In contrast, tacit knowledge includes mental correlations, intuitions, hunches, hypotheses and intuitive reactions, and is often the result of practical experience and learning by trial and error. They are difficult to express and formalize, making them hard to share (Nestian, 2007). In management theory, tacit knowledge is often compared to explicit knowledge. Explicit knowledge includes clear documentation about properties, processes and roles, but only becomes useful if understood and applied in a specific context. For example, a new employee encounters signals and procedures that become knowledge only through learning and familiarization. Explicit knowledge depends on the user's ability to understand it, often requiring literacy in a specific language. Even though explicit knowledge is frequently discussed, it may be based on assumptions not recognized by participants (Jones, Failla and Miller, 2007). Tacit knowledge is the opposite of codified knowledge. Codified knowledge is available in printed or electronic form, but it only really becomes knowledge when it is understood. Tacit knowledge, on the other hand, is based on personal understanding and experience and is considered true knowledge, not just information (Busch, 2008). According to the European Commission, key competences are a set of essential, transferable and multifunctional knowledge, skills and attitudes required by each individual for personal development, social integration and access to the labor market. They have to be formed by the end of compulsory education and are the foundation of lifelong learning. A significant change over the last two decades, widely studied and debated in the field of education and lifelong learning, is the development of 21st century competences. The changing demands of the labor market, coupled with technological advances and the expansion of the knowledge-based economy, have led to transformations in the types of skills and knowledge required (Lee and Lee, 2022). In organizations, the differences between tacit and explicit knowledge reflect two management approaches to employee learning and performance: prescriptive and practice-based. The prescriptive approach focuses on the documentation and strict application of standards and methods to ensure work efficiency and safety. These are conveyed through manuals, diagrams or digital platforms, and failure to follow them can result in sanctions. In contrast, the practice-based approach emphasizes adaptability and experience. Employees use the standards as a benchmark, adjusting them according to situations. Learning takes place through active participation in communities of practice, where autonomy and judgment are essential for effective application of knowledge. Managing tacit knowledge means optimizing collaboration between employees to facilitate skills transfer and development, involving organizational, cultural and social factors (Ribeiro, 2013). Modern businesses succeed on a knowledge-based model where the main resource is human capital - flexible, motivated and creative. The new economy capitalizes on knowledge as a competitive advantage and its effective management is becoming essential. M. Polanyi argues that all knowledge has a personal component and progress cannot be explained by explicit rules alone.

Tacit knowledge, based on experience, is difficult to transmit but essential for competitiveness. Organizations must therefore turn this individual knowledge into collective capital by integrating it into their culture (Ciechanowska, 2014). Effective learning processes can become irrelevant or harmful due to changes in the market and environment, turning competencies into rigidities. In addition, skill-destroying technological learning may limit performance in the short term, but bring long-term benefits. Thus the link between learning and performance is not linear; performance depends on the quality, not the quantity, of organizational learning: individual learning, organizational learning, inter-organizational learning (Carayannis and Gonzalez, 2003). An organization that draws its capacity from the competencies and practical skills of individual experts, not just from formal knowledge, is called an "operational adhocracy". This is an organic organization with little standardization of knowledge and processes. The administrative function is combined with operational tasks, giving experts autonomy and integration of technical and managerial expertise. Coordination is through direct interaction of experts in organic project-based teams. Organizations providing creative services, such as advertising agencies or consultancies, are typical examples. In these organizations, embedded skills and know-how are key to solving problems, while standardized knowledge plays a lesser role. The concept of the 'knowledge-intensive firm' emphasizes the importance of esoteric expertise over general-purpose knowledge, reflecting the unique nature of the knowledge behind an operational adhocracy. For example Starbuck's (1992) concept of the "knowledge-intensive firm" emphasizes "esoteric expertise" over standardized knowledge, highlighting the unique nature of the knowledge base in an operational adhocracy. Also, Sveiby and Lloyd's (1987) idea of "know-how firms" where technical and managerial expertise are integrated suggests the complexity and diversity of knowledge required for creative problem solving in these organizations (Lam, 1998).

Companies need to identify and harness knowledge resources to maintain competitive advantage and improve efficiency. Knowledge can be articulated and disseminated through documents and procedures, and in today's global competition, organizations are becoming increasingly knowledge-based. Firms with more knowledge can quickly identify changes and market opportunities. To innovate, they need to continuously develop their skills and adopt systematic knowledge management strategies (Omerzel and Gulev, 2011).

RESULTS, DISCUSSIONS AND IMPLICATIONS

The Organization for Economic Co-operation and Development describes SMEs as important sources of innovation, "the lifeblood of communities", as they penetrate sectors where large firms are involved, SMEs have a significant social impact (OECD, 2023). Some authors emphasize the development of these enterprises through the involvement of post-communist governments in Europe (Bateman, 2000). In a more recent report, the World Economic Forum exemplifies the idea that "future-proofing" SMEs also improves the economy as a whole. Specifically, it emphasizes three basic characteristics that SMEs need to possess in order to seize opportunities arising from market disruptions: sustainable growth/evolution, social impact, and resilience (World Economic Forum, 2021).

SMEs certainly offer growth opportunities for countries and economies, so recent research has identified several issues that are holding this type of enterprise back from evolving (Bertanzetti *et al.*, 2024):

- ✓ Access to finance;
- ✓ Access to infrastructure (with reference to electricity, transportation, logistics etc.);
- ✓ Access to qualified staff;
- ✓ Poor management practices.

According to the World Bank, more than 50% of SMEs in emerging markets face a lack of access to finance. The percentage rises significantly to 70% when micro-MMEs are included. The main problem is the lack of advanced financial infrastructure in these regions. Traditional banking

processes are currently complex, time-consuming and costly, leading to overpriced financial products for SMEs (SME Finance Forum, 2020).

The emergence of large corporations in capitalist economies is an essential process in the development and consolidation of modern capitalism. Some sources point to the 17th century as the time of maximization of trade and production in general. The Industrial Revolution gave capitalism unprecedented "disruptive power" (Chirișescu, 2011). In line with the present topic, capitalist economies are those economies where the economic system is predominantly based on private ownership, government intervention is minimal and free markets give a central role. Lazarus A.A. concludes that the history of MNCs is linked to the origins of trade between cultural communities (Lazarus, 2001).

Society's expectations of MNCs are on an upward trend, in the sense of reconciling economic performance with societal development. These issues are frequently reflected in academic literature, public discourses and policy discourses (Adomako *et al.*, 2024).

In the following table, we present a selection of the top 500 companies, thus only counting the top 10 companies.

Table no. 1. Top 10 Fortune 500 companies for 2025

Rank	Company	Industry	Mentions
1.	Walmart	General traders	The company opens its first store in 1962; the company's core strategy is based on the idea of "lowest prices anytime, anywhere". Walmart has a significant impact on consumer markets and international trade.
2.	Amazon	Internet and retail trade services	The company began in 1994 in a garage. Since that beginning, Amazon has evolved into a global giant that influences almost every economic sector. In a capitalist context, the company provides examples of how innovation and efficiency can drive a firm to business success.
3.	State Grid	Electricity	The company's mission is to make electricity safer, cleaner, more economical and more sustainable.
4.	Saudi Aramco	Energy, oil and gas	The company proactively contributes to the reliable and sustainable supply of energy products.
5.	Sinopec Group	Energy/ Petrochemicals	A large energy and petrochemicals group supplying petroleum and petrochemical products in China.
6.	China National Petroleum	Energy, oil and gas	By owning assets in over 30 countries, the company is strengthening its position as a strategic player in the global energy ecosystem.
7.	Apple	Computers, office equipment	Founded in 1976, the company sets new benchmarks in product innovation, aesthetics and design in technology, etc. An iconic company in a capitalist system, it demonstrates how innovation, strong branding, technologies, etc. create significant global power.
8.	United Health Group	Health care: insurance and care	Founded in 1977 it has transformed the industry with its innovative solutions. The company demonstrates, in a capitalist economy, through privatization and technology it is transforming the healthcare sector and realizing substantial profits.
9.	Berkshire Hathaway	Insurance	The company started in 1965; from a textile company to a giant today. Flagship example of capitalism, with a business model based on smart investment, diversification, emphasizes the importance of ethics and responsible governance in business. The company illustrates how capital can be used to create economic value and sustain growth in a capitalist system.
10.	CVS Health	Healthcare: pharmacy and other services	The first store offering health/beauty products opens in 1963. It plays a key role in the health system of capitalist economies, offering a wide range of services and products. Its success depends on its ability to juggle market challenges and adapt to changes in the health sector.

Source: elaborated by the author based on <https://fortune.com/ranking/global500/>

The structure of the Fortune 500 Top 10 Companies for 2025 highlights that the major priorities of the global economy are characterized by a significant interdependence between the energy, technology, trade, health and financial services sectors. This presents us with a trend towards the sustainable development of key infrastructures, accelerating digitalization processes and strengthening mechanisms to ensure the well-being of the world's population.

Studies show that MNCs have "economic power" globally. This "power" is materialized through the ability of corporations to charge a price that exceeds marginal costs and thus hold consistent profits. This can materialize through two factors: sustainability (De Grauwe and Camerman, 2002) and competition. Sustainability is an extremely important issue as MNCs "navigate" a dynamic, complex global landscape characterized by environmental challenges, high social demands and economic pressures (Abdul-Azeez *et al.*, 2024). In general competition is not destructive, it is the main factor that has "forced" MNCs to offer the market a huge diversity of quality products/services at a low price (Quinlivan, 2000).

From the analysis it can be concluded that the companies analyzed above adopt various strategies to access and integrate new knowledge and remain competitive in a changing business environment: strategic acquisitions and partnerships for innovation, investments in technology and data analytics (Pisoni, Molnar and Tarcsi, 2024), cross-industry collaboration and knowledge sharing (Grant and Baden-Fuller, 2004), internal development and continuous training of employees.

Specifically, the Industrial Revolution, the growth of markets, the concentration of capitalism (the formation of conglomerates and the attraction of capital), government regulation and policies. Large corporations have played a crucial role in the development of capitalist economies, contributing to economic growth and the modernization of societies. However, they have also created significant challenges, including the concentration of economic power and risks to competition and sustainability. The debate on their influence remains relevant in the current economic context.

In order to highlight the topic of core competencies, we have realized Appendix No. 1 entitled Importance of the topic of core competencies in academic research. Following the analysis, we have summarized Table no.2 in order to highlight some aspects of maximum interest.

Table no. 2. Ranking of articles addressing different goals

Articles covering the area:	Total number of 91 articles	Mostly published after 2022		More than 100 citations	
		Yes	No	Yes	No
Business	23		X	x	
Medical	44		X	x	
Tourism	2		X	x	
Environment	3	x			x
Education	16		X	x	
Technology and IT	3		X		x

Source: elaborated by the author based on Web of Science

In Table 2 we observe the predominant articles for the medical and business fields. Since 2020, the global pandemic has significantly altered the labour market, prompting organisations to reconsider their core competencies, particularly in the medical and education fields. This has led to an increase in research and publications analysing the adaptability and resilience of organisations in the face of global crises, with a particular focus on core competencies. In management and business, core competencies are closely linked to leadership skills, and in an era of rapid change and economic uncertainty, leaders have been encouraged to apply these competencies to guide organisations. As a result, research on this topic has grown significantly. In the context of globalisation, companies have had to adapt rapidly to new markets and cultures, and key competences such as innovation and understanding market dynamics have become essential for organisational success. In education, there has been a focus on developing core competences to meet the demands of the labour market, and research has highlighted the need to learn skills that are transferable across sectors. Publications in the field have emphasised the role of education in building these skills to meet global challenges. Essentially, in the business environment, every company must differentiate itself from its competitors through a unique set of skills called core

competencies. From the earliest times, knowledge has been power and possessing knowledge that the competition does not have gives the holder advantages of several kinds (Kawshala, 2017).

CONCLUSION

This study has highlighted the importance of the relationship between knowledge, innovation and competitive advantage in today's global economy, underlining the fundamental role of core competencies in sustaining long-term organisational performance. On the basis of a bibliometric analysis centred on the concept of core competencies, the research provided an overview of the evolution of this scientific field. The results of the analysis indicate a steady increase in interest in core competences, with a focus on their strategic role in developing innovation and gaining competitive advantage. At the same time, there is a trend of interconnection of this concept with themes such as knowledge management, leadership, digitalisation and sustainability, confirming the dynamic and multidimensional nature of core competences in modern organisations.

However, there are certain limitations that need to be taken into account. Firstly, the analysis was based exclusively on data extracted from a single academic database (Web of Science), which may restrict the diversity of sources and publications included. Secondly, the focus was limited to the term “core competencies”, without including complementary or related terms such as dynamic capabilities, strategic resources or organisational knowledge, which could have provided a broader picture of the conceptual context. The analysis also focused on the quantitative dimension of the publications (number, citations, co-occurrences), without including an in-depth qualitative interpretation of the content of the selected papers, which limits a detailed understanding of the theoretical and methodological approaches.

Future research directions may include conducting empirical studies on how organisations develop and exploit core competences in different industrial and cultural contexts, further exploring the link between core competences and innovativeness, and extending the bibliometric analysis to include other complementary concepts such as “dynamic capabilities” or “strategic assets”.

REFERENCES

1. Abdul-Azeez, O.Y. *et al.* (2024) ‘Strategic approaches to sustainability in multinational corporations: A comprehensive review’, *International Journal of Frontline Research in Science and Technology*, 3(2).
2. Adomako, S. *et al.* (2024) ‘Multinational corporations and social innovation in emerging markets’, *Management International Review* [Preprint].
3. Bateman, M. (2000) ‘Neo-liberalism, SME development and the role of Business Support Centres in the transition economies of Central and Eastern Europe’, *Small Business Economics*, 14(4).
4. Bertanzetti, M. *et al.* (2024) ‘Why do SMEs matter? The impact of small and medium-sized enterprises (SMEs) in developing countries and implications for DFIs and impact investors’. International Growth Centre.
5. Busch, P. (2008) *Tacit knowledge in organizational learning*. New York: Igi Publishing.
6. Carayannis, G.E. and Gonzalez, E. (2003) *The Nature and Dynamics of Discontinuous and Disruptive Innovations from a Learning and Knowledge Management Perspective*. The International Handbook on Innovation.
7. Chapman, R. and Magnusson, M. (2006) ‘Continuous Innovation, Performance and Knowledge Management: An Introduction’, *Knowledge and Process Management*, 13(3).
8. Chirițescu, D.D. (2011) ‘Despre reguli și libertate în capitalismul contemporan’, *Analele Universității “Constantin Brâncuși”, Târgu Jiu, Seria Științe Juridice* [Preprint], (1).

9. Ciechanowska, D. (2014) 'The Ability of Tacit Knowledge Sharing as the competence Needed in the Knowledge', *Published in: Kvalifikácia pre budúcnosť. Zborník recenzovaných vedeckých prác s medzinárodnou účasťou, Košice* [Preprint].
10. De Grauwe, P. and Camerman, F. (2002) 'How big are the big multinational companies?', *Tijdschrift voor economie en management*, 43(3).
11. Feng, C. (2023) 'Enterprise Core Competency Theory and the Development of the Management Discipline', *Academic Journal of Business & Management*, 5(21).
12. Grant, R.M. and Baden-Fuller, C. (2004) 'A Knowledge Accessing Theory of Strategic Alliances', *Journal of Management Studies*, 41(1).
13. Hamel, G. and Prahalad, C.K. (1989) 'Strategic Intent', *Harvard Business Review* [Preprint].
14. Jones, B., Failla, A. and Miller, B. (2007) 'Tacit Knowledge in rapidly evolving organisational environments', *International Journal of Technology and Human Interaction (IJTHHI)*, 3(1).
15. Kawshala, H. (2017) 'Theorizing the Concept of Core Competencies: An Integrative Model beyond Identification', *International Journal of Scientific and Research Publications*, 7.
16. Kianto, A. (2011) 'The influence of knowledge management on continuous innovation', *Int. J. Technology Management*, 55(1/2).
17. Lam, A. (1998) 'Tacit knowledge, organisational learning and innovation: a societal perspective', *Danish Research Unit for Industrial Dynamics* [Preprint].
18. Lamb, S., Maire, Q. and Doecke, E. (2017) 'Key skills for the 21st century: An evidence-based review'. A report prepared for the NSW Department of Education.
19. Lazarus, A.A. (2001) 'Multinational Corporations', *International Encyclopedia of the Social & Behavioral Sciences, Psychotherapy*, 29.
20. Lee, E.L. and Lee, W.O. (2022) 'Enabling continuous innovation and knowledge creation in organizations: Optimizing informal learning and tacit knowledge', *Third International Handbook of Lifelong Learning, Springer International Publishing* [Preprint].
21. Manolescu, I. (2005) 'Caracteristicile și strategiile de knowledge management în organizații', *Management Intercultural*, 7(13).
22. Nestian, A. (2007) 'Concepte și modele de managementul cunoștințelor aplicabile în dezvoltarea regională', *Management&Marketing Bucharest*, 1.
23. OECD (2023) 'Managing Shocks and Transit: Future-Proofing SME and Entrepreneurship Policies: Key Issues Paper'. Available at: <https://www.oecd.org/cfe/smes/key-issues-paper-oecd-sme-and-entrepreneurship-ministerial-meeting-2023>.
24. Omerzel, D.G. and Gulev, R.E. (2011) 'Knowledge Resources and Competitive Advantage', *Managing Global Transitions: International Research Journal*, 9(4).
25. Pisoni, G., Molnar, B. and Tarcsi, A. (2024) 'Knowledge management and data analysis techniques for data-driven financial companies', *Journal of the Knowledge Economy*, 15(3).
26. Prahalad, C.K. (1998) 'Managing discontinuities: The emerging challenges', *Research-Technology Management*, 41(3).
27. Quinlivan, G.M. (2000) 'Multinational corporations: Myths and facts', *Religion and Liberty* [Preprint].
28. Ribeiro, R. (2013) 'Tacit Knowledge management', *Phenomenology and the cognitive sciences*, 12.
29. Shqipe, G., Gadaf, R. and Veland, R. (2013) 'Innovation strategies and competitive advantage', *Economia modernă: probleme, tendințe, perspective*, 8(1).
30. SME Finance Forum (2020) 'Crowdsourcing the future of SME Financing'. Call for Insights E-publication.

31. Valdez-Juárez, L.E., García-Pérez de Lema, D. and Maldonado-Guzmán, G. (2016) 'Management of knowledge, innovation and performance in SMEs', *Journal of Information, Knowledge, and Management*, 11(4).
32. Valdez-Juárez, L.E., García-Pérez de Lema, D. and Maldonado-Guzmán, G. (2016) 'Management of knowledge, innovation and performance in SMEs', *Interdisciplinary Journal of Information, Knowledge, and Management*, 11(4).
33. Wagner III, J.A. and Hollenbeck, J.R. (2020) *Organizational behavior: Securing competitive advantage*. New York: Routledge.
34. World Economic Forum (2021) 'Future Readiness of SMEs: Mobilizing the SME Sector to Drive Widespread Sustainability and Prosperity'.

ANNEX 1. THE IMPORTANCE OF CORE COMPETENCIES IN ACADEMIC RESEARCH

The title filter *core competencies returned 1,493 results. The representation by year is as follows

2024	45	2012	70	2000	10	Article	959
2023	115	2011	51	1999	14	Meeting Abstract	169
2022	100	2010	47	1998	6	Proceeding Paper	132
2021	84	2009	62	1997	10	Editorial Material	125
2020	104	2008	37	1996	9	Review Article	64
2019	79	2007	35	1995	1	Book Review	33
2018	89	2006	35	1994	2	Book Chapters	26
2017	85	2005	37	1990	1	Letter	25
2016	71	2004	25	1983	3	Early Access	19
2015	67	2003	20	1980	3	News Item	6
2014	64	2002	18	1978	1	Correction	4
2013	78	2001	15			Book	3
						Reprint	1

Source: elaborated by the autor based on Web of Science

For filters *core competencies and innovation only articles there are a total of 120 results of which articles 91 (month January 2025). From the total of 120 we have reduced a number of 44 results that represent the medical field, besides these we have also reduced a number of 3 results that are part of the topic 'environment'. Therefore, after these rarefications we reached a total of 44 results.

ANNEX 2. ANALYSING RESULTS BASED ON THE *CORE COMPETENCES AND INNOVATION FILTERS

Nr. crt	Article	Authors	Source	Year	No of citations
1	<i>Innovation Training Making Innovation a Core Competency</i>	Michaelis T.L, Markham S. K.	Research-Technology Management 60:2, pp.36-42.	2017	20
Content: The study aims to analyse the extent to which companies engage in training to address skills gaps. This was conducted with 30 R&D managers from Fortune 1000 companies. The human factor is key to profitable innovation. In practice, development through training is neglected because of the focus on processes and tools in innovation.					
2.	<i>Corporate entrepreneurship, operations core competency and innovation in emerging economies</i>	Hsu C.C., Tan K. C., Jayaramb J., Laosirihongthong T.	International Journal of Production Research, Vol. 52, No. 18, pp. 5467–5483.	2014	37
Content: The study provides insights on corporate entrepreneurship and core capability of operations as drivers of innovation. Data are sourced from automotive OEM suppliers in 5 emerging countries in Southeast Asia. The relationships between corporate entrepreneurship, core competencies of operations and innovation are analysed.					
3.	<i>Firm-specific advantages-product innovation capability complementarities and innovation success:</i>	Hsiao Y.C., Hsu Z. X.	Technology in Society, Vol 55, pp. 78-84.	2018	32

Nr. crt	Article	Authors	Source	Year	No of citations
	<i>A core competency approach</i>				
Content: The article provides a core competences perspective to examine the relationships between firm-specific advantages, product innovativeness and innovative performance. Some of the results are materialised in arguments that firm-specific advantages, marketing orientation and R&D orientation facilitate innovation.					
4.	<i>Organization's core competencies and front-end decision-making in the apparel innovation</i>	Seram N., Nanayakkara J., Lanarolle G.	Research Journal of Textile and Apparel, Vol. 23, Iss. 4, pp.355-370.	2019	4
Content: The article aims to determine the impact of core competences on innovation decision making in the garment industry, particularly in Sri Lanka. The findings based on this study outline that in the ratio of technical competence to partnership competence, the latter has greater "importance". The study shows that factors related to the organisation's network competences (51.6%) are the most influential relative to other factors such as financial, technological, etc.					
5.	<i>Leadership and Innovation Processes-Development of Products and Services Based on Core Competencies</i>	Pechlaner H., Fischer E., Hammann E. M.	Journal of Quality Assurance in Hospitality & Tourism, Vol.6, Iss. 3-4, pp.31-57.	2006	57
Content: The paper provides a framework for an institutionalised process of continuous innovation at the destination level. The authors provide a vision of regional core competences and the customer as a source of innovation. The industry the study focuses on is tourism.					
6.	<i>Journalism, Innovation and the Issue of Core Competencies</i>	Ferrucci P., Perreault G.	Journalism Studies, Vol. 22, Iss.11, pp. 1436-1449. <i>The Liability of Newness: Journalism, Innovation and the Issue of Core Competencies</i>	2021	30
Content: The paper aims to perceive and shape the way digital journalists understand innovation and more specifically the impact of technological innovation on practice. This approach is realised using disruptive innovation theory.					
7.	<i>Green core competencies to prompt green absorptive capacity and bolster green innovation: the moderating role of organization's green culture</i>	Qu X., Khan A., Yahya S., Zafar, A. U., Shahzad M.	Journal of Environmental Planning and Management, Vol. 65, Iss. 3, pp.536-561.	2021	92
Content: The article focuses on China's tourism industry, specifically provides a framework to improve including green innovation performance. One of the conclusions highlighted is the importance of investing in building green core competences.					
8.	<i>Making Sustainability a Core Competency: Consumer Response to Sustainable Innovative Products</i>	Hull C. E., Russell J. D., Kukar-Kinney M.	Sustainability, Vol. 14, Iss. 18.	2022	2
Content: The article addresses the issues of sustainability and innovation through 344 US respondents. This study outlines the idea that sustainability itself is viewed as innovation.					
9.	<i>Management of Core Competencies in Technology Companies</i>	Mandel J., Okhan E.	Suchfeldbestimmung und Ideenbewertung: Methoden und Prozesse in den frühen Phasen des Innovationsprozesses, 19-48.	2013	0
Content: Increased competition and the shift to a buyer's market require companies to become more efficient and customer-orientated. This requires continuous analysis of market requirements and cross-departmental solutions. Decisions about new products or markets can lead to irreversible processes, and mistakes can affect market share and competitive advantage. In the context of international innovation and competition, companies need to differentiate themselves through core competences to ensure reliable sales and long-term performance.					
10.	<i>Regional core competencies as a basis for entrepreneurship? The German hop-growing area of the Hallertau</i>	Pechlaner H., Bachinger M.	International Journal of Entrepreneurship and Innovation, Vol. 15, Iss. 1, pp.41-50.	2014	0
Content: Regions have specific network structures, identities and knowledge, similar to social capital, which is recognised for its role in supporting entrepreneurship					

Nr. crt	Article	Authors	Source	Year	No of citations
and innovation. This study analyses whether the entrepreneurial benefits generated by social capital in a regional context are sustained in the long run. From the perspective of competence-based theory, sustainable competitive advantages derive from core competences that are valuable, scarce and applicable in diverse markets.					
11.	<i>Toward core competencies for entrepreneurship librarians</i>	Toane C. Figueiredo R.	Journal of Business&Finance Librarianship, Vol. 23, Iss. 1, pp. 35-62.	2018	14
Content: This article analyses the role of North American academic librarians in supporting campus entrepreneurship, highlighting responsibilities, competencies and the impact of the university context. The study identifies research, market analysis and innovation as core competencies, highlighting that academic librarians distinguish themselves through the integrated application of these skills.					
12.	<i>Community-based learning: The core competency of residential, research-based universities</i>	Fischer G., Rohde M., Wulf V.	International Journal of Computer-Supported Collaborative Learning, Vol. 2, Iss. 1, pp.9-40.	2007	40
Content: Universities have traditionally focused on instructional teaching, but this approach has been criticised both theoretically and practically. This study argues that socio-cultural theories of learning, together with the concepts of social capital and social creativity, can provide a solid framework for repositioning universities in the knowledge society. The authors analyse case studies from the University of Colorado and the University of Siegen, which highlight the integration of community-based learning into the applied computer science curriculum.					
13.	<i>Core competencies and the strategic management of R&D</i>	Coombs R.	R&D Management, Vol. 26, Iss.4, pp. 345-355	1996	78
Content: There is a growing concern among R&D managers and their sponsors to develop effective mechanisms to guide R&D towards both rapid innovation and long-term technology consolidation. They seek analytical tools to identify key technologies that bring competitive advantage and support long-term strategic positioning. The article explores how core competencies can facilitate the linkage between technological and non-technological aspects of corporate strategy, with implications for R&D decisions, research programmes, funding and evaluation of R&D effectiveness.					
14.	<i>Impact of Membership Changes on Innovation Performance in Public R&D Teams with a Focus on Core Competencies</i>	Kim D.	Engineering Management Journal, 1–13.	2024	0
Content: Membership changes in public R&D teams, especially in inter-organisational teams, influence innovation performance. The study of R&D projects in South Korea showed that frequent changes in membership have a negative impact, emphasising the crucial role of core competences in this process. These findings provide useful insights for funding agencies and R&D project management.					
15.	<i>Examining the efficacy of core competencies of municipal leaders in transforming local government in South Africa</i>	Muringa T., Shava E.	International Journal of Public Leadership	2024	0
Content: This study fills gaps in existing research by examining the effectiveness of leadership competencies in the context of municipal leadership in South Africa. By identifying key competencies and barriers, it provides valuable insights for improving governance and service delivery at the local government level.					
16.	<i>The impact of the supply chain on core competencies and knowledge management: directions for future research</i>	Halley A., Nollet J., Beaulieu M., Roy J., Bigras Y.	International Journal of Technology Management, 49 (4)	2010	17
Content: In the increasingly competitive business environment, the implementation of technological innovations does not happen in isolation, and companies need to collaborate to share resources and knowledge, thereby producing competitive advantages. Although they may be part of various networks, the supply chain remains one of the most stable. This article brings an integrated view of supply chain and knowledge management, linking the concepts of resource-based view and knowledge management.					
17.	<i>Incorporating Data Literacy into Information Literacy Programs: Core Competencies and Contents</i>	Prado J.C., Marzal M.A.	Libri-International Journal of Libraries and Information Studies,	2013	151

Nr. crt	Article	Authors	Source	Year	No of citations
			Volume 63, Issue 2, pp.123-134		
Content: The article proposes a set of core competencies for data literacy that can serve as a reference for library information literacy programmes. It discusses definitions of data literacy, coverage of the competences in information literacy standards, and experiences from education and libraries. The proposed model can support the development of data literacy resources and services and suggests directions for future research.					
18.	<i>Bioinformatics core competencies for undergraduate life sciences education</i>	Wilson S. M. A., Hauser C., Sierk M., Robic S., Rosenwald A.G., Smith T.M., et al.	Plos One, 13(6)	2018	68
Content: Although bioinformatics plays an increasingly important role in life science research, the necessary skills are not effectively integrated into undergraduate biology education. This limits career opportunities for students and slows research progress. To integrate bioinformatics into education, a framework of core competences is needed. A survey of biology teachers in the United States found widespread agreement on the importance of bioinformatics for students. By analysing course syllabi and collective expertise, a set of core competencies in bioinformatics for biology students has been developed to support the integration of bioinformatics into the curriculum.					
19.	<i>Core competencies and performance management in Canadian public libraries</i>	Chan D.C.	Library Management, 27(3), pp.144-13.	2006	20
Content: The purpose of this paper is to analyse the performance management process and core competency models used by six public libraries in Canada. The key competencies that define superior performance of library staff and how these competencies are integrated into the performance management process and other human resource functions are presented.					
20.	<i>Core competencies of the new industrial organization</i>	Nobre F.S.	Journal of Manufacturing Technology Management Vol. 22 No. 4, pp.422-443.	2011	0
Content: This paper proposes contributions based on the principles of incompatibility and states of disequilibrium, which arise between the ever-increasing complexity of the environment and the limited cognitive capacity of organisations. In this context, the aim of the paper is to explore what are the core competencies of new industrial organisations in the 21st century.					
21.	<i>Development and Validation of an Instrument for Measuring Chinese Chemistry Teachers' Perceived Self-Efficacy Towards Chemistry Core Competencies</i>	He P., Zheng C.L., Li T.T.	International Journal of Science and Mathematics Education, 20, pp. 1337-1359	2022	0
Content: This study develops and validates an instrument to measure Chinese chemistry teachers' perceived self-efficacy in relation to core competences. Based on the 2017 curriculum standards, 20 items were initially included and evaluated by a panel of experts. Data collected from 210 teachers were analysed using statistical methods, resulting in a final instrument with 15 items grouped into five competences. Results showed variations in self-efficacy by experience and school type, but not by gender. The validated instrument can support research and teacher education globally.					
22.	<i>Core competencies for digital leadership development: a perspective from the lens of paradox theory</i>	Shahzad M.U.	<u>The Bottom Line</u> , Vol. 37, No. 4, pp. 454-472.	2024	0
Content: This study proposes a strategic framework for the development of essential competences in digital leadership, integrating AI, VR and AR. In a paradoxical context, where leaders are both ambitious and sceptical of new technologies, the approach aims to bridge the gap between theory and practice through paradox theory.					
23.	<i>Analyzing Core Competencies and Correlation Paths of Emerging Engineering Talent in the Construction Industry-An Integrated ISM-MICMAC Approach</i>	Zhang P., Ma S.G., Zhao Y.N., Cao X.Y.	Sustainability, 15	2023	0
Content: This article synthesises existing theoretical and educational research, identifying 11 key competencies for emerging engineering talent, analysed through ISM and MICMAC. It found: professional knowledge and engineering thinking have the greatest impact. Prioritising competences such as entrepreneurial skills, professional ethics and intercultural competence contribute to the development of talents with practical and innovative skills. The results support the importance of “professional					

Nr. crt	Article	Authors	Source	Year	No of citations
foundations and practical skills” in engineering education. The compatibility of this framework with other industries needs further investigation.					
24.	<i>R&D corporate planning: Selecting the core technological competencies</i>	Chiesa V., Giglioli E., Manzini R.	Technology Analysis & Strategic Management, 11(2), pp.255–279.	1999	8
Content: Focuses on selecting a firm's key technological competences to guide long-term development efforts. The vision is that corporate R&D should identify the technological competences relevant to future competition and select those that are essential for the firm.					
25.	<i>Incorporating Competencies Related to Project Management into the Joint Taskforce Core Competency Framework for Clinical Research Professionals</i>	Sonstein S.A., Kim L.P., Bierer B.E.	Ther Innov Regul Sci 56, pp.206–211	2022	7
Content: In 2014, the Joint Task Force on Clinical Trials Competencies (JTF) launched its Core Competency Framework, used globally by academic institutions, professional associations and regulatory agencies. It has been constantly updated to reflect developments in clinical research. In 2019, at the request of leaders in the field of clinical project management, the JTF created a Working Group to define the core competencies in project management. In Revision 3.1, two new competencies were added and the wording of existing competencies was adjusted to reflect the skills and knowledge of clinical project managers.					
26.	<i>The semiconductor silicon industry roadmap: Epochs driven by the dynamics between disruptive technologies and core competencies</i>	Walsh S.T., Boylan R.L., McDermott C., Paulson A.	Technological Forecasting & Social Change, 72, pp. 213 – 236	2005	82
Content: The resource-based perspective has identified unique attributes of firms that can be sources of competitive advantage. However, there is little evidence to support the strategic importance of core competences, and there is limited research on their temporal or cumulative nature in industry. There have also been no studies of the impact of technological discontinuities on skill development. In this study, we analyse the evolution of core competencies and their interactions with disruptive technologies over 50 years in the silicon-based semiconductor industry. Over the last 30 years, changes in the skills required have been more cumulative, and this is illustrated in a map detailing the epochs of the industry.					
27.	<i>Resource-based local development and networked core-competencies for tourism excellence</i>	Denicolai S., Cioccarelli G., Zucchella A.	<u>Tourism Management</u> , Volume 31, Issue 2, pp. 260-266	2010	146
Content: This article proposes a complementary approach to analysing tourism systems based on dynamic capabilities and destination management. It explores the link between tourism firm networks and the development of core competences in tourism, providing a guide for policy action, focusing on local resources and tourism competences. The empirical study focuses on an area with high tourism potential but low relevance for the tourism economy in the past, which has recently experienced an interesting entrepreneurial dynamic in the tourism and cultural sectors.					
28.	<i>Using Fuzzy Multi-Criteria Assessment Model for Evaluating Student's Core Competencies-A View of Cultural and Creative Design Education</i>	Hsueh S.L., Huang C.H.	The International Journal of Engineering Education, Vol. 30, No.2	2014	3
Content: This study uses the Delphi method to develop course modules, based on the collective decisions of Delphi experts, for a master's programme in cultural and creative design in Taiwan. Subsequently, fuzzy logic theory is applied to create an evaluation model that quantifies the development of students' core professional competencies and the effectiveness of education in the programme.					
29.	<i>Managing marketing competencies A framework for understanding antecedents of marketing capability and its relation to the company's core competencies</i>	Foroudi P., Foroudi M.M., Hafeez K., Izadi J.	In <i>Building Corporate Identity, Image and Reputation in the Digital Era</i> , Routledge, pp. 75-112.	2021	0
Content: Core competences are the essential building blocks of a company and must be carefully identified, nurtured and developed. This study, based on resource theory, analyses how core competencies can contribute to competitive advantage and how a marketing firm can identify them to differentiate itself in the industry.					
30.	<i>Exploring LIS Students' Beliefs in Importance and Self-</i>	Pinto M., Pascual R.F.	College & Research Libraries, 77(6)	2017	12

Nr. crt	Article	Authors	Source	Year	No of citations
	<i>Efficacy of Core Information Literacy Competencies</i>				
Content: The study analyses the perceptions of Library and Information Science (LIS) students on the importance of information literacy (BIM) and self-efficacy (SE). Factor analysis highlights two categories: core competences, which are well perceived, and secondary competences, which are weaker and need improvement. The study provides insights into the development of LIS competences.					
31.	<i>The evaluation of core competencies in networks: the network competence report</i>	Francioli F., Albanese M.	Journal of Intellectual capital, 18(1), pp. 189-216.	2017	5
Content: The purpose of this paper is to propose a model for identifying, reporting and managing intellectual capital (IC) in a network of companies. In this context, a monetary valuation of core competences (CCs), defined as a set of intangible assets, whose values are integrated into a network competence ratio (NCR), is presented.					
32.	<i>Business strategy at times of crisis: leveraging core competencies to sustain competitive advantage</i>	Marom S., Lussier R.N.,	International Journal of Business Environment, 12(4), pp. 321-337	2021	3
Content: Strategic change and the implementation of dynamic capabilities are critical to a company's success in a crisis; without them, the company risks losing its competitive edge. The article analyses how MNC executives used core competencies to combat the COVID-19 pandemic, combining social aids with strategies to strengthen them.					
33.	<i>Benchmarking strategic core competencies of performance across Chinese and South Korean manufacturing companies</i>	Pati N., Lee J.	Benchmarking: An International Journal, 30(9), 2869-2890.	2023	4
Content: This study analyses the impact of core competencies on economic performance using accounting and market-based indicators in manufacturing firms in China and South Korea. R&D intensity and foreign trade through exports are significantly correlated with firm performance, especially market performance. Other strategic factors, such as capital, labour productivity and administrative cost efficiency, were analysed.					
34.	<i>Seven core competencies and conditions for equitable partnerships and power sharing in community-based participatory research</i>	Ozano K., Alam W., Aktar B., Okoth L., Chumo I., Quach J.A., Muturi N., Saidu S., et al.	BMJ Global Health, 9(11)	2024	0
Content: This article proposes seven key competences to support power-sharing in knowledge production, application and dissemination. These competences are: 1) the ability to respond to inequities and identities; 2) the ability to work in an inclusive way; 3) creating safe spaces for knowledge sharing; 4) democratic leadership for shared decision-making; 5) analysing readiness for action and improvements; 6) initiating sustainable change through advocacy and activism; 7) interpreting and disseminating results in a respectful and accessible way. The article details these competences and examples of relevant activities and evidence.					
35.	<i>Open Student Models of Core Competencies at the Curriculum Level: Using Learning Analytics for Student Reflection</i>	Chou C.Y., Tseng S.F., Lin Y.L.	IEEE Transactions on Emerging Topics in Computing, 5(1), 32-44	2015	24
Content: This paper proposes a method to develop open models of students at the curriculum level, assessing students' core competences based on the courses they have taken and the grades they have obtained. The results showed that over 70% of the students found VACC useful in understanding the link between courses and core competences and in setting learning objectives.					
36.	<i>Rallying competencies in virtual communities: A study of core processes and user interest in open source software projects</i>	Ghapanchi A.H.	Information and Organization, 23(2), 129-148.	2013	16
Content: The study redefines user interest by including post-use behaviours and examines the effect of tasks on key OSS processes, such as defect fixing and functionality improvements. The analysis of 1178 OSS projects over 16 months confirms that popularity increases through task assignment, execution and management, and communication is positively influenced by task identification and execution. The results suggest that skills development and cooperative work management are becoming increasingly relevant to project success, while identifying market needs and mobilising skills have a consistent impact.					

Nr. crt	Article	Authors	Source	Year	No of citations
37.	<i>Why do startups fail? A core competency deficit model</i>	Szathmári E., Varga Z., Molnár A., Németh G., Szabó Z.P., Kiss O.E.	Frontiers in psychology, 15	2024	1
Content: This research examines the role of skills deficits. Analysing 50 online accounts, two major deficits were identified: information-seeking and customer orientation, alongside a lack of technical expertise, analytical thinking and flexibility. The results offer directions for improving startup teams, helping to prevent failures.					
38.	<i>Core entrepreneurial competencies and their interdependencies: insights from a study of Irish and Iranian entrepreneurs, university students and academics</i>	Rezaei Zadeh M., Hogan M., O'Reilly J., Cunningham J., Murphy E.	International Entrepreneurship and Management Journal, 13, 35-73	2017	58
Content: The study analyses key entrepreneurial competences and their interdependencies in education, comparing Iran and Ireland. Using collective intelligence, key competences for students were identified: productive thinking, motivation, interpersonal skills and leadership. The results highlight interdependencies between competences and differences between groups and regions, providing directions for improving the entrepreneurship curriculum.					
39.	<i>A Proposed Plan to Implement Core Competencies and High-Impact Educational Practices in Saudi Universities in Light of The Experiences of Some International Universities</i>	Zaghloul H.S., Alandejani J.A., Sanajlawe Y.K.	International Journal of Education and Information Technologies, Vol. 14	2020	0
Content: This study analyses the impact of high-impact educational practices (HIEPs) in the preparatory years in Saudi and international universities and proposes a plan for their effective implementation. Using case analysis and surveys, the study evaluated practices at the University of California and Indiana University, as well as the perceptions of 130 teachers and students at Northern Border University. The results showed that implementing core competencies and HIEPs improves connections between students and teachers, contributing significantly to learning achievement. An effective implementation plan was proposed for Saudi Arabian universities.					
40.	<i>Understanding the Impact of Competitive Advantage and Core Competency on Regional Tourism Revitalization: Empirical Evidence in Taiwan</i>	Lee C.H., Wu C.H., Jong D.	Frontiers in psychology, 13	2022	6
Content: This study explores the critical factors in regional revitalisation and the relationship between business strategy, strategic alliances and their performance in Taiwanese SMEs. The study analysed 220 SMEs that participated in a regional revitalisation counselling programme. Results show that competitive advantage, core competence and alliance partner selection significantly influence alliance performance. Core competence has an indirect impact on performance through partner selection, while competitive advantage does not influence partner selection.					
41.	<i>Effect of IT capability and intangible IT resources on sustainable competitive advantage: Exploring moderating and mediating effect of IT flexibility and core competency</i>	Makhloufi L., Yaacob N.A., Laghouag A.A., Sahli A.A., Belaid F.	Cogent Business & Management, 8(1)	2021	18
Content: The aim of this study is to analyse the impact of IT asset integration (such as intangible IT resources, IT capability and IT flexibility) on core competence and to explore the mediating role of core competence between IT assets and sustainable competitive advantage (SCA). Also to determine whether IT flexibility strengthens the link between core competence and SCA. The study utilises a quantitative and cross-sectional approach, collecting data from 164 SMEs in Malaysia, targeting middle and senior managers. The results emphasise the crucial role of IT integration in core competency activities for achieving SCA. The findings show that IT assets positively influence core competency (CC) and CC has a positive impact on SCA. CC also partially mediates the relationship between IT assets and SCA.					
42.	<i>Developing Food Science Core Competencies in</i>	LeGrand K., Yamashita L.,	Journal of Food Science Education, 16(4), 118-	2017	6

Nr. crt	Article	Authors	Source	Year	No of citations
	<i>Vietnam: The Role of Experience and Problem Solving in an Industry-Based Undergraduate Research Course</i>	Trexler C.J., Vu T.L.A., Young G.M.	130.		
Content: Although problem-based learning and experiential learning are recognised by many educators, food science courses that apply these methods are still new, especially in East and Southeast Asia. At Nong Lam University in Vietnam, a food science course was developed in collaboration with local farmers. The study explores the lessons learnt by two groups of students: one group learnt how to resolve conflicts with farmers and develop projects that respond to their needs, while the other took farmers' financial constraints into account in solving problems.					
43.	<i>How to Develop Strategic Management Competency: Reconsidering the Learning Goals and Knowledge Requirements of the Core Strategy Course</i>	Grant R.M., Baden-Fuller C.	Academy of Management Learning & Education, 17(3), 322-338.	2018	26
Content: Theoretical approaches to strategy teaching have not eliminated the need for strategic management courses that develop broad management skills. The aim of strategic management courses is to develop students' strategic management competences. The importance of complementing analytical tools with judgement, intuition, creativity, and social and communication skills is analysed, and implications for the design and teaching of these courses are proposed.					
44.	<i>Identifying core competency areas to assess communication skills among interns at a tertiary teaching hospital in southern India</i>	Rahim A.A., Anitha P.M., Govindaraj G.M., Laila K.V.	National Medical Journal of India, 30(6).	2017	2
Content: The aim was to develop a programme of learning and assessment of communication skills for interns. Five key areas for training and assessment were identified based on the responses of the interns. An OSCE pre-test was administered to 30 interns prior to the start of the internship. The domains assessed were (i) communicating with vaccine-resistant parents, (ii) interacting with patients with psychosomatic complaints, (iii) explaining risks, (iv) delivering bad news, and (v) communicating in an emergency setting. Results showed that areas related to delivering bad news and explaining risks require more training. In conclusion, they identified key areas of competency for training, assessable through OSCE.					

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