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Linkage between Relational Capital and Firm Performance: A Study in the Context of Clustered Clay Tiles Firms in Saltora Region in West Bengal, India

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Abstract

This paper seeks to analyse the impact of relational capital components on the performance of clay tiles clustered firms in Murlu, Saltora region of Bankura district, in the state of West Bengal in India. It is based on an assemblage of relational capital for assessing and determining the importance of relationships in the perspective of firm performance level. The study considered eight relational capital indicators for eliciting firm responses to the level of relational capital. A survey was conducted on 60 firms in the cluster. Cronbach's alpha has been used to test the reliability of a series of individual components of relational capital. Principal component method was applied to derive the relational capital index based on all the indicator components. It is found to be strongly related to profitability performance. Overall, regression of the profitability figures carried out on individual relational capital components has yielded a significant outcome and some of the components are also found to have a significant impact on firm performance level. Based on the analysis, concrete suggestion is provided for spotting areas of relational capital, which, if handled and cultivated proficiently and deftly, can play a significant role in influencing firm performance level.

Keywords: Relational Capital, Cronbach's Alpha, Principal Component Analysis, Entrepreneurship, Regression

Introduction

In this globalised world, earning profit does not serve as the sole propeller of a firm's action. In order to sustain the spirits of competition, maintaining or increasing the customer base, and enhancing the market share or total sales volume often tend to relegate the profit motive to the back in the process of the firm's behaviour. In order to stave off globalised uncertainties in the business world, when the spirits of competition reign supreme, firms need to take cognisance of delicate adjustments in their business conduct in their niche neighbourhood, so that the business prospect turns in their favour. This calls for taking recourse to subtle behavioural actions on the part of firms that might provide a competitive edge over the others. This seems to depend on maintaining continuity in future expansion in the size of production, recruitment and retention of labour and customer base, and enjoying the easy availability of market information, knowledge, and inputs. In this sense, it cannot be denied that the firms need to maintain an amicable and warm relationship with all the stakeholders who may be directly or indirectly connected to their production cycle and final output disposal, for the prosperity of the enterprise. Efficient dealing with stakeholders helps build a strong bond or alliance that typically proves to be very successful for the enterprise in improving the quality of product, and prompting its production and/or reducing prices to stay competitive on the market.

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In the present knowledge-based economy, the most significant contributing factor towards business viability of enterprises is the intangible assets, often termed as intellectual capital. According to MERITUM project (2002), intellectual capital is defined in terms of human capital (implicit knowledge, human skills, and attitude), structural capital (explicit knowledge, processes, and culture), and relational capital (networks and reputation).

According to Prahalad and Ramaswamy (2000), relational capital is defined as the knowledge entrenched in the relationships with any stakeholder that influences the life of an enterprise. Relationships with stakeholders constitute the necessary ingredient for building, managing, and renewing resources, structures, and processes over time, as firms try to access vital and matching resources through external bonding. It is suggested that customers become a new source of competence for the organisation, because they revive the overall competence of the organisation and resuscitate the knowledge base, precluding it from obsolescence in a tumultuous environment.

Relational capital acts as a determinant of business success, as it consists of a set of formal and informal, temporary and permanent relationships that help in promoting business (Hormiga et al., 2011). According to Kijek and Kijek (2007), relational capital influences firm performance in terms of reduced cost and enhanced market value. By cost reduction, they refer to knowledge inherent in relationships among employees, customers, and suppliers that result in cost reduction through process innovation and output growth. Usually, increased outlay in improving relationships with internal and external stakeholder groups has significant upshots in terms of enhancing efficiency in the production system (Carlucci et al., 2004). Internal relational capital source encompasses informal family relationships, former partner relationships, or labourers providing inputs. Apart from external networks in the form of connections with customers and suppliers, informal relationships with enterprises in a cluster and mutual confidence or coordination of their efforts, and connections with external bodies such as local/state government, the firm's credibility or goodwill constitute alternative sources of relational capital. In order to manage relational capital well, enterprises should understand that it is a very important component of intangible assets, apart from financial and physical assets. This finds support in the writings of Okafor (2012), where the author stresses that, in addition to finance and physical capital, relational capital involves a form of intangible asset accessible to a firm that emerges from its relationship with the environment of stakeholders, which could also add value to the firm. In fact, relational capital may comprise a part of the market value of a firm, which is due to its business relationship status that serves as a strategy for growth. According to Huang et al. (2007), an enterprise improving its relational capital will have direct impact on its business performance. In order to assess the importance of relational capital in business success, especially in the case of clustered firms, it is deemed important in attempt to analyse the potential in their level of relational capital and its effect on firm performance. To understand the diverse views of relational capital as an intangible asset, it is considered essential to focus on the perspectives of the intangible asset in some detail.

Different Views Pertaining to Relational Capital

Intangible capital, like physical and financial capital, is no less important for improving firm efficiency. Recently, with regard to material assets, organisations' emphasis has swung more in favour of intangible assets, for the strategic advantages they offer (Martín de Castro et al., 2004). Enterprises have become increasingly conscious of the importance of intangible assets in the age of environmental standards with regard to the use of physical resources and economic uncertainty, and should concentrate on issues of relational resources as an accessory of intellectual capital. Intangible assets are essentially focused on exchange of information, reciprocation of experience and knowhow, business liaison, and solidarity with all shareholder groups, making it impossible to identify, emulate, replicate, and transfer these assets in the markets (Martin de Castro, Lopez & Navas 2004).

Sullivan (1999) describes intellectual capital as knowledge that can be turned into income in the future, which is derived from concepts, innovations, development, technology, prototypes, and tactics. There are claims by many that intellectual capital can be reflected by the difference between a firm's accounting value and its market value. Based on the extended concept advocated by Edvinsson and Malone (1997), intellectual capital can loosely be identified with relational capital and is perceived

in terms of three layers. The first emphasises the value of networks, alliances, and collaborations in spillover and knowledge sharing, the second illustrates customer relationships, input provider, business associates, and internal and external stakeholder groups, and the third addresses mutual faith- and reputation-based linkages. Relational capital makes it possible for businesses to gain information and expertise from the outside world and help turn the experience into developing their own technique.

According to Capello et al. (2005), the innovative capacity of firms is well governed by determinants that are external to the firm. This is embedded in knowledge spillovers, a sort of positive externalities that is derived by the firm from the environment in which it carries out its operation. According to them, the channels through which knowledge trickles down over a local area are obviously identified in the relational capital base of the region. It is characterised as all relationships comprising market-, power-, and cooperation-based relation across firms, institutions, and individuals, arising from a strong sense of belonging and a highly established capacity for cooperation distinctive of culturally similar individuals and institutions.

In their study, De Clercq et al. (2006) examined how relational capital and commitment affect a venture capital firm's (VCF) perception of the performance of its portfolio companies (PFC). Based on 298 US firms, they found that the amount of relational capital embedded in the VCF–PF duo, and the extent of commitment of VCF to the PFC, are strongly associated with perceived performance. They conjecture that relational capital and commitment promote learning, which positively influences the VCFs' perceptions of performance. Costabile (2001) further views relational capital as the sum total of trust, reputation, and brand loyalty that is enjoyed by a firm. It is now generally accepted that enterprises will strive to develop the above-mentioned aspects in order to achieve a competitive advantage over time (Putnam 1995, Pirovano & Gilodi 2003).

In terms of resource-based theory and knowledge-based view of the firm, customer, relational, and social capital are linked to a firm's competitive advantage. Bontis (1999) viewed customer capital as the knowledge embedded in the marketing channels and customer relationships that an organisation develops through the course of carrying out business. Relational capital later replaced it and widened the connotation of customer capital by considering both sides of the value chain. It is a broader term that covers not only the value of customer relationships but also the value of relationships with shareholders, governments, partners of strategic alliances, knowledge of market channels, and so on (Ordóñez de Pablos, 2001).

The concept of social capital as a modified form of relational capital has recently been stressed by some firms since it was floated by Coleman (1988). In the course of their business operation, enterprises develop and establish diverse inter-firm bonds. Examples of these ties are buyer-supplier relationships, strategic alliances, and joint ventures. According to Nahapiet and Ghosal (1998), social capital is the amount of the real and potential resources embedded in, accessible through, and extracted from a network of relationships owned by a person or a social entity.

Bordieu and Wacquant (1992) describe the idea of social capital as the amount of resources, real or virtual, accrued by the possession of a long-lasting network of institutionalised ties of mutual association and recognition to a person or group. Fukuyama (1995) interprets it as the collection of ideals/principles and informal rules held by firms in a cluster that enables them to cooperate with each other. Social capital thus envelops individual relationships and promotes the development of intellectual capital that can be widely expanded to capture relational capital, which focuses on shared knowledge or vision through businesses, relationships with different stakeholders, and trust- and reputation-based social bonding. Individual items or factors are considered to fall into either of those three relational capital classes.

In developing countries, particularly in clustered small and medium size enterprises, there is usually a high degree of relational capital, as identified by Welbourne (2008). It is expected to be greatly successful in flourishing the size of firm operations, as strategic advantages of networks and information flows are likely to arise across firms, as are partnerships between input suppliers and entrepreneurial firms, or across the business firm and its client or customer companies. In this context, it seems pertinent to analyse the issue of relational capital operative in a rural firm cluster in India.

Murlu clay roofing tiles cluster is situated in the area of Murlu, located in Saltora Block of Bankura district, West

Bengal, India. Availability of suitable clay, skilled labour, coal, and suitable climatic conditions were the main factors for developing this cluster in Murlu. This cluster is based on labour-intensive, seasonal manufacturing units, and contributes substantially to the local economic development by utilising local raw material resources along with employment generation through small- and medium-size processing units. Demand for tiles is closely linked with the shrinking of markets due to thrust from the tin-asbestos product as cheap roofing materials. With increasing use of asbestos, there has occurred a slowdown in roofing tiles. Despite this, the cluster of firms continues to undertake activity in a business atmosphere that allow its survival. In this context it is important:

- To build up a relational capital index in small-scale clustered clay tile firms and assess the degree of correlation between this index and the level of firm performance.
- To test the reliability of the relational capital items.
- To investigate the impact of individual relational capital items/variables on the firm performance level.

Components of Relational Capital and Relevant Hypotheses

The different components of relation capital and the corresponding hypothesis are described below.

Sharing of Technological Knowledge: Mutual communication across stakeholder groups improve enterprises' strategic competence, emboldened by relational capital in the form of increased exchange of ideas, information flow, and enhanced knowhow. In the perception of related parties, this leads to better value adding for the respective enterprise. Mutual flow of knowledge and information, and improved possibilities of replication are likely to lead to better quality products and marketing avenues, which may give rise to better profitability in the business.

Relation with Customers: Customer relation appears to be an important form of external intangible asset for an organisation in an era of increasing globalisation of the business environment. Customer ties and feedback allow us to understand market dynamics, customer preference, and possible price change. Customer relationships lead to better profit accumulation for an enterprise, in terms of strategic knowledge gain and the prospect of attracting a new customer base (Greve & Salaff, 2003). Customers in the world today are like sovereigns whose preferences, desires, actions, and attitudes have a significant impact on the course of a firm's success. Therefore, the retention of good customer capital is likely to be positively linked to firm achievements, indicated by profitability measure.

Relation with Input Suppliers: Relational capital also involves the support of the supply chain, in the form of continual flow of inputs with maintained quality. This is rooted in the social structure and dealings with pertinent groups of people through whom access to inputs can be made. Firms often carry out survey of the satisfaction of suppliers from whom products/services are purchased, and this is reflective of their worry about maintaining a good rapport with them, with the expectation of having continued future support. It is very likely that this type of external capital would have a positive effect on the performance of firms.

Informal Relation with Firms in Cluster: Friendly informal relations and the absence of surface-level rivalry across firms in a cluster creates emotional support conducive to an affable climate for development, and an atmosphere of cooperation and competitiveness. It constitutes an intangible asset and strengthens an entrepreneur's competitive zeal, which is believed to be encouraging to improve firm outcomes.

Linkage with External Bodies: Firms often develop relations with different agencies within and outside the domestic periphery. So, they may have ties with government organisations, credit institutions, importers outside the country, transport networks, local motivators, and so on. It helps in gaining valuable information, knowledge, experience, credit, better access to marketing channels, or market environment related strategic information, all of which are likely to have a direct impact on enterprise performance level.

Location: The location or position of a firm/business in a region is linked to better transport links, high population density, and thus potential customers, easy access to skilled labour and raw materials, together with availability of spacious worksite produce facilities which are advantageous for improved profitability.

Reputation: Dealing in a sociable manner with all stakeholder groups creates an upright image for an entrepreneurial firm and this is recognised as reputation. A good reputation generally proves beneficial in getting new customers, attaining acceptance from existing customers, and gaining access to credit, raw materials, and other tools that would otherwise not be accessible (Shane & Cable, 2002). It also leads to increased consumer satisfaction about product quality and durability. A firm having goodwill is therefore expected to have a competitive advantage in terms of production, distribution, and marketing potential, and this provides strength in a competitive environment in terms of better survival opportunities and financial prosperity.

Trust and Good Faith Relationship: The reputation of a firm helps generate relations based on trust and mutual confidence. It emboldens the trust among input suppliers, customers, retailers, and credit agencies, and leads to quick and efficient exchange of information, acquire speedy production order from credulous groups, and helps build a better marketing edifice. This is likely to have a positive impact on the firm performance.

Data and Methodology

Primary data have been collected through random sample technique from the clustered clay firms producing traditional tiles in Murlu, Saltora region of Bankura district in West Bengal, India. The nearest main town is Raniganj, around 30 km away from Murlu. This area encompasses 200 micro units manufacturing clay roofing tiles; 60 of them were covered in the study based on a face-to-face interaction with the firms' owners and a pre-structured questionnaire. As respondents to the questions, the owners were preferred because they shouldered responsibility for the day-to-day operations and engaged significantly in the ultimate decision-making process.

The building up of an overall index of relational capital on the basis of the principal component method involves consideration of different individual components of relational capital. By and large the computed index is called a latent variable. The problem here is the assigning of weight to the individual indicators, which is crucial to optimising the information from a collection of data contained in an index. A good composite index should contain essential details from all the components, but it should not be heavily biased towards one or more of them. It must be emphasised here that the individual relational capital indices are calculated in terms of the five-point Likert style scaling, varying from 1 = Extremely Unfavourable, 2 = Unfavourable, 3 = More or Less Good, 4 = Favourable, and finally to 5 = Extremely Favourable.

The general index of relational capital is considered to be a linear function of eight related components. The measure considered sharing of technological knowledge, customer relationships, informal relations with firms in the cluster, relations with input suppliers, linkage with external bodies, locational advantage, trust and good faith relationships, as well as reputation. These are referred to as X_{1i}, $X_{2i,}$ $X_{3i,}$ $X_{4i,}$ $X_{5i,}$ $X_{6i,}$ $X_{7i,}$ X_{8i}, respectively. The relational capital index in latent form can be stated as follows.

$$RC_i = \Delta_1 X_{1i} + \Delta_2 X_{2i} + \Delta_3 X_{3i} + \Delta_4 X_{4i} + \Delta_5 X_{5i} + \Delta_6 X_{6i} + \Delta_7 X_{7i} + \Delta_8 X_{8i} + E_i$$

Where i = 1 to 60

We denote λ_m (m = 1, 2, 3, 4, 5, 6, 7, 8) as the m^{th} Eigen value. Subscript m refers to the number of principal components that also coincides with the number of corresponding indicators. Noting that the values of λ_m gradually falls as the suffix increases, we denote P_m (m = 1, 2……7, 8) as the m^{th} principal component. We get the corresponding relational capital index according to the following weighted average:

$$R_i = \frac{\sum_{m=1}^{8} \lambda_m P_m}{\sum_{m=1}^{8} \lambda_m}$$

While the entire set of causal variables is typically replaced by a few principal components, which account for a large percentage of total variance in all sample variables, here we incorporate as many components as the number of explaining variables. This is because of our concern in avoiding the removal of details which could influence the estimates. This method also accounts for 100% of the overall variance in the data.

Cronbach's alpha has been used to assess the degree of reliability or internal consistency of a series of individual components of relational capital. This is determined by correlating the score for each element with the total

score for each measurement, and then comparing it to the difference for all individual indicator scores.

Where, $$\alpha = \frac{\kappa}{\kappa-1}\left(1 - \frac{\sum_{i=1}^{\kappa}\sigma_{yi}^2}{\sigma_x^2}\right)$$

k refers to the number of relational capital variables, σ_{yi}^2 indicates the variance associated with the i[th] item, and σ_x^2 shows the variance associated with the total scores observed. To explain the variability in the degree of firm performance, all the eight relational capital indicators are considered. In order to examine the effect of these individual independent components on firm performance level, the following multiple regression is set.

$$Ln\ y = \theta + \gamma_1 x_1 + \gamma_2 x_2 + \gamma_3 x_3 + \gamma_4 x_4 + \gamma_5 x_5 + \gamma_6 x_6 + \gamma_7 x_7 + \gamma_8 x_8$$

Where Ln y = Log value of per-capita profitability, x_1 = Sharing of Technological Knowledge, x_2 = Relation with Customers, x_3 = Relationship with Supplier of Inputs, x_4 = Informal Relation with Firms in the Cluster, x_5 = Linkage with External Bodies, x_6 = Location, x_7 = Trust and Good Faith Relationship, and x_8 = Reputation.

Results and Discussion

Based on eight relational capital components for 60 entrepreneurs, the principal component method was applied to extract the relational capital index. To this end, all eight possible key components were used to make full use of the available data, without wasting any information. The values of the coefficients connected to the eight elements of normalised relational capital values are reflected in Table 1. At the bottom of the table, the corresponding Eigen values are tabulated.

Table 1: Principal Components Coefficients and Eigen Values of Relational Capital Variables, Clay Tiles Murlu

Variables	*Comp1*	*Comp2*	*Comp3*	*Comp4*	*Comp5*	*Comp6*	*Comp7*	*Comp8*
Sharing of Technological Knowledge	0.2886	−0.4817	0.2723	0.5332	−0.131	0.5174	−0.1888	0.0756
Relation with Customer	0.219	0.7042	0.1111	0.1923	−0.4395	0.2941	0.3565	0.0096
Relation with Suppliers of Inputs	0.378	0.2179	0.1783	0.5028	0.3085	−0.6122	−0.1096	0.2076
Informal Relation with Firms in the Cluster	0.2625	0.1144	0.5895	−0.4282	0.5478	0.2729	0.1106	−0.0181
Linkage with External Bodies	0.3053	0.2359	−0.6343	0.0988	0.4353	0.3409	−0.2466	−0.2693
Location	0.42	−0.2891	−0.3612	−0.1837	0.0163	−0.004	0.5335	0.5393
Trust and Good Faith Relationship	0.4609	−0.2529	0.0357	−0.0965	−0.2171	−0.274	0.2352	−0.7318
Reputation	0.4182	0.0917	0.0093	−0.4355	−0.397	−0.072	−0.642	0.2279
Eigen Values	3.02863	1.17417	1.01019	0.908844	0.73912	0.426955	0.367332	0.34476

Source: Author's calculation based on Primary Survey conducted in 2019.

The corresponding relational capital index values for the 60 entrepreneurs using the method,

$$R_i = \frac{\sum_{m=1}^{8}\lambda_m P_m}{\sum_{m=1}^{8}\lambda_m}$$

are given in column 2 of Table 2, while log values of per-capita profits are tabulated in column 4. The coefficient is found to be positive, as expected, if we regress the log values of per-capita profit on the relational capital index. Its value is found to be 0.306. The corresponding F value is 15.49 and it is also significant at 1% level. The correlation between relational capital index and log value of per-capita profitability is 0.459, which is significant with its p value at 0.01 level.

Table 2: Relational Capital Index and Per-Capita Profit Values of Murlu, Saltora

Individual Firms	*Relational Capital Index*	*Per-Capita Profit Value*	*Log Per-Capita Profit Value*
1	0.944022	9500	9.1590471
2	0.885365	10500	9.2591305
3	0.920814	10000	9.2103404
4	1.000776	9000	9.1049799
5	0.885615	9500	9.1590471
6	0.992622	9400	9.148465
7	1.012846	9000	9.1049799
8	0.803066	9200	9.1269588
9	1.012846	9700	9.1798812

Individual Firms	*Relational Capital Index*	*Per-Capita Profit Value*	*Log Per-Capita Profit Value*
10	1.012846	10600	9.2686093
11	1.178261	11500	9.3501023
12	0.592719	8900	9.0938066
13	0.520911	8000	8.9871968
14	1.178261	10900	9.2965181
15	1.034645	9000	9.1049799
16	0.520911	8200	9.0118894
17	0.520911	7500	8.9226583
18	1.178261	9500	9.1590471
19	0.897435	9400	9.148465
20	0.520911	7900	8.974618
21	0.870995	9600	9.1695184
22	0.977567	9100	9.1160297
23	0.829506	9500	9.1590471
24	0.977567	8900	9.0938066
25	0.592719	9100	9.1160297
26	0.998484	8500	9.0478214
27	0.934926	8800	9.082507
28	0.838265	9300	9.1377697
29	0.48608	8300	9.0240108
30	1.006991	9000	9.1049799
31	1.032545	9500	9.1590471
32	0.999446	7000	8.8536654
33	1.107783	9500	9.1590471
34	0.878106	9200	9.1269588
35	1.071254	11200	9.3236691
36	0.617177	9200	9.1269588
37	0.955843	8900	9.0938066
38	1.114959	11000	9.3056506
39	0.593937	9200	9.1269588
40	0.663565	7400	8.9092353
41	0.962067	7000	8.8536654
42	1.070292	8000	8.9871968
43	0.986413	8300	9.0240108
44	0.862406	8200	9.0118894
45	0.756803	8300	9.0240108
46	0.797791	7000	8.8536654
47	0.592719	6800	8.8246779
48	0.496564	8900	9.0938066
49	1.119853	9100	9.1160297
50	1.070292	8200	9.0118894
51	0.888929	7000	8.8536654
52	0.948666	8900	9.0938066
53	0.584212	7500	8.9226583
54	0.92966	7900	8.974618
55	0.62295	6500	8.7795575
56	0.496564	8900	9.0938066
57	1.035975	8200	9.0118894
58	0.526497	5800	8.6656132
59	0.850336	8500	9.0478214
60	0.986413	7100	8.8678501

Source: Author's calculation based on Primary Survey, 2019.

Cronbach's alpha coefficient reflects the degree of internal consistency and reliability of the measurement of relational capital components. The alpha coefficient values vary from 0 to 1, and are useful in defining the reliability of variables derived from the multiple points of the questionnaires. Higher the score, the greater the degree of reliability. According to Nunnally (1978), 0.70 could be seen as a reasonable coefficient of reliability. However, lower thresholds are not unusual in the literature in particular cases. In the present scenario, the alpha value pertaining to the eight relational capital entities is 0.733, suggesting that the instrument used to measure relational capital indicator is reasonably accurate. Even if an object is removed, as seen in Table 3, alpha emerges as an important element in this context. If any individual component is omitted from the scale, it is indicative of the internal consistency of Cronbach's alpha reliability coefficient. Thus, as seen in Table 3, if components like relation with customer or informal relations with firms in the cluster were to be excluded, in either scenario the reliability of the instrument used on the relational capital of firms would improve marginally (in terms of value, 0.735 or 0.734). Other components are important, since the alpha coefficient value is decreased by their absence.

Table 3: Values of the Item Total Statistics, Murlu, Saltora

Variable of Relational Capital	*Scale Mean if Item Deleted*	*Scale Variance if Item Deleted*	*Cronbach's Alpha if Item Deleted*
Sharing of Technological Knowledge	31.3167	6.525	0.732
Relations with Customers	30.9667	7.253	0.735
Relations with Suppliers of Inputs	31.0333	6.473	0.685
Informal Relations with Firms in the Cluster	31.2000	6.705	0.734
Linkage with External Bodies	31.3333	6.497	0.723
Location	31.1667	6.277	0.681
Trust and Good Faith Relationship	31.0000	6.136	0.664
Reputation	30.9500	6.591	0.685

Source: Author's calculation based on Primary Survey, 2019.

Table 4 displays the mean value of the relational capital items, dispersion in the degree of perception of entrepreneurs about the components of relational capital, and the rank of the perceived superiority of the items. It is found that reputation is rank 1, customer relationship is rank 2, whereas trust and good faith relationship place at rank 3, in a performing cluster. However, linkage with external bodies is given least importance in their perception. The clay tiles cluster is close to Jharkhand, Bihar, where maximum marketing of their product occurs, and where they do not have to face marketing problems. The roads are in good shape and even businessmen have fairly easy access to the customer. Therefore, they scarcely have to think about the actions and relationship with future external agencies. Further, the work being mainly of a stereotypical nature, it is not given much importance by the owners. Often it is found that some long-term workers leave work from a specific enterprise and move to other enterprises or start individual enterprises on their own, by recruiting labour. It offers some room for percolation of knowhow or sharing of information.

Table 4: Perceived Status of Relational Capital Items, Murlu, Saltora

Variable of Relational Capital	*Mean*	*Std. Deviation*	*Rank of Mean*
Sharing of Technological Knowledge	4.2500	0.72778	7
Relations with Customers	4.6000	0.52722	2
Relations with Suppliers of Inputs	4.5333	0.53573	4
Informal Relations with Firms in the Cluster	4.3667	0.68807	6
Linkage with External Bodies	4.2333	0.69786	8
Location	4.4000	0.58802	5
Trust and Good Faith Relationship	4.5667	0.56348	3
Reputation	4.6167	0.49030	1

Source: Author's calculation based on Primary Survey conducted in 2019.

The regression equation is intended to determine the effect of the selected relational capital components on the level of per-capita profitability. The regression calculation results are given in Table 5. It is observed that the sign of the variable 'informal relation with the firms' in the cluster is predicted to be positive; its value is 0.037 and it has only a moderate effect on the variation of log profitability value. It is shown by its magnitude t and significance level ($t = 1.719$, $p = 0.092$). Similarly, the sign of the coefficient of the component 'linkage with external bodies' is also in the desired positive direction, with a value of 0.056; it is significant ($t = 2.463$, $p < 0.05$). Positive sign is found with the coefficient of the component 'sharing of technical knowledge' and it is observed to be highly significant ($t = 3.462$, $p < 0.01$). Again, the sign of the coefficient of the variable 'location' is found to be as expected; its value is 0.0103, which is highly significant ($t = 3.237$, $p < 0.01$). Although the sign of the coefficients of 'relation with

customers' and that of 'relation with input suppliers' are positive, they emerge to be insignificant. However, the sign of the coefficient of the variable 'reputation' is found to be surprisingly significantly negative. There are some typical buyers who believe in aesthetic values inherent in these traditional clay tiles. Hence, with waning reputation and perceived gradual decrease in use of such tiles, there is eventual deletion of this traditional art. Yet they believe in the old myths and continue to buy these clay tiles for their home roofing purposes, which partially explains the opposite relationship between profit and reputation. Further, the sign of the coefficient of the variable 'trust and good faith relationship' within the cluster is found to be unexpectedly negative, which is insignificant.

Table 5: Regression Result of Firm Performance, Murlu, Saltora

Independent Responses	*Coefficient*	*Std. Error*	*t-Statistic*	*Probability*
Constant	8.384*	0.177	47.365	0.000
Sharing of Knowledge	0.075*	0.022	3.462	0.001
Relation with Customers	0.007	0.029	0.241	0.810
Relation with Input Suppliers	0.014	0.031	0.445	0.658
Informal Relations with Firms in the Cluster	0.037	0.021	1.719	0.092
Linkage with External Bodies	0.056**	0.023	2.463	0.017
Location	0.103*	0.032	3.237	0.002
Trust and Good Faith Relationship	−0.043	0.034	−1.260	0.214
Reputation	−0.083**	0.037	−2.260	0.028
Goodness of Fit				
R^2	0.511	Adjusted R^2		0.435
F-Statistic	6.675*	Prob (F-statistic)		0.000

Source: Author's calculation based on Primary Survey conducted in 2019.
Notes: *Indicates Statistically Significant at 1%; **Indicates Statistically Significant at 5% level of Significance.

With the value of R^2 being 0.511 and the value of F as 6.675 (significant at 1% level), the overall regression as shown in Table 5 is observed to be well fit.

Conclusions

With regard to the above analysis, it is observed that the internal consistency of relational capital components is relatively strong. Further, it is important to note that if either of the indicators, 'relation with customers' and 'informal relations with firms in the cluster', are deleted, the value of Cronbach's alpha will increase slightly. This result is further corroborated by the results of the regression equation, where it is found that the coefficients of the aforementioned two indicators are relatively insignificant. This finding can be explained by the fact that in the concerned cluster, there is an undercurrent of mutual rivalry and competition across the firms. The lurking desire across the firms to capture a bigger size of the total market and undercut their co-producers in the locality seem to be reflected in a non-cohesive (with other indicators of relational capital) impact on the informal relation between firms in the locality. Further, this type of attitude among the entrepreneurs reinforces poor trust and fragile bonding, a stronger version of which are often required to generate a relational capital atmosphere conducive to sustained vibrant growth in the region. Again, the location of the rural level enterprises at a region well connected with/beside the main road, helps develop potential market and has a significant impact on the profitability situation of the enterprises. The uninterrupted production process recognises the importance of maintaining good relationships with input providers for enterprises, and has usually a significant impact on the performance level. However, in this case it does not happen, probably because the enterprise owners and local input suppliers have known each other for a long time and do not have to make the extra effort to maintain their traditional relation. As a result, we get a positive but insignificant impact by the input suppliers. However, the cluster was found very keen to share experience, business facilities, packaging, and tempering or channeling skills

with others, which helps the shared survival of cluster become a success, and helps its added value. Some of the factors that help establish a good relationship with customers include the maintenance of repeat rates for customers, steady prices along with good product quality, and continuous output supply. Unfortunately, this factor is not found to be significant in the study region. The study provides practical suggestions for defining areas of relational capital, which can make a significant contribution to operational success if controlled and nurtured effectively and deftly. Again, the clay tiles firms in this region have a long tradition of enterprise-based production. However, it is found that the reputation factor has a negative significant effect on the level of firm performance. The supply of output in the market through the chain link of external bodies, clustering of a number of skilled enterprise owners in a small neighborhood, and their link with underdeveloped states (like Jharkhand, Bihar, Odisha), where there is still demand for clay tiles, have helped in sustaining this art despite the foray on its reputation by emerging modern roof materials. However, there are areas which need to be looked into for generating stronger bonds of trust and faith relations of the firms in the cluster, relation with input suppliers, as well as maintaining relationships with customers located afar. Overall, the finding suggests that for a vibrantly growing cluster of entrepreneurial firms there needs to be considerable consistency in the relational capital items and significant positive contribution of each item to firm-level performance.

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