



# Identification of Competencies in Upper Management: The Transformative Power of Service Design Thinking

*Varunni Khanduri<sup>1</sup>, Greeshma Sharma<sup>2</sup>, Jyoti Kumar<sup>2</sup>, Naveen Kumar<sup>2</sup>*

<sup>1</sup> Amity Institute of Psychology and Allied Sciences (AIPS), Amity University, Noida, Uttar Pradesh 201301, India

<sup>2</sup> Department of Design (DOD), Indian Institute of Technology Delhi (IIT Delhi), New Delhi 110016, India

DOI: <https://doi.org/10.55248/gengpi.4.623.44918>

## ABSTRACT

This research study aims to identify the competencies required for upper management to succeed in today's business scenario, emphasising service design thinking's transformative power. The objectives pertaining to Identifying core competencies for the success of upper management in today's business scenario, providing vertical heads with the opportunity to learn and apply Service Design Thinking tools and techniques. Fostering a collaborative and interactive learning environment for vertical heads to share experiences and insights and enabling vertical heads to develop an action plan for applying the identified competencies to their respective organizations. The research study used a mixed-method approach; a total sample of 28 vertical heads participated in the study and data was collected using a questionnaire later the data was analysed using thematic analysis. A one-day workshop was organized where participants engaged in activities such as creating personas, empathy mapping and customer journey mapping. The findings suggest that there are two broad categories, the theme of innovation and theme of Improvement. Themes of Improvement included customer-centricity, technological excellence, employee development, process improvement, collaboration and branding, employee satisfaction, service quality and delivery, and organizational communication. Themes of Innovation encompassed innovations and product development, team building and leadership, IT infrastructure and upgrading, branding, and marketing, employee engagement and welfare, as well as business development and revenue generation.

Keywords: Service Design Thinking (SDT), Vertical heads, Common Service Centre (CSC), Competencies.

## Introduction

In today's dynamic and ever-changing business landscape, upper management must possess a diverse set of competencies that allow them to lead their organisations towards success. Organisational competitiveness is now heavily influenced the ability to quickly innovate, identify opportunities, and overcome complex challenges. This study aims to identify the competencies required for upper management to succeed in today's business scenario , emphasising service design thinking's transformative power.

The Department of Design at the esteemed Indian Institute of Technology Delhi held a one-day workshop to accomplish this objective. Vertical heads of CSC (Common Service Centre) from different departments attended the workshop. The vertical heads were exposed to the service design thinking ideas through a rigorous and systematic process of engagement, and they were encouraged to apply these principles to their own business contexts. The competencies derived through the questionnaire were then thematically analysed, resulting in the establishment of a comprehensive set of competencies required by upper management in today's business environment.

## Competencies

Competencies enhance individual and organisational performance. Knowledge comes from testing, research, or experience. Skill comes through repetition. Ability is the natural capacity to do physical and mental tasks. Behaviour is a person's response to a situation. Each competency's desired competence level depends on the function and business needs (Astereki, Mehrdad, & Ghobadiyan, 2021).

Entrepreneurs use entrepreneurial traits to create and grow successful businesses. These include creativity, invention, risk-taking, opportunity awareness, strategic thinking, networking, and leadership (Pepple&Enuoh, 2020). (Téglás, Hlédik, & Fónadová, 2016) (Lenzi& Behling, 2019) Business management competencies; team management, business domain knowledge, communication, project management, people skills, and leadership are essential for current and future performance and consistent strategy. According to the research review (Mahadalle& Kaplan, 2017) entrepreneurial traits and abilities positively affect business performance. Entrepreneurs understand how competencies affect employee satisfaction and firm profitability (Nwachukwu & Vu, 2021). Management skills affect business performance (Masoud & Al khateeb, 2020).

## Upper Management Competencies

The attributes and abilities that enable managers to be effective in the workplace are referred to as managerial competencies. Managerial competencies are traits that allow individuals to perform their tasks effectively. In addition, it includes the ability to transfer talents and abilities from one domain to another. According to this definition, superior performance means a higher level of performance for a person with a certain set of qualifications (Tekan, Fardmanesh, Heshi, Rajabi, &Soheli, 2012). The upper manager directs an organisation with long-term strategic decisions and efficient resource management. They create the organisation's mission, vision, objectives, and strategies with owners, management specialists, line managers, and employee representatives. The strategist must have the personal and social skills to shape an organisation, work efficiently, maximise profits, and protect against both internal and external threats (Tyrańska, 2016).

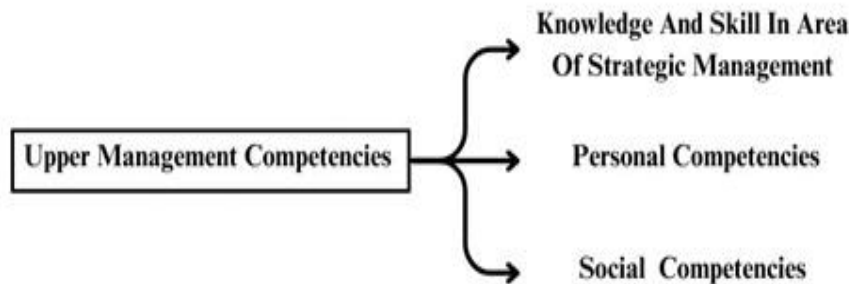


Fig 1. Upper Management Competencies (Soltanieh &Rangriz, 2015) (Tyrańska, 2016)

The manager must have the necessary personal and social abilities According to these researches (Soltanieh &Rangriz, 2015) (Tyrańska, 2016), organisational capabilities have the biggest influence on organisational success, followed by employee competencies and senior management competencies.

## Service design Thinking

Service design thinking uses design thinking to produce user-centric services. User research, holistic service analysis, and rethinking services as part of a larger service ecology are required. Combining design thinking with service design to rethink an old problem and create new local solutions ( Luca &Ulyannikova, 2020). Service Design Thinking involves reshaping mental models, using a holistic and multidisciplinary systems thinking approach, and focusing on service-dominant logic to improve performance and provide environmental, social, and economic benefits (Vink, Edvardsson, Edman, &Tronvoll, 2019) (Jaaron& Backhouse, 2018) (Holm &Eneberg, 2015). According to (Iriarte, Alberdi, Urrutia, &Justel, 2017) (Jaaron& Backhouse, 2018) (Prendeville&Bocken, 2017) service design thinking helps business management by identifying new opportunities and assisting transformations, enhancing environmental and social benefits, fostering the creation of sustainable business models, and enhancing problem-solving for product and service development.

## Literature Review

Organizational capabilities and managerial competencies contribute significantly to organizational effectiveness, while dynamic capabilities have a moderating role (Rangriz& Soltanieh, 2015). HRM practices and organizational performance are influenced by employee competencies (Moustaghfir et al., 2020), while entrepreneurial competencies are associated with each strategic behavior type (Ibidunni et al., 2021). Managers and leaders need entrepreneurial competencies, but respect and authority are dispensable (Postuła&Majczyk, 2018). Entrepreneurial competencies help informal SMEs innovate better (Ibidunni et al., 2021). They include managerial, technical, marketing, financial, human relations, and the specific working attitude of the entrepreneur (Sundah et al., 2018). Innovativeness, proactiveness, and autonomy are the three entrepreneurial orientations that moderate the relationship between entrepreneurial competencies and performance (Ibidunni et al., 2018). Entrepreneurial characteristics and competencies are positively related to overall business performance (Mahadalle& Kaplan, 2017), and the impact of entrepreneurial competencies on organizational success is direct (Al-Jourani& Al-Sudani, 2021). Leadership is the competency area of highest need in planning a preconference for new chairs, senior leaders, and ADFM fellows (Davis et al., 2015). (Bigatel et al., 2012) suggests that the competencies such as strategic thinking, communication, collaboration, and technology proficiency are essential for effective leadership in various industries.

Service design thinking is used to develop a user-centered systematic review service (J. Luca &Ulyannikova, 2020) and one study discussed the transformative power of service design thinking in developing a user-centered systematic review service (J. Luca &Ulyannikova, 2020). Service design thinking is a user-centered, co-creative, and holistic process that uses the methods of design thinking to understand a wider service ecology (J. Luca &Ulyannikova, 2020). (Rex Lor, 2017) suggested that service design thinking can be used for the development of students' competencies, such as problem-solving, creativity, and collaboration, and can be integrated into the curriculum to promote student-centered learning. (Gouédard et al., 2020) discusses the importance of cultivating competencies that draw on multidisciplinary knowledge and skills. (Andreassen et al., 2016) highlights the

importance of service design in creating value for customers and service providers. (Torres & Miranda, 2020) explores the differences between Service Design (SD) and Design Thinking (DT) in research and practice. (Sirendi&Taveter, 2016) proposes a methodology for service design that can help design better and more proactive public services. (You, 2022) suggests that design thinking can be used for business model innovation and proposes a research framework that reflects the current state of research and allows for future research to explore its full potential. (Clatworthy, 2017) Service design is defined as designed offerings to provide experiences that happen over time and across multiple touchpoints and channels and can be used to improve services and develop new value propositions. (Stickdom et al., 2018) Capacity building is essential for scaling up, but must go hand in hand with leadership and a strong sense of community. (You, 2022) Researchers investigate prospects for generating new products and services as an initial step towards innovating business models. Design thinking is a powerful tool for innovation, particularly in the realm of business model innovation(Volkova & Jākobsone, 2016), it focuses on empathy, experimentation, and iteration, and can help businesses identify unmet customer needs and develop new products and services that meet those needs(Yao & Li, 2022)(Yao & Li, 2022). (Kuijpers et al., 2015) proposed that the involvement of stakeholders from across the organization in the design process, businesses can ensure that their new products, services, and business models will be innovative and practical.

---

## Rationale

Organizations must adapt to innovation and meet the ever-changing need of their customers in today's dynamic business environment. Service Design Thinking (SDT) helps organisations design and develop customer-focused services (Sirendi&Taveter, 2016) . The Indian Institute of Technology Delhi, Department of Design held a one-day workshop for vertical heads of Common Service Centers (CSCs) from various departments to promote SDT. The workshop introduced vertical heads to SDT and showed upper management how to lead and implement SDT in their organisations. The workshop's goals were to identify the competencies required for upper management to succeed in today's business scenario, Introduce vertical heads to SDT tools and techniques, create a collaborative and participatory learning environment, and help them create a plan to apply the workshop's competencies to their organisations. This study identifies upper management competencies needed to lead and implement SDT initiatives in their organisations. The competencies derived from the workshop were thematically analysed to create a complete set of upper management competencies for today's business environment. This study contributes to knowledge about upper management's SDT leadership and implementation competencies. This study also applies to CSCs and other organisations seeking to improve service design and customer experience.

---

## Objectives

- To Identify core competencies for the success of upper management in today's business scenario.
- To Provide vertical heads with the opportunity to learn and apply Service Design Thinking tools and techniques.
- To Foster a collaborative and interactive learning environment for vertical heads to share experiences and insights.
- To Enable vertical heads to develop an action plan for applying the identified competencies to their respective organizations.

---

## Methodology

### *Participants*

The research comprised a sample of 28 vertical heads of Common Service Centre (CSC), who were selected through purposive sampling as the study's target population. The selection of participants was based on their prominent roles within the organisation and their active engagement in the processes of decision-making.

### *Research Design*

The present study uses a mixed-methods research approach, a questionnaire was used to gather qualitative data from vertical heads in the CSC. The data was later analysed thematically. The questionnaire used in this study requested respondents to list three innovations in the field of CSC, as well as three areas that they thought needed improvement. The respondents provided comprehensive answers that were analysed using thematic analysis. The thematic analysis involved the categorization of similar responses into themes and their subsequent interpretation in relation to the research questions.

### *Procedure*

The IIT Delhi Design Department organised a workshop on service design thinking, which was attended by the vertical heads of CSC. The participants engaged in a range of activities during the one-day workshop. The workshop began with a questionnaire to gather insights on innovations and areas needing improvement in the field. Subsequently, the individuals were divided into groups and assigned with the task of identifying a problem within CSC. The individuals created personas that represent their target audience and engaged in empathy mapping to gain a deeper understanding of the users' perspectives and emotions. The process of customer journey mapping was also used to visually represent the complete user journey. The groups proceeded to implement the design thinking process, which involved the stages of ideation, prototyping, and testing of potential solutions. The workshop was facilitated by Professor Jyoti Kumar who offered guidance to the participants.

### *Data Analysis*

Thematic analysis was used to analyse the responses gathered from the vertical heads of CSC. The present study employed a mixed method research approach that entailed the identification of patterns and themes in the gathered data. This involves getting familiar with the responses, creating initial codes for classifying important pieces of data, identifying recurring patterns based on similarities and distinctions among the codes, reviewing

and refining the identified themes, specifying, and labelling them, organising, and analysing the data accordingly, and analysing and interpreting the patterns with respect to the research goals. Eventually, a comprehensive report was produced to present the outcomes of the thematic analysis.

## Result

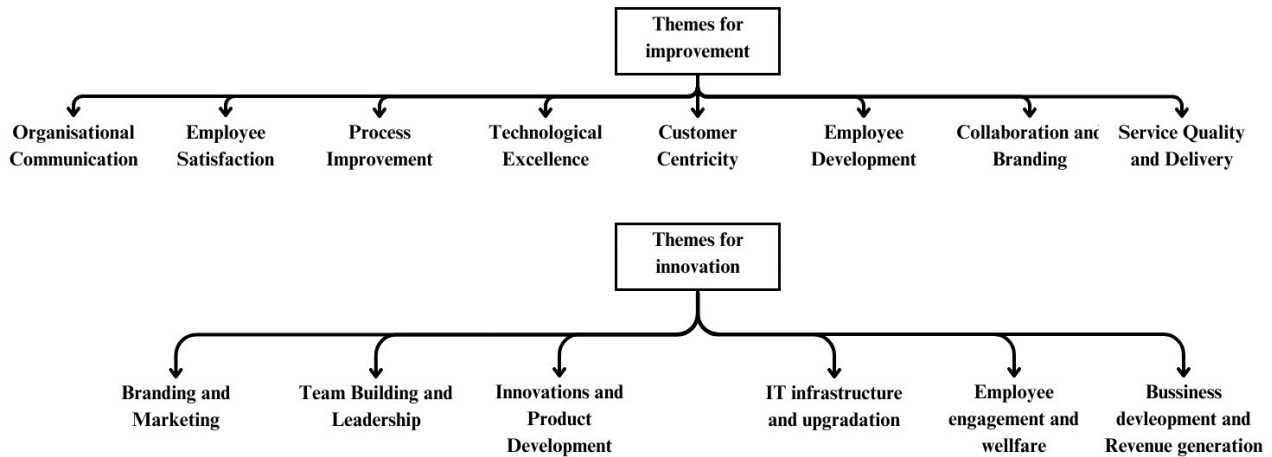


Fig 1. Results of thematic Analysis ( Themes of Improvement, and Innovation)

## Discussion of Results

The research study aimed to accomplish multiple objectives pertaining to Identifying core competencies for the success of upper management in today's business scenario, providing vertical heads with the opportunity to learn and apply Service Design Thinking tools and techniques. Fostering a collaborative and interactive learning environment for vertical heads to share experiences and insights and enabling vertical heads to develop an action plan for applying the identified competencies to their respective organizations.

In order to achieve the stated objectives, a mixed-methods research methodology was employed. The study involved a purposive sample of 28 vertical heads of CSC. The selection of participants was based on their significant involvement in the decision-making procedures within the organisation. The data was obtained by means of a questionnaire that requested respondents to list innovations in the domain of CSC as well as identify areas that require improvement. After to data collection, a thematic analysis was performed to classify and interpret the participants' responses.

The study methodology encompassed a one-day service design thinking workshop organised by the Design Department of IIT Delhi, which was attended by the vertical heads of CSC. Throughout the workshop, attendees engaged in a range of activities, commencing with the administration of a questionnaire to elicit valuable insights. After that, the participants were divided into separate groups and assigned the task of identifying a problem within the domain of CSC. The groups employed design thinking methodologies, including the creating personas, empathy mapping, and customer journey mapping, to acquire a deeper understanding of user perspectives and to formulate potential solutions. The objective of the workshop was to Identify core competencies for the success of upper management in today's business scenario, providing vertical heads with the opportunity to learn and apply Service Design Thinking tools and techniques. Fostering a collaborative and interactive learning environment for vertical heads to share experiences and insights and enabling vertical heads to develop an action plan for applying the identified competencies to their respective organizations.

The data collected from the participants of the workshop was analysed using thematic analysis. The present study employed a mixed method approach that entailed the identification of patterns and themes within the participants' responses. The analytical procedure encompassed getting familiar with the data, creating initial codes, identifying recurrent trends, refining, and labeling themes, organising the data, and interpreting the identified themes. Consequently, the analysis yielded two primary classifications of themes, namely those pertaining to the themes of Improvement and Themes of Innovation. The theme for improvement included customer-centricity, technological excellence, employee development, process improvement, collaboration and branding, employee satisfaction, service quality and delivery, and organisational communication. The aforementioned themes highlight the domains in which the vertical heads identified a necessity for improvement within the CSC.

The identified themes of improvement are consistent with the body of literature. Customer-centricity is recognized as an essential aspect of organisational effectiveness, emphasizing the need to comprehend and fulfil customer needs and expectations (Bedarkar et al., 2016). Technological

excellence is crucial in today's digital era, in which organizations must leverage technology to improve operations (Luz Tortorella et al., 2021), processes (Luz Tortorella et al., 2021), and customer interactions (Gowda & Biswal, 2018). By adopting advanced technologies and digital transformation initiatives, businesses can enhance their efficiency (Gasparovich et al., 2020), innovation (Antonizzi & Smuts, 2020), and customer experiences (El Hilali et al., 2020). Employee development enhances organizational performance (Hamid et al., 2017). Training, skill development, and career advancement improve job satisfaction, motivation, and productivity (Zubairi & Khan, 2018; Gambo, 2015). Process improvement is the focus for Organizations looking for operational performance and innovation (Leyer et al., 2017). Process enhancement improves better use of resources and customer service (Bakotic & Krnic, 2017). Building strong organisational relationships and developing a positive brand image both depend on collaboration and branding (Hofmann et al., 2021). While branding helps in building a distinctive identity and reputation in the marketplace (Hemsley-Brown et al., 2016), collaboration fosters teamwork (Sims et al., 2014), knowledge sharing (Yang et al., 2018), and innovation (Yang et al., 2018). Employee satisfaction is a crucial factor in achieving organisational success (Lorber & Skela Savič, 2012), as satisfied employees are inclined towards higher levels of engagement (Sanneh & A. Taj, 2015), commitment (Aziz et al., 2021), and productivity (Adhikari et al., 2017). Organizations that give importance to the employee satisfaction tend to promote a positive work environment, which leads to less employee turnover rates (Üner et al., 2015) and an increase in customer satisfaction (Sohail & Jang, 2017). The importance of service quality and delivery cannot be exaggerated for organisations that aim to fulfil customer expectations and achieve an edge over their competitors, enhancing service quality to a superior level (Arshad & Su, 2015), it has a positive impact on customer satisfaction (Al Nady et al., 2018), loyalty (Akbari et al., 2016), and the generation of positive word-of-mouth recommendations (Akbari et al., 2016). Effective coordination (Casoria et al., 2020), collaboration (Musheke & Phiri, 2021), and information flow (C. B., 2022) within an organisation are fundamental to organisational communication. Effective communication channels that are open and transparent can promote knowledge sharing (Yang et al., 2021), problem solving and alignment of organizational goals (Li et al., 2021). The themes for improvement identified in this study are consistent with the latest body of literature. The vertical heads can address the CSC's identified areas for improvement by concentrating on these domains.

On the other hand, the themes for innovation encompassed innovations and product development, team building and leadership, IT infrastructure and upgrading, branding, and marketing, employee engagement and welfare, as well as business development and revenue generation. The aforementioned themes identify the domains in which the vertical heads identified opportunities for innovation within the CSC. These themes align with the latest body of literature. Previous research studies have highlighted the value of innovation in a various organisational domains, including products (Saengchai et al., 2019)(Karabulut, 2015)(Ng et al., 2017), processes (Karabulut, 2015)(Ng et al., 2017), and services (Ng et al., 2017). Many research studies focus on the significance of promoting a culture of innovation (Abdul-Halim et al., 2018), promoting effective leadership (Juhro & Aulia, 2019), leveraging technology (Davoudi et al., 2018), building impactful brands (Nguyen et al., 2016), and promoting employee engagement and satisfaction (Sanneh & A. Taj, 2015)(Park & Rahmani, 2020) as important forces behind organisational innovation. Additionally, the themes found in this study are consistent with the principles and practices of service design thinking. (Stickdom et al., 2018) Service design thinking strongly emphasises on the customer-centric approach, in which innovations are created in response to a thorough understanding of customer needs. (Stickdom et al., 2018) It also highlights the importance of collaboration, effective communication, and a holistic view of service delivery.

---

## Conclusion

This research study effectively attained its goals of Identifying core competencies for the success of upper management in today's business scenario, providing vertical heads with the opportunity to learn and apply Service Design Thinking tools and techniques, fostering a collaborative and interactive learning environment for vertical heads to share experiences and insights and enabling vertical heads to develop an action plan for applying the identified competencies to their respective organizations. The thematic analysis has resulted in significant themes that can be used to improve and innovate the organisation.

## Limitations

Limitations of this research include a small sample size, potential bias in thematic analysis, limited exploration of certain themes, reliance on self-reported data, and the contextual and temporal constraints that may affect the generalizability and relevance of the findings.

## Implications

The study has implication for organizational sector by contributing to leadership and organizational effectiveness research. In practice, it offers actionable guidance for vertical heads, fostering innovation and improvement. The findings provide a roadmap for prioritizing efforts in areas such as customer-centricity, technology, collaboration, branding, and leadership.

## Direction for future research

Future research should validate and expand the identified themes of improvement and innovation, analyse, and explore the contextual factors which influence the competencies of upper management, conduct longitudinal research studies, analyse the role of leadership, and address the difficulties in implementing service design thinking in the upper management.

## REFERENCES

- Abdul-Halim, H., Ahmad, N. H., Geare, A., &Thurasamy, R. (2018, July 10). Innovation Culture in SMEs: The Importance of Organizational Culture, Organizational Learning and Market Orientation. *Entrepreneurship Research Journal*, 9(3). <https://doi.org/10.1515/erj-2017-0014>
- Adhikari, H. P., Choi, W., & Sah, N. B. (2017, March). That is what friends do: employee friendliness and innovation. *Journal of Economics and Business*, 90, 65–76. <https://doi.org/10.1016/j.jeconbus.2016.10.004>
- Akbari, M., Kazemi, R., & Haddadi, M. (2016, January 1). Relationship marketing and word-of-mouth communications: Examining the mediating role of customer loyalty. *Marketing and Branding Research*, 3(1), 63–74. <https://doi.org/10.33844/mbr.2016.60193>
- Al Nady, B. A. H. A., Mohammad, A. A. S., Alolayyan, M. N., & Al Hawary, S. I. S. (2018). Banking service quality provided by commercial banks and customer satisfaction. A structural equation modelling approaches. *International Journal of Productivity and Quality Management*, 24(4), 543. <https://doi.org/10.1504/ijpqm.2018.10014459>
- Al-Jourani, R. K. A., & Al-Sudani, D. A. M. (2021, August 4). The Impact of Entrepreneurial Competencies on Organizational Success. *RevistaGestãoInovação E Tecnologias*, 11(4), 4130–4145. <https://doi.org/10.47059/revistageintec.v11i4.2437>
- Andreassen, T. W., Kristensson, P., Lervik-Olsen, L., Parasuraman, A., McColl-Kennedy, J. R., Edvardsson, B., & Colurcio, M. (2016, March 21). Linking service design to value creation and service research. *Journal of Service Management*, 27(1), 21–29. <https://doi.org/10.1108/josm-04-2015-0123>
- Antonizzi, J., & Smuts, H. (2020). The Characteristics of Digital Entrepreneurship and Digital Transformation: A Systematic Literature Review. *Lecture Notes in Computer Science*, 239–251. [https://doi.org/10.1007/978-3-030-44999-5\\_20](https://doi.org/10.1007/978-3-030-44999-5_20)
- Arshad, A. M., &Su, Q. (2015, August 28). Interlinking Service Delivery Innovation And Service Quality: A Conceptual Framework. *Journal of Applied Business Research (JABR)*, 31(5), 1807. <https://doi.org/10.19030/jabr.v31i5.9393>
- Astereki, S., Mehrdad, H., &Ghobadiyan, M. (2021). Components and characteristics of the professional competency model among educational administrators. *Propósitos y Representaciones*, 9(SPE2). <https://doi.org/10.20511/pyr2021.v9nSPE2.1088>
- Aziz, H. M., Othman, B. J., Gardi, B., Ahmed, S. A., Sabir, B. Y., Ismael, N. B., Hamza, P. A., Sorguli, S., Ali, B. J., & Anwar, G. (2021). Employee Commitment: The Relationship between Employee Commitment And Job Satisfaction. *Journal of Humanities and Education Development*, 3(3), 54–66. <https://doi.org/10.22161/jhed.3.3.6>
- Bakotic, D., &Krmic, A. (2017, November 13). Exploring the relationship between business process improvement and employees' behavior. *Journal of Organizational Change Management*, 30(7), 1044–1062. <https://doi.org/10.1108/jocm-06-2016-0116>
- Bedarkar, M., Pandita, D., Agarwal, R., & Saini, R. (2016, February 1). Examining the Impact of Organizational Culture on Customer Centricity in Organizations:An Analysis. *Prabandhan: Indian Journal of Management*, 9(2), 19. <https://doi.org/10.17010/pijom/2016/v9i2/87229>
- Bigatel, P. M., Ragan, L. C., Kennan, S., May, J., & Redmond, B. F. (2012, January 15). The Identification of Competencies for Online Teaching Success. *Online Learning*, 16(1). <https://doi.org/10.24059/olj.v16i1.215>
- C. B., D. R. (2022, February 15). The Perception of Working Professionals on the Role of Organisational Communication in Enhancing Team Effectiveness. *International Journal of Research Publication and Reviews*, 583–589. <https://doi.org/10.55248/gengpi.2022.3.2.6>
- Casoria, F., Riedl, A. M., & Werner, P. (2020). Behavioral Aspects of Communication in Organizations. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3542368>
- Clatworthy, S. (2017). Service design thinking. *Innovating for Trust*, 167–182. <https://doi.org/10.4337/9781785369483.00020>
- Davis, A., Zweig, S., Franko, J., & Weidner, A. (2015, May 1). EVOLVING COMPETENCIES FOR CHAIRS OF DEPARTMENTS OF FAMILY MEDICINE. *The Annals of Family Medicine*, 13(3), 284–285. <https://doi.org/10.1370/afm.1794>
- Davoudi, S. M. M., Fartash, K., Baklashova, T. A., Svechnikova, N. V., Nikolaeva, Y. V., Grimalskaya, S. A., &Beloborodova, A. V. (2018, January 27). The Impact of Technology Acquisition & Exploitation on Organizational Innovation and Organizational Performance in Knowledge-Intensive Organizations. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(4). <https://doi.org/10.29333/ejmste/84835>
- El Hilali, W., El Manouar, A., &JanatiDrissi, M. A. (2020, February 3). Reaching sustainability during a digital transformation: a PLS approach. *International Journal of Innovation Science*, 12(1), 52–79. <https://doi.org/10.1108/ijis-08-2019-0083>
- Gambo, H. S. (2015). The Impact of Training and Development on Workers Productivity. *Review of Public Administration and Management*, 03(01). <https://doi.org/10.4172/2315-7844.1000160>
- Gasparovich, E. O., Uskova, E. V., &Dongauzer, E. V. (2020, October 18). The Impact of Digitalization on Employee Engagement. *Digital Economy and the New Labor Market: Jobs, Competences, and Innovative HR Technologies*, 143–150. [https://doi.org/10.1007/978-3-030-60926-9\\_20](https://doi.org/10.1007/978-3-030-60926-9_20)
- Gibbons, S. (2017, July 9). *Service design*. <http://www.nngroup.com>. <https://www.nngroup.com/articles/service-design-101/>, 101.

- Gouëdard, Pont, Hyttinen, & Huang. (2020, December 11). Curriculum reform. *OECD Education Working Papers*. <https://doi.org/10.1787/efe8a48c-en>
- Gowda, D. M., & Biswal, A. (2018). Boosting customer engagement and customer experience using iot in Indian retail scenario. *Asian Journal of Research in Marketing*, 7(2), 15. <https://doi.org/10.5958/2277-6621.2018.00004.x>
- Hamid, M., Maheen, S., Cheem, A., & Yaseen, R. (2017). Impact of Human Resource Management on Organizational Performance. *Journal of Accounting & Marketing*, 06(01). <https://doi.org/10.4172/2168-9601.1000213>
- Hemsley-Brown, J., Melewar, T., Nguyen, B., & Wilson, E. J. (2016, August). Exploring brand identity, meaning, image, and reputation (BIMIR) in higher education: A special section. *Journal of Business Research*, 69(8), 3019–3022. <https://doi.org/10.1016/j.jbusres.2016.01.016>
- Hofmann, J., Schnittka, O., Johnen, M., & Kottemann, P. (2021, January). Talent or popularity: What drives market value and brand image for human brands? *Journal of Business Research*, 124, 748–758. <https://doi.org/10.1016/j.jbusres.2019.03.045>
- Holm, L. S., & Eneberg, M. (2015). From goods to service logic: Service business model requirements in industrial design firms. *Design Journal*, 9–30.
- Ibidunni, A. S., Kehinde, O. J., Ibidunni, O. M., Olokundun, M. A., Olubusayo, F. H., Salau, O. P., Borishade, T. T., & Fred, P. (2018). Data on the relationships between financing strategies, entrepreneurial competencies, and business growth of technology-based SMEs in Nigeria. *Data in Brief*, 18, 988–991. <https://doi.org/10.1016/j.dib.2018.03.136>
- Ibidunni, A. S., Ogundana, O. M., & Okonkwo, A. (2021). Entrepreneurial Competencies and the Performance of Informal SMEs: The Contingent Role of Business Environment. *Journal of African Business*, 22(4), 468–490. <https://doi.org/10.1080/15228916.2021.1874784>
- Iriarte, I., Alberdi, A., Urrutia, E., & Justel, D. (2017). Beyond customer satisfaction. Supporting organisational change through Service Design. A case study in the insurance industry. *Design Journal*, 20 sup1, S424–S434. <https://doi.org/10.1080/14606925.2017.1352950>
- J. Luca, E., & Ulyannikova, Y. (2020). Towards a User-Centred Systematic Review Service: The Transformative Power of Service Design Thinking. *Journal of the Australian Library and Information Association*, 69(3), 357–374. <https://doi.org/10.1080/24750158.2020.1760506>
- Jaaron, A. A., & Backhouse, C. J. (2018). Operationalisation of service innovation: A systems thinking approach. *Service Industries Journal*, 38(9–10), 561–583. <https://doi.org/10.1080/02642069.2017.1411480>
- Juhro, S. M., & Aulia, A. F. (2019, November 13). NEW SOURCES OF GROWTH: THE ROLE OF FRUGAL INNOVATION AND TRANSFORMATIONAL LEADERSHIP. *Buletin Ekonomi Moneter Dan Perbankan*, 22(3), 383–402. <https://doi.org/10.21098/bemp.v22i3.1195>
- Karabulut, A. T. (2015, July). Effects of Innovation Types on Performance of Manufacturing Firms in Turkey. *Procedia - Social and Behavioral Sciences*, 195, 1355–1364. <https://doi.org/10.1016/j.sbspro.2015.06.322>
- Kuijpers, W., Groen, W. G., Loos, R., Oldenburg, H. S. A., Wouters, M. W. J. M., Aaronson, N. K., & van Harten, W. H. (2015, January 27). An interactive portal to empower cancer survivors: a qualitative study on user expectations. *Supportive Care in Cancer*, 23(9), 2535–2542. <https://doi.org/10.1007/s00520-015-2605-0>
- Lenzi, F. C., & Behling, G. (2019). Entrepreneurial competencies and strategic behavior: A study of micro entrepreneurs in an emerging country. *Brazilian Business Review*, 255–272.
- Leyer, M., Stumpf-Wollersheim, J., & Pisani, F. (2017, March 20). The influence of process-oriented organisational design on operational performance and innovation: a quantitative analysis in the financial services industry. *International Journal of Production Research*, 55(18), 5259–5270. <https://doi.org/10.1080/00207543.2017.1304667>
- Li, J. Y., Sun, R., Tao, W., & Lee, Y. (2021, March). Employee coping with organizational change in the face of a pandemic: The role of transparent internal communication. *Public Relations Review*, 47(1), 101984. <https://doi.org/10.1016/j.pubrev.2020.101984>
- Lorber, M., & SkelaSavič, B. (2012, June). Job satisfaction of nurses and identifying factors of job satisfaction in Slovenian Hospitals. *Croatian Medical Journal*, 53(3), 263–270. <https://doi.org/10.3325/cmj.2012.53.263>
- Luz Tortorella, G., Cauchick-Miguel, P. A., Li, W., Staines, J., & McFarlane, D. (2021, April 5). What does operational excellence mean in the Fourth Industrial Revolution era? *International Journal of Production Research*, 60(9), 2901–2917. <https://doi.org/10.1080/00207543.2021.1905903>
- Mahadalle, A., & Kaplan, B. (2017). *Entrepreneurial characteristics and competencies as determinants of corporate performance: A study on small enterprises in Mogadishu, Somalia characteristics and competencies as determinants of corporate performance: A study on small enterprises in MOGADI*. *International Journal of Research - GRANTHAALAYAH*, 243–252.
- Masoud, E. et al. khateeb, L. (2020). The influence of managerial competencies on the business performance in the small business funded by Jordan River foundation. *European Journal of Business and Management*.
- Moustaghfir, K., El Fatihi, S., & Benouarek, M. (2020, March 27). Human resource management practices, entrepreneurial orientation, and firm performance: what is the link? *Measuring Business Excellence*, 24(2), 267–283. <https://doi.org/10.1108/mbe-12-2019-0119>

- Musheke, M. M., & Phiri, J. (2021). The Effects of Effective Communication on Organizational Performance Based on the Systems Theory. *Open Journal of Business and Management*, 09(02), 659–671. <https://doi.org/10.4236/ojbm.2021.92034>
- Ng, K. S., Ahmad, A. R., Chan Wei, K., & HairulRizad Md, S. (2017, February 16). SMES Are Embracing Innovation for Business Performance. *Journal of Innovation Management in Small and Medium Enterprises*, 1–17. <https://doi.org/10.5171/2017.824512>
- Nguyen, B., Yu, X., Melewar, T., & Gupta, S. (2016, July). Critical brand innovation factors (CBIF): Understanding innovation and market performance in the Chinese high-tech service industry. *Journal of Business Research*, 69(7), 2471–2479. <https://doi.org/10.1016/j.jbusres.2016.02.016>
- Park, H., & Rahmani, M. (2020). Employee Satisfaction and Firm Innovation Performance. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3860303>
- Pepple, G. J., & Enuoh, R. O. (2020). Entrepreneurial competencies: A required skill for business performance. *European journal of business and innovation research*, 50–51.
- Postuła, A., & Majczyk, J. (2018). Managers and Leaders in Need of Entrepreneurial Competences. *Entrepreneurial Business and Economics Review*, 6(1), 91–103. <https://doi.org/10.15678/eber.2018.060105>
- Prendeville, S., & Bocken, N. (2017). Sustainable business models through service design. *Procedia Manufacturing*, 8, 292–299. <https://doi.org/10.1016/j.promfg.2017.02.037>
- Rangriz, H., & Soltanieh, F. (2015). Exploring the Effects of Organisational Capabilities and Managerial Competencies on the Organisational Effectiveness. *Journal of Strategic Human Resource Management*, 4(2). <https://doi.org/10.21863/jshrm/2015.4.2.009>
- Rex Lor. (2017, May). Design Thinking in Education: A Critical Review of Literature. *Conference: Asian Conference on Education & Psychology*. [https://www.researchgate.net/publication/324684320\\_Design\\_Thinking\\_in\\_Education\\_A\\_Critical\\_Review\\_of\\_Literature#fullTextFileContent](https://www.researchgate.net/publication/324684320_Design_Thinking_in_Education_A_Critical_Review_of_Literature#fullTextFileContent)
- Saengchai, S., Sawasdee, A., & Jermittiparsert, K. (2019). The knowledge management, product innovation, and process innovation as antecedents of sports manufacturing firms of Thailand. *Journal of Human Sport and Exercise - 2019 - Summer Conferences of Sports Science*. <https://doi.org/10.14198/jhse.2019.14.proc5.40>
- Sanneh, L., & A. Taj, S. (2015, July 31). Employee Engagement in the Public Sector: A Case Study of Western Africa. *International Journal of Human Resource Studies*, 5(3), 70. <https://doi.org/10.5296/ijhrs.v5i3.8088>
- Sims, S., Hewitt, G., & Harris, R. (2014, July 22). Evidence of collaboration, pooling of resources, learning and role blurring in interprofessional healthcare teams: a realist synthesis. *Journal of Interprofessional Care*, 29(1), 20–25. <https://doi.org/10.3109/13561820.2014.939745>
- Sirendi, R., & Taveter, K. (2016). Bringing Service Design Thinking into the Public Sector to Create Proactive and User-Friendly Public Services. *HCI in Business, Government, and Organizations: Information Systems*, 221–230. [https://doi.org/10.1007/978-3-319-39399-5\\_21](https://doi.org/10.1007/978-3-319-39399-5_21)
- Sohail, M. S., & Jang, J. (2017, March 30). Understanding the relationships among internal marketing practices, job satisfaction, service quality and customer satisfaction: an empirical investigation of Saudi Arabia's service employees. *International Journal of Tourism Sciences*, 17(2), 67–85. <https://doi.org/10.1080/15980634.2017.1294343>
- Soltanieh, F., & Rangriz, H. (2015). *Exploring the effects of organisational capabilities and managerial competencies on the organisational effectiveness*. *Journal of Strategic Human Resource Management*, 3–4.
- Stickdorn, M., Hormess, M., Lawrence, A., & Schneider, J. (2018). This Is Service Design Doing. In *Applying Service Design Thinking in the Real World*. O'Reilly Media, Inc.
- Sundah, D. I. E., Langi, C., Maramis, D. R. S., & dan Tawalujan, L. (2018, January). Developing entrepreneurial competencies for successful business model canvas. *Journal of Physics: Conference Series*, 953, 012040. <https://doi.org/10.1088/1742-6596/953/1/012040>
- Téglás, T. T., Hlédik, E., & Fónadová, L. (2016). An analysis of employer requirements of university graduates. *Acta Polytechnica Hungarica*, 169–186.
- Tekan, M. E., Fardmanesh, H., Heshi, A. T., Rajabi, Z., & Soheli, S. (2012). Presentation model of managerial competency approach in management development. *Advances in Environmental Biology*, 2060–2067.
- Torres, A., & Miranda, C. (2020). Understanding Service Design and Design Thinking Differences Between Research and Practice: An Empirical Study. *Exploring Service Science*, 259–272. [https://doi.org/10.1007/978-3-030-38724-2\\_19](https://doi.org/10.1007/978-3-030-38724-2_19)
- Tyrańska, M. (2016). Managerial competencies for various management levels. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, (11(959)), 21–38. <https://doi.org/10.15678/ZNUEK.2016.0959.1102>
- Üner, M. M., Bitmiş, M. G., & Alptekin, S. (2015, September 4). The mediating role of person-organization fit in the supportive leadership-outcome relationships. *E+M Ekonomie a Management*, 18(3), 62–72. <https://doi.org/10.15240/tul/001/2015-3-006>
- Vink, J., Edvardsson, B., Wetter-Edman, K. W., & Tronvoll, B. (2019). Reshaping mental models – Enabling innovation through service design. *Journal of Service Management*, 30(1), 75–104. <https://doi.org/10.1108/JOSM-08-2017-0186>



- 
- Volkova, T., & Jākobsone, I. (2016, April). Design thinking as a business tool to ensure continuous value generation. *Intellectual Economics*, 10(1), 63–69. <https://doi.org/10.1016/j.intele.2016.06.003>
- Yang, X., Ye, H. J., & Wang, X. (2021, June). Social media use and work efficiency: Insights from the theory of communication visibility. *Information & Management*, 58(4), 103462. <https://doi.org/10.1016/j.im.2021.103462>
- Yang, Z., Nguyen, V. T., & Le, P. B. (2018, October 10). Knowledge sharing serves as a mediator between collaborative culture and innovation capability: an empirical research. *Journal of Business & Industrial Marketing*, 33(7), 958–969. <https://doi.org/10.1108/jbim-10-2017-0245>
- Yao, M., & Li, L. (2022, May 23). Design Thinking Applied to Home Textiles Innovation: A Case Study in an Elderly Centre in Hong Kong. *Designs*, 6(3), 49. <https://doi.org/10.3390/designs6030049>
- You, X. (2022, November 24). Applying design thinking for business model innovation. *Journal of Innovation and Entrepreneurship*, 11(1). <https://doi.org/10.1186/s13731-022-00251-2>
- Zubairi, M. N., & Khan, T. Z. (2018, November 30). The effect of training and development on job satisfaction, skill enhancement and motivation of employees. *International Journal of Research -GRANTHAALAYAH*, 6(11), 290–298. <https://doi.org/10.29121/granthaalayah.v6.i11.2018.1130>