



The Impact of Intellectual Capital on Organisational Creativity: A Field Study

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Abstract

This study examined the effects of human, structural, and customer capital on organisational creativity at the African Glass Company in Jijel Province, Algeria. Data were collected through a questionnaire administered to 100 permanent employees and analysed using SPSS version 26. The multiple regression model was statistically significant and explained 49.8% of the variance in organisational creativity. Structural capital and customer capital had significant positive effects, whereas the effect of human capital was not statistically significant. The findings highlight the importance of organisational structures, knowledge systems, and customer relationships in fostering creativity. Practical recommendations are offered in light of these results.

Keywords: intellectual capital, human capital, structural capital, customer capital, organisational creativity

JEL classification: D23

Introduction

Recent decades have witnessed the emergence of the knowledge economy, in which organisations increasingly invest in intangible assets, including knowledge-based services, technology, and human capabilities, rather than relying solely on physical capital and raw materials. Knowledge has consequently become a principal factor of production, and intellectual capital has gained prominence as a renewable strategic asset capable of generating sustainable returns over the short, medium, and long term.

Interest in intellectual capital has intensified amid global competition and the changing business environment. Most organisations must adapt to these changes, whereas entrepreneurial organisations seek to anticipate them by creating or transferring new value, identifying emerging dimensions of competition, exploiting available opportunities, and developing new products, services, and markets. The possession of intellectual capital is therefore insufficient unless organisations measure and manage it to identify strengths and weaknesses and direct intangible resources towards strategic objectives. One expected outcome of such management is enhanced organisational creativity. Against this background, the present study examines the impact of intellectual capital on organisational creativity in an Algerian industrial company located in Jijel Province.

The study addresses the following main research question: What is the impact of intellectual capital on organisational creativity at the African Glass Company in Jijel Province, Algeria?

The following sub-questions arise from the main research question:

- What is the impact of human capital on organisational creativity from the perspective of the company's employees?
- What is the impact of structural capital on organisational creativity from the perspective of the company's employees?
- What is the impact of customer capital on organisational creativity from the perspective of the company's employees?

Objectives of the Study

The study seeks to deepen understanding of its principal variables, and examine the effects of human, structural, and customer capital on organisational creativity at the African Glass Company in Jijel Province.

Previous Research

Patky and Pandey (2020) examined whether flexibility in human resource practices increases innovation through the mediating role of intellectual capital and the moderating influence of industry type. Using data from 257 Indian organisations and structural equation modelling, they found that intellectual capital partially mediated the relationship in the service sector and fully mediated it in the industrial sector.

Obeidat et al. (2017) investigated the effect of intellectual capital on innovation in Jordanian telecommunications companies and examined knowledge management as a mediator. Their analysis of data from 498 employees using AMOS showed that intellectual capital did not directly affect innovation but exerted an indirect effect through knowledge management.

Fouman et al. (2015) examined the relationship between intellectual capital management and the creativity of teaching staff in Khoy, Iran. Their sample included 40 managers and 100 teachers. All components of intellectual capital were positively associated with creativity, and relational capital was the strongest predictor.

Omerzel and Jurdana (2016) analysed the influence of intellectual capital on innovativeness and growth among 359 small and medium-sized tourism enterprises in Slovenia and Croatia. Using SPSS and EQS 6, they identified positive relationships between the dimensions of intellectual capital and innovativeness, as well as a positive association between innovativeness and company growth.

Santos-Rodrigues et al. (2011) examined the effects of intellectual capital dimensions on product and managerial innovation in 68 automotive-component companies in Spain and Portugal. Human and relational capital influenced product innovation, whereas structural capital influenced managerial innovation.

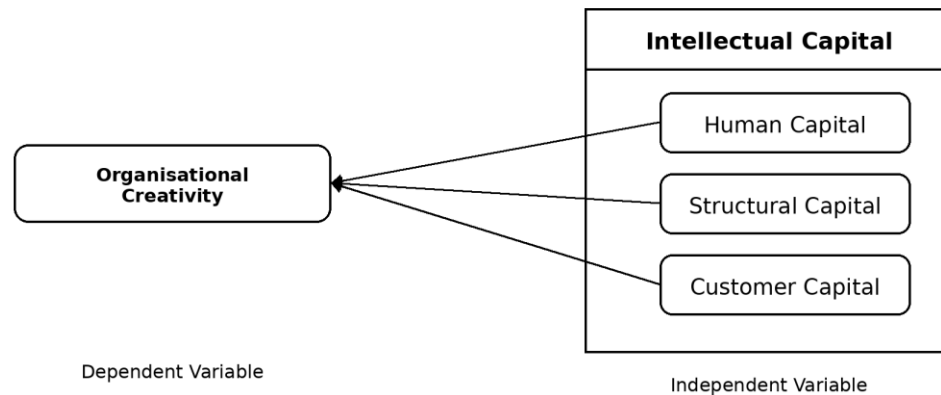
The present study is consistent with previous research in its use of a quantitative design, questionnaire data, and statistical analysis to examine the relationship between intellectual capital and organisational creativity. It extends this literature by assessing the individual and combined contributions of human, structural, and customer capital, with particular attention to customer capital as a central component of organisational relationships. It also contributes evidence from an industrial setting, namely the African Glass Company in Jijel Province, whereas much previous research has focused on service sectors.

Study Model

Building on previous research, the conceptual model presented in Figure 1 was developed.

Figure 1

Conceptual Model of the Study



Note. Developed by the author based on previous studies.

Study Hypotheses

The study tests the following hypotheses:

- H1: Intellectual capital has a positive effect on organisational creativity at the African Glass Company in Jijel Province, Algeria.
- H1a: Human capital has a positive effect on organisational creativity at the African Glass Company in Jijel Province, Algeria.
- H1b: Structural capital has a positive effect on organisational creativity at the African Glass Company in Jijel Province, Algeria.
- H1c: Customer capital has a positive effect on organisational creativity at the African Glass Company in Jijel Province, Algeria.

Research Design

The study adopted a descriptive, quantitative survey design to assess the effects of the dimensions of intellectual capital on organisational creativity. Data were collected through a questionnaire and analysed statistically.

Theoretical Framework

Intellectual Capital

Intellectual capital is a relatively recent concept that encompasses knowledge, skills, experience, and customer relationships. Stewart (1997) defined intellectual capital as the knowledge, information, intellectual property, and experience that generate wealth for an organisation. It also represents the difference between an organisation's market value and book value (Xu & Liu, 2020, p. 163). Intellectual capital includes investments in marketing, training, research and development, organisational structure, and human resource development, together with intellectual assets such as trade names, copyrights, franchises, licences, patents, and trademarks (Mubarik et al., 2019, p. 270).

The principal components of intellectual capital are as follows:

- Human capital: the knowledge, skills, and experience of employees that enable them to contribute to organisational creativity (Patky & Pandey, 2020, p. 4).
- Structural capital: the organisational structures, processes, and knowledge systems that support organisational activities and remain within the organisation after employees leave (Mubarik et al., 2019, p. 269).
- Relational capital: the knowledge generated through the organisation's relationships with customers and other stakeholders. In the present study, the emphasis is on customer capital because customers represent a central element of these relationships (Mubarik et al., 2019, p. 270).

Organisational Creativity

Organisational creativity refers to the implementation of new ideas that create value and strengthen competitiveness. It may be reflected in product innovation, process development, and marketing creativity that respond to customer needs and increase organisational sales (Kalkan et al., 2014, p. 702).

Organisational creativity also encompasses the following capabilities (Al-Daibat, 2016, p. 10):

- Opportunity discovery: searching for creative opportunities and learning from them.
- Verification: using systematic methods to formulate solutions and evaluate innovative ideas.
- Challenge: proposing creative solutions, taking calculated risks, presenting new ideas, and persuading others.
- Implementation: pursuing creative opportunities and correcting deviations that arise during implementation.
- Originality: producing ideas that are not mere repetitions of the ideas of others.
- Sensitivity to problems: recognising crises and problems more effectively in different situations.
- Flexibility: adapting rapidly to developments and new situations.



- Analytical ability: analysing alternatives and selecting among them.
- Fluency: generating a large number of ideas within a specified period.

Method

Study Setting, Population, and Sample

The field study was conducted at the African Glass Company in Jijel Province. The study population comprised 192 permanent employees, and temporary employees were excluded. A purposive sampling strategy was used. Of the 115 questionnaires distributed, 100 were usable and included in the analysis, representing 52.08% of the study population.

Study Instrument

The questionnaire comprised two sections. The first measured intellectual capital through three dimensions: human capital, structural capital, and customer capital. Each dimension was measured using six items, for a total of 18 items. The second section measured organisational creativity using seven items, numbered 19 to 25.

Responses were recorded on a five-point Likert scale (Sabonete et al., 2021, p. 5): 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Mean scores were interpreted as follows (Alhakimi & Alhariry, 2014, p. 18): 1.00 to 2.32 indicated a low level of agreement, 2.33 to 3.65 indicated a moderate level, and 3.66 to 5.00 indicated a high level

Statistical Analysis

The collected data were analysed using IBM SPSS Statistics version 26. Descriptive statistics and multiple linear regression were used to examine the study variables and test the hypotheses.

Psychometric Properties of the Questionnaire

Construct validity was assessed through item-total correlations. In accordance with Oktavia et al. (2018, p. 3), the correlations were considered acceptable when they were statistically significant at $p < .05$ and exceeded .35. All reported item-total correlations met these criteria.

Internal consistency was assessed using Cronbach's alpha. All alpha coefficients exceeded .60, the criterion adopted from Suifan et al. (2018, p. 120), indicating acceptable reliability.

Normality was evaluated using skewness and kurtosis. All skewness values were below 2, and all kurtosis values were below 4, supporting the assumption of approximate normality (Mishra et al., 2019, p. 70).

Results and Discussion

Preliminary Diagnostic Tests

Before conducting the standard multiple regression analysis, multicollinearity and residual autocorrelation were examined. The results are presented in Table 1.



Table 1

Multicollinearity and Autocorrelation Diagnostics

Predictor	VIF	Tolerance
Human capital	1.947	.514
Structural capital	1.388	.720
Customer capital	1.928	.519

Note. VIF = variance inflation factor. Durbin-Watson = 1.440. Values were calculated from the SPSS output.

The VIF values ranged from 1.388 to 1.947, and tolerance values ranged from .514 to .720. These values indicate that multicollinearity was not a serious concern because all VIF values were below 10 and all tolerance values exceeded .10 (Deraman et al., 2019, p. 11). The Durbin-Watson statistic was 1.440. This value suggests possible mild positive autocorrelation; therefore, the regression results should be interpreted with appropriate caution rather than treated as evidence of complete residual independence. (A Bow Mohammed & Mohammed., 2018, p. 49494).

Hypothesis Testing

Table 2 presents the overall regression model and the coefficients for human, structural, and customer capital.

Table 2

Multiple Regression Results Predicting Organisational Creativity

Panel A. Model Summary and Analysis of Variance

Statistic	Value
F(3, 96)	31.797
p	< .001
R	.706
R ²	.498
Regression SS	15.450
Residual SS	15.548
Total SS	30.998
Regression MS	5.150
Residual MS	.162

Panel B. Regression Coefficients

Predictor	B (SE)	β , t, and p
Constant	0.364 (0.314)	$t = 1.159$; $p = .249$
Human capital	0.193 (0.101)	$\beta = .193$; $t = 1.913$; $p = .059$
Structural capital	0.406 (0.078)	$\beta = .442$; $t = 5.185$; $p < .001$
Customer capital	0.222 (0.108)	$\beta = .206$; $t = 2.055$; $p = .043$

Note. N = 100. B = unstandardised coefficient; SE = standard error; β = standardised coefficient; SS = sum of squares; MS = mean square. Values were calculated from the SPSS output.

The overall regression model was statistically significant, $F(3, 96) = 31.80$, $p < .001$, $R = .706$, $R^2 = .498$. Collectively, human, structural, and customer capital explained 49.8% of the variance in organisational creativity. The main hypothesis was therefore supported. This result is consistent with the view that intangible organisational resources can generate creative ideas and facilitate tangible improvements in products and organisational performance.

Human capital did not have a statistically significant unique effect on organisational creativity, $B = 0.193$, $SE = 0.101$, $\beta = .193$, $t = 1.91$, $p = .059$. Accordingly, H1a was not supported. Although the company has accumulated employee expertise over several decades, it may not yet be consistently converting this expertise into creative outcomes. One possible explanation is that leadership, strategic direction, and knowledge-deployment practices may require further development to translate individual competence into sustained organisational creativity.

Structural capital had a statistically significant positive effect on organisational creativity, $B = 0.406$, $SE = 0.078$, $\beta = .442$, $t = 5.19$, $p < .001$. H1b was therefore supported. Structural capital made the largest standardised contribution among the three predictors. Although its overall level was described as moderate, the company appears to possess an organisational infrastructure that supports employees in performing their tasks and encourages access to information and knowledge. These resources form an important foundation for generating and developing organisational creativity. Nevertheless, weaknesses in structural capital could limit the sustainability of creativity over the long term.

Customer capital also had a statistically significant positive effect on organisational creativity, $B = 0.222$, $SE = 0.108$, $\beta = .206$, $t = 2.06$, $p = .043$. H1c was therefore supported. Its standardised contribution was smaller than that of structural capital. The result may reflect the



company's long-standing position in the glass-products market and the importance of customers in shaping its reputation and value. Customer feedback, preferences, and expectations can provide ideas for innovation, while customers also receive and evaluate the company's creative outputs when new products are introduced. The company can strengthen this resource by attracting new customers, retaining existing customers, and increasing customer loyalty and satisfaction, particularly as competition intensifies.

Conclusion

This study examined the effects of human, structural, and customer capital on organisational creativity at the African Glass Company in Jijel Province, Algeria. Questionnaire data from 100 permanent employees were analysed using IBM SPSS Statistics version 26. The overall regression model was statistically significant and explained 49.8% of the variance in organisational creativity. Structural capital and customer capital had significant positive effects, whereas the unique effect of human capital was not statistically significant. These findings indicate that organisational systems, knowledge infrastructure, and customer relationships are particularly important for supporting creativity in the company. Human expertise remains valuable, but it must be effectively directed and integrated into organisational processes to produce sustained creative outcomes.

Recommendations

Based on the findings, the following recommendations are proposed:

- Use modern technologies to improve operational performance and product quality.
- Develop project-evaluation mechanisms and update organisational databases continuously.
- Diversify promotional strategies to enhance customer satisfaction and attract new customers.
- Develop the skills of employees and administrative leaders to strengthen human capital and improve its contribution to organisational creativity.
- Consolidate a culture of creativity by rewarding creative employees, encouraging dialogue and brainstorming, and adopting management practices that support intellectual capital and organisational creativity.



References

- A Bow Mohammed, A. A., & Mohammed, K. O. (2018). Using transformation of variable for treating autocorrelation in simple regression (first difference and Cochrane-Orcutt methods). *Elixir Statistics*, 114, 49492-49496.
- Al-Daibat, B. (2016). The impact of the organizational climate in enhancing creative behavior. *International Journal of Management Sciences and Business Research*, 5(12), 7-18.
- Alhakimi, W., & Alhariry, K. (2014). Internal marketing as a competitive advantage in banking industry. *Academic Journal of Management Sciences*, 3(1), 15-22.
- Deraman, R., Wang, C., Yap, J. B. H., Li, H., & Mohd-Rahim, F. A. (2019). Developing internet online procurement frameworks for construction firms. *Future Internet*, 11(6), Article 136. <https://doi.org/10.3390/fi11060136>
- Foumany, G. H., Sajjad, E., & Mohammad, B. (2015). Analytical study of the relationship between ICM and creativity of teaching staff. *Research Journal of Fisheries and Hydrobiology*, 10(13), 118-124.
- Kalkan, A., Bozkurt, Ö. Ç., & Arman, M. (2014). The impacts of intellectual capital, innovation and organizational strategy on firm performance. *Procedia - Social and Behavioral Sciences*, 150, 700-707. <https://doi.org/10.1016/j.sbspro.2014.09.025>
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67-72. https://doi.org/10.4103/aca.ACA_157_18
- Mubarik, M. S., Naghavi, N., & Mahmood, R. T. (2019). Intellectual capital, competitive advantage and the ambidexterity liaison. *Human Systems Management*, 38(3), 267-277. <https://doi.org/10.3233/HSM-180409>
- Obeidat, B. Y., Tarhini, A., Masa'deh, R., & Aqqad, N. O. (2017). The impact of intellectual capital on innovation via the mediating role of knowledge management: A structural equation modelling approach. *International Journal of Knowledge Management Studies*, 8(3/4), 273-298. <https://doi.org/10.1504/IJKMS.2017.087071>
- Oktavia, R., Irwandi, Rajibussalim, Mentari, M., & Mulia, I. S. (2018). Assessing the validity and reliability of questionnaires on the implementation of Indonesian curriculum K-13 in STEM education. *Journal of Physics: Conference Series*, 1088, Article 012014. <https://doi.org/10.1088/1742-6596/1088/1/012014>
- Omerzel, D. G., & Jurdana, D. S. (2016). The influence of intellectual capital on innovativeness and growth in tourism SMEs: Empirical evidence from Slovenia and Croatia. *Economic Research-Ekonomska Istraživanja*, 29(1), 1075-1090. <https://doi.org/10.1080/1331677X.2016.1211946>
- Patky, J., & Pandey, S. K. (2020). Does flexibility in human resource practices increase innovation? Mediating role of intellectual capital. *South Asian Journal of Human Resources Management*, 7(2), 257-275. <https://doi.org/10.1177/2322093720934243>



- Sabonete, S. A., Lopes, H. S. C., Rosado, D. P., & Reis, J. C. G. D. (2021). Quality of work life according to Walton's model: Case study of the Higher Institute of Defense Studies of Mozambique. *Social Sciences*, 10(7), Article 244.
<https://doi.org/10.3390/socsci10070244>
- Santos-Rodrigues, H., Figueroa Dorrego, P., & Fernández-Jardón, C. M. (2011). The main intellectual capital components that are relevant to the product, process, and management firm innovativeness. *International Journal of Transitions and Innovation Systems*, 1(3), 271-301. <https://doi.org/10.1504/IJTIS.2011.042661>
- Suifan, T. S., Abdallah, A. B., & Al Janini, M. (2018). The impact of transformational leadership on employees' creativity: The mediating role of perceived organizational support. *Management Research Review*, 41(1), 113-132. <https://doi.org/10.1108/MRR-02-2017-0032>
- Xu, J., & Liu, F. (2020). The impact of intellectual capital on firm performance: A modified and extended VAIC model. *Journal of Competitiveness*, 12(1), 161-176.
<https://doi.org/10.7441/joc.2020.01.10>