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Building Strategic Alliances between Buyer-Supplier in Mining Operations: Analysis in the Industry Competition Context

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Abstract

This paper presents a study about structural and functional formation conditions of Buyer – Supplier (BS) alliances in core mining production process activities. The study of this possibility marks an evolution challenge to this industry, traditionally not so sensitive to aspects related to network modularity in business model provoked by modern economy acceleration. An empirical research has been performed to validate construct formation and some previous propositions needed to investigate a change in the current mode of maintenance services supplier transactions to create additional value in process operations. This study is contextualized in an environment that adopts a framework for high-performance maturity management model for mineral process industry. The investigation takes into account content analysis of economic, human, technological and organizational dimensions as present capability. In sequence it gives attention to conduct analysis considering Plan-Do-Chek-Learning management life cycle involved in the supply process activities for a future transactions maturity stage. This case study investigation attempts to examine Buyer perspectives in the relationship change using survey and factorial analysis with discriminating validation for construct indicator's instantiation and validation. This is needed in the way to find a decision-making model considering the different perspectives of actual market driven mode of transaction to future strategic alliances for sharing service systematization in core operations. This study signalized some differences in BS comprehension for questions of content knowledge and management methodology issues compared with literature best practices. Results show that strategic alliance formation in the mining production process activities is a perspective to be developed and consolidated tanking in account new variables arrangement for identified constructs to support advanced robust modeling studies.

Key words: Buyer-Supplier transactions; Buyer-Supplier; Strategic Alliances; Maturity Model; Supply transformation

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INTRODUCTION

In a fast demanding and challenged order renewing the business model topologies assuming change and complexity are determinant for enterprises to better understanding resources strategy and improve service logistic higher performance. The mode of transactions represents a permanent question to value creation for Buyer-Supplier (BS) and challenges business relationship on the mineral process industry. BS mode transaction change can be studied considering the content-conduct analysis for the backward events and process phenomenon, generally not viewed as a usual strategic component by enterprises largely process industry orientated. Corporate strategy need attention to the transactions phenomenon that occurs in backward chaining that has important effects on information sharing, materials and quality services and transaction costs (NARASIMHAN & NAIR, 2005, PAULRAJ, 2008). So the evolution of transactions between suppliers compared to best strategic alliances practices has continuous important new implications for business strategies along industrial chains and production structures. Supplier-supplier (SS) alliances have been established in industries such as electro-electronic appliances (LEWIS, 1997; HAMEL & DOZ, 1998, DOZ,2008), while Buyer-Supplier (BS) have been tried in the automotive industry (MARX, 1997; REBOUÇAS, 2000, MELO,2005,) were various production activities are performed under full responsibility of suppliers. In some instances suppliers can act in terms of proximal governance, with implications for the

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logic of organizational networks, logistics and business model intend to be successful (GUARNIERI, 2009). However, BS transactions have not been widely explored in base sector industries which operate according to the logic of processes. In particular, the content dominance and conduction of operations for maintenance of mineral production have been traditionally included among core competencies of companies in that sector. In such case, critical inputs as well as some third-party services are procured on the basis of relationship within a competing market involving pre-selected suppliers. To take alternatives among BS transactions and promote additional value, this work seeks to show that it is important to consider change associated to the capability maturity level of the organizational model practices. This need comes from the consideration that alliance termination rates are reportedly over 50% (LUNNAN & HAUGLAND, 2008), and in many cases forming such relationships has resulted in high risk (LEE,2009, SRINIVASAN,2011) exposition and shareholder value destruction for the companies that engage in them (KALE, DYER, & SINGH, 2002). In advance, the structure and the way of sourcing and partnership comprises many current practices adopted together, implies to follow the same learn curve and conjoin growth. In this case the business discourse contents find a fine tune with the practices conduction which must be evolutionary for the both side (COUSINS, 2008, KIM, 2010). In view of its influence on organizational performance and results, the way which the relationship between a main client and its suppliers of industrial mining plant maintenance services allocated in different units that operates at high level performance can be perceived, analyzed, structured and managed is the objective in this case study. The investigation attempts to examine Buyer's perspectives for change using survey and factorial analysis with discriminating validation content and constructs indicator's instantiation and validation. This is needed in the way to find a decision-making model considering the different perspectives of actual market driven mode of transaction to future strategic alliances for sharing service systematization and contributes to enterprise management excellence.

CONCEPTUAL REFERENCES

A journey to management excellence encompasses change guided by organizational referred learning and integration derived from adequate and proactive practices identification and implementation on an integrated strategic fashion (TANG&BAUER, 1995, LEONARD, D. & MCADAM, R., 2002, EVANS, J. R. & MAI, F., 2014). To reach best in class performance in BS transactions as well technology adoption, personnel engagement and economic treatment, best management practices are to be improved from learning cycles, innovate and integrate as key organizational thematic. These management practices are applied to leadership, strategy, clients, society, information and knowledge, people, process and results. Conduction sequences like conception, execution, evaluation and review considering a maturity-level approach- application- results cycles operates to change BS patterns. Supply policies and models have been greatly influenced by the total quality approach, in parallel with the implementation and growing certification of quality systems (CAMILO, 1989). In this case, management practices have been adopted with reference to the ISO 9000 family of standards. Considering the practices adopted under Quality Management Systems – QMS, the pursuit of guarantees in transactions have been consolidating selection, qualification and auditing practices, while suppliers have been encouraged to seek certification as to ensure quality. Such practices include environmental, health & safety management, and, more recently, social responsibility. From the perspective of quality the ideas emphasized include a more cooperative relationship with suppliers. This slant points at a theoretical approach that sees things from the point of view of systems and their learning dynamics (DEMING, 1990; SENGE, 1990, GARVIN,2002), and which is applied to organizational processes and relations between as such. The adoption of Buyer-Supplier more relational value creating transactions to supply products and services is a proposal that points out to an evolution in management from a stage A of maturity to a stage B. It represents a strategic innovation in the supply chain of a major industrial process driven organization that implies maturity level analysis and much more collaborative efforts. It is necessary to understand how the creation of value and the competitive position of each participant evolves or remains inoperative over five or more years during which a longer contract may exist. It is important to interpret which factors and contingencies determine exactly who obtains what from the collaborative process.

Best alliances practices references

Trying to understand best strategic alliances practices Hamel and Doz (1998) pointed out that alliances seek at least three distinct objectives through their common underlying value-creation logic. This requires some system maturity characteristics (Hamel & Doz, 1998), namely:

(a) Gaining competitive capacities by co-option

- Co-option. Turning other organizations or potential competitors and complementors into allies. Commitment to action focused on the establishment of complementary transitions to allow existing or new business to develop and reach new critical mass.

(b) Leveraging co-specialized resources

- Co-specialization. Mutual development of competencies in synergy with differentiated technology application. It results from the combination of positions, resources, skills and sources of knowledge until then isolated.

(c) Gaining competence by means of internalized learning

- Learning and internalization. Acquiring knowledge through experience and incorporation of new skills, particularly those which are tactic, collective and deep-rooted.

The relationship with suppliers, of the BS type, which occurs as a two-way channel, brings our focus to an interface which is very similar to internal processes in a major organization (Hamel & Doz, 1998). First, even with allies being brought so close through the BS channel, technology exchange for co-specialization gains depend on two conditions: a) access, usually restricted and limited to the possibility of educational development; and b) system capacity for communication between allies. Second, the activities taking place at the interface between supplier and main company usually tend not to be well defined. The responsibilities of the alliance are established not clearly beforehand, requiring an initial investment and an explicit design for allied channel management. Some of the scripts proposed in the relevant literature – such as Harbisom and Pekar (1999) – show detailed management practices mainly pertaining to the initial phases of an alliance-forming, whereas alliance implementation, monitoring and evaluation of results have not often been stressed, as in the approach proposed by Hamel and Doz (1998). The consideration of an evolution governed based on value chain strategic projects provides important elements for the analysis of transactions with suppliers. Along these lines, Fine (2002) envisaged new ways to think about design and management of an extended organization. A company's value-chain project is usually seen as a static initiative: the assembly of a fixed set of suppliers and distribution channels with the aim of gaining and keeping competitive edge, with the pace of technological changes occurring in today's markets renders such as approach obsolete. A new movement would then be vital for the supply and incorporation of new knowledge, considered as "genetic material" to foster evolution of the supply chain and the organization itself. The high level of turbulence provoked by changes in the industrial sector – as a sector of the economy – could assign high significance to the perspective of business genetics as a source of knowledge. The concept of clockspeed is, from that perspective, associated to evolution pace or rate. The related knowledge can provide support to build the capacity for quick appropriate response to analyses conducted on organizational-negotiating border configurations. Factors taken into consideration include those pertaining to design of formal and informal boundaries of the organization adequacy of governance and coordination mode, guidance on risk issues, opportunities for "Making or Buying" and reconfiguration with suppliers transactions of services, inputs and parts. The faster the evolution of the industrial sector, the shorter any competitive edge achieved will last, and the tighter will be the time-slot allowed to take strategic decisions as to positioning reinforcement of resources and relationship. Fine's business genetics considers the industrial equivalent to the double helix by analogy with the like a metaphor " DNA structure", creating two force fields that illustrates the likely movement of influencing factors and suggests how industry/product structures evolve from vertical/integral to horizontal/modular through mutations. These five strategic factors: high relevance to the client, pace of technological evolution, strong competitive position, supplier base capacity, and high degree of modularity, comprise the elements required for the creation of strategic value. The double helix can clarify two phenomenon's: first, production in the sector shifts from a vertical structure to a situation in

which it faces strong pressures towards disintegration; in the second phenomenon, the supplier shifts from a horizontal structure to a state in which there are substantial incentives towards integration (Fine, 2002).

Model constructs references

The theoretical framework adopted herein is based on formulations from conduction perspective to management excellence derived from quality management (DEMING, 1993; EVANS and JACK, 2003, FNQ, 2011, JONES, 2014). It is also referenced on strategic organizational changes associated to an evolutionary relational approach (FINE, 1998, 2002, CAMILO, 2010). The management approaches considering quality, strategy and chain architecture are based on four key arguments: (i) fundamental principles and guiding thematic criteria; (ii) systems and methodologies for planning, execution, control and evaluation; (iii) process routines for high reliability and low variability; and (iv) ambidexterity for rupture or continuous improvement (MAYLOR,2013) towards new forms of integration.

The evolutionary organizational change perspective (VAN DE VEN & POOLE, 2005) is based on a model dynamics in consideration of variation, selection and enactment aspects that precede mutation which can occurs in dynamic cycles. The ontological domain of conduction aspects for BS – management sequence of scope, configuration, negotiation, implementation and evaluation – are arranged on the basis of the PDCL life cycle (DEMING, 1990, FNQ, 2011). At a level of organizational process and their practices management maturity are associate to the approach deployment, learn and integration degree. The ontological perspective adopted for BS content categorization considers the following capability domains or dimensions: human, technological, economic, and organizational (strategic, structural, and functional).

Model derivation and constructs elaboration

A synthesis of the BS building method identified in this work for conducting transactions through BS strategic alliances is presented in TAB. 1 taking in account five functional steps for building BS alliance. A definition for conduction constructs connected to the process representing the methodological option, was made with the purpose of verifying indicators associated to the following phases: Identification & Scope – IDESC; Analysis and Configuration – ANCON; Negotiation and Governance – NEGOV; Implementation and Interfacing – IPINT; Evaluation and Repositioning – EVREP.

TABLE 1 – METHODOLOGICAL TRAIL

Steps for Implementing Alliance Management	Construct Code
SCOPE	**IDESC**
Identifying services	
Evaluate suppliers	
CONFIGURATION	**ANCON**
Define opportunities for gains	
Assess bargaining power and contributions	
Assess risks	
Define suppliers	
NEGOTIATION	**NEGOV**
Establish patterns for action	
Plan integration	
IMPLEMENTATION	**IMPINT**
Set up shared operations	
Monitor results	
EVALUATION	**EVREP**
Compare results	
Re-direct activities	

The definition of the content constructs was carried out by devising indicators associated with the following dimensions: Human – HUM; Economic – ECO; Technological – TEC; and Organizational – ORG.
Thirty eight questions were designed in conceptual bases to serve as constructs indicators that could shed light over the interrelation between structural and functional factors and dimensions being investigated. The same set of questions are taken for structural content constructs and functional conduction, properly associated in investigating present aspects of the currently BS mode of transactions as shown in TABLE 2.

TABLE 2 - Association between the constructs indicators

Conduction-Content Questions Association	
IDESC 1. ORG	NEGOV 20. TEC
IDESC 2. ORG	NEGOV 21. ECO
IDESC 3. ECO	NEGOV 22. ORG
IDESC 4. ECO	IPINT 23. TEC
IDESC 5. TEC	IPINT 24. TEC
IDESC 6. HUM	IPINT 25. HUM
IDESC 7. TEC	IPINT 26. ORG
ANCON 8. ORG	IPINT 27. HUM
ANCON 9. TEC	IPINT 28. HUM
ANCON 10. TEC	IPINT 29. HUM
ANCON 11. ECO	IPINT 30. ORG
ANCON 12. HUM	EVREP 31. HUM
ANCON 13. ECO	EVREP 32. ORG
ANCON 14. HUM	EVREP 33. HUM
ANCON 15. ECO	EVREP 34. HUM
NEGOV 16. ECO	EVREP 35. TEC
NEGOV 17 ORG	EVREP 36. ECO
NEGOV 18. TEC	EVREP 38. ORG
NEGOV 19. ORG	

Based in the literature reference some propositions were defined based on intensity and inter-relations between factors and influences derived from BS relationship (HAMEL, 1998, HARBISON, 1999, KANNAN, 2006). Five guiding propositions were formulated and are described in TAB. 2.

TABLE 3 – GUIDING PROPOSITIONS

P1: The greater the degree of development achieved in the human dimension to ensure permanent negotiators understanding in the relationship client supplier, the greater the capacity of both client and supplier to modify the way transactions are conducted, and evolve towards strategic alliances.
P2: The greater the capacity of both client and supplier to contribute with co-specialization, anchored on mutual technological contributions, the better the conditions favoring strategic alliance.
P3: The more clearly directed is the implementation and management integration of transactions in face of possibilities for change, with the phases of a reference methodology being followed step-by-step, the better are the conditions favoring the adoption of strategic alliances.

P4: Transactions under a strategic alliance will generate more value to the organizations involved, as well as to the main organization, as they take on the shape of co-producing possibilities in defined processes up to the level of operations and direct support, implying innovation.
P5: The more structured is the management model aligning different organizations, the better are the conditions favoring strategic alliance.

INVESTIGATION METHOD

The case study was done in a large mining organization in Brazil as observation unit for the exploratory investigation supported by a survey methodology and forty interviews with managers. The gathering of information done by means of questionnaires occurred within the premises of two operational units that fully developed the quality and productivity approach that boasts a strong culture of excellence. The suppliers considered under this study are small and medium-size organizations, which have developed long-term contracts with the supplier in the last ten years in the areas of services such as boiler-shop, cutting, welding, manufacturing, assembly, reform and recovery of metal parts; corrective and preventive mechanical maintenance of equipment at crushing; coating of drums and parts assembly of grate cars and mechanical support maintenance and anti-corrosion treatment. The questionnaires applied for buyer's key areas and contract managers were designed to allow data from individual participants' answers. The questions are stated in the affirmative and the whole set of questions were organized seeking to ensure objectivity and consistency for the answers from each interviewee. The answers to the questionnaire have been processed and analyzed by means of a variety of statistical techniques such as determination of reliability levels and internal validation of scales. It applies the reducing technique of multivariate statistics for identification and constructs classification based on factorial analysis with discriminating validation. We chose to analyze the factors matrix after rotation to contain the coefficients used to express the standardized indicators in terms of the factors. These coefficients - the factor loadings - indicate the correlations between the factors and indicators. The coefficients of the factors matrix can be used in interpreting the opinion of respondents regarding their affinity for certain factors. The interviews are used to reinforce the interpretations of the factorial experiment.

RESULTS

The results from initial calculations used for assessing questionnaire reliability to importance scale, in which the natural base displayed revealed lower construct reliability levels, shows indicators that were to be removed, such as one in TEC, one in ORG and one in ECO. The final results from calculations of the overall Cronbach Alfa coefficient is 0,9644 for Buyer content and 0,8482 for Buyer conduction. Cronbach Alfa values above 0.5 indicate reliability of indicators for Buyer bases. For validation of the convergent construct, in both content and conduction, significant Alfa values were observed, regarding the buyer responses, with all of them being above 0.5. The HUM construct showed convergent validity for content and conduction responses. The observation shows the higher convergent construct reliability and validity, attested by the overall Cronbach Alfa as well as the Cronbach Alfa for all the remaining constructs. The factorial analysis also allowed an evaluation to be made of its discriminating validity as it refers to the degree at which the measure does not correlate with other constructs from which it is suppose to differ. The natural matrixes presented in most cases, six factors with the two last ones being comprised of one or two indicators. No significant alteration was noticed in the composition of factors after the use of a forced option.

Constructs dimension factors for content

TABLE 4 shows indicators for the various content constructs were observed by grouping around the four factors with high dispersion. The first column indicates the questions classification based in the propositions encountered in the literature review in terms of ORG, TEC, ECO and HUM association. The questions are presented in a decreasing order due to the grouped factor charge.

TABLE 4: Rotated Factor Matrix: Content Responses (continue)

Rotated Factor Matrix - Buyer Content - Forcing 4 factors

		Factors			
		ORG	ECO	HUM	TEC
ORG 30	The critical activities of service delivery are clearly recorded during services performance	0,746	0,354	0,455	0,378
ORG 26	The procurement department makes clear their responsibilities and procedures to mediate the services between suppliers and users	0,673	0,346	0,369	0,603
TEC 23	The supplier of services presents for approval the design and technical procedures for carrying out each service to be performed	0,670	0,635	0,560	0,147
HUM 25	The supplier's working structure is sufficiently organized with defined procedures to guide the implementation of services	0,652	0,242	0,605	0,442
TEC 10	Supply scopes of services are clearly defined in the bidding	0,641	0,269	0,271	0,311
TEC 18	Service contracts have clauses that encourage specific activities to improve the services performance	0,583	0,185	0,343	0,645
ECO 21	The funds allocated by suppliers are provided in spreadsheets price with further investments for the provision of services	0,578	0,02	0,431	0,239
TEC 7	The service companies who win the competitions have signed contract with technical scope of the services to perform	0,577	0,306	0,339	0,094
TEC 24	Suppliers have and develop adequate facilities and equipment to provide the contracted services	0,567	0,105	0,290	0,814
HUM 31	They are set regular meetings with contractors for performance evaluation of services provided in the period	0,449	0,314	0,321	0,196
ECO 36	Suppliers are paid for services rendered after release by the user area and after a quality assessment	0,424	-0,084	0,239	0,208
HUM 12	The suppliers take into account criteria for posture and attitude in selecting employees to work in service delivery	0,333	0,302	0,205	0,047
ECO3	Suppliers establish an adequate margin of profitability for the provision of services and evaluate the results of completed activity	0,120	0,785	0,313	0,093
ECO 13	The current volume of business and revenues from services are significant to the business of suppliers	0,127	0,700	0,242	0,336
ECO 11	Investments to ensure improvements in services are brought more on the initiative of suppliers	0,040	0,680	0,082	0,285
ECO 15	The tenders for supply are informed and made with enough time to quote and sufficiently in advance to provide services	0,483	0,627	0,202	0,161
HUM 33	The allocate providers trained personnel and appropriate management methods to deliver the services and monitoring	0,212	0,597	0,106	0,160
ORG 17	The procedures governing the activities to ensure the quality of services supplies are standardized by users and areas suitable for the level of demand for services	0,394	0,559	0,309	-0,120
HUM 6	Suppliers have the size and adequate governance structure to meet the current needs of service	0,144	0,544	-0,060	0,458
ECO 4	The potential for current suppliers and competitors are considered for new calls for developing proposals and spreadsheets to provide services by suppliers	0,049	0,537	0,258	0,333
ORG 32	Suppliers practice organized and structured after-care	0,171	0,271	0,091	-0,080

The first factor identified construct is the dimension ORG – with 12 questions, were five presents charge above 0,6. The second factor identified construct is the dimension ECO – with 9 questions, were four presents charge above 0,6. The third factor identified construct is the dimension HUM – with 7 questions, were four presents charge above 0,6. The forty factor identified construct is the dimension TEC – with 11 questions, were four presents charge above 0,6.

TABLE4: Rotated Factor Matrix: Content Responses (end)

Rotated Factor Matrix - Buyer Content - Forcing 4 factors

		Factors			
		ORG	ECO	HUM	TEC
TEC 9	Suppliers clearly understand the buyer's production technologies and the implications for the technology of its services	0,650	0,333	0,778	0,135
HUM 27	The contact for clarification and definition of the activities of the contracted services is fast and aim with the user areas	0,404	0,296	0,767	-0,040
HUM 28	The production areas are always ready to provide guidance and support for the necessary stops to deliver the services	0,725	-0,004	0,745	0,220
ECO 16	The competitions held are decided more on the basis of technical quality than based on judgment of the price sheets	0,440	0,207	0,631	0,317
HUM 14	Suppliers have contact facilities with user areas to clearly understand the projects, plans and requirements of the service activities to be developed	0,362	0,453	0,484	0,199
ORG 2	Buyer's supply policy towards the suppliers is clear and inspires credibility	0,160	0,195	0,414	0,113
TEC 5	Suppliers have full understanding of the degree of advancement of technologies involved with the services provided	0,199	0,225	0,302	0,166
TEC 24	Suppliers have and develop adequate facilities and equipment to provide the contracted services	0,567	0,105	0,290	0,814
ORG 38	Customers services have a management structure that facilitates improving the performance of services	0,542	0,372	0,087	0,745
TEC 18	Service contracts have clauses that encourage specific activities to improve the performance of services	0,583	0,185	0,343	0,645
ORG 19	Suppliers are encouraged to apply requirements contained in the integrated management system - Quality Environment and Safety	0,510	0,446	0,236	0,637
ORG 1	Suppliers are informed about the strategies and service delivery policies set periodically by senior buyer direction	0,408	0,011	0,368	0,541
HUM 29	Employees are properly trained to work on service delivery in accordance with the procedures in force in the user areas buyer	0,468	0,122	-0,220	0,517
HUM 34	Employees of the suppliers are able to understand and participate in activities to improve the performance of services	-0,007	0,465	0,051	0,487
ORG 8	Every new need for services, some companies providing contracted services are pre-selected and present proposals for trial	0,310	0,202	0,159	0,431
TEC 20	Suppliers participate in improvement teams together with the areas involved to address technical issues associated with the services provided	0,303	-0,032	0,143	0,393
ORG 22	The information passed by the buyer's supply area have clear guidelines and goals that must be met by suppliers of services	0,221	0,265	0,154	0,323
TEC 25	Service contracts have clauses that provide for specific audit activities to evaluate the performance of services	0,203	0,390	-0,050	0,219

Constructs dimension factors for conduction

The factor association between TABLE 1 - methodological evolutionary trail reference steps for implementing alliance management and TABLE 5 - indicators for the various conduction constructs were observed in analyzing TABLE 5a to 5e.

Table 5 a: Rotated Factor Matrix for IDESC: Conduction (importance)

Rotated Factor Matrix – Buyer Conduction - Forcing 5 factors						
		Factors				
		IMPLEMEN-TATION	EVALUA-TION	SCOPE	CONFIGU-RATION	NEGOTI-ATION
IDESC 7	After winning bids, service providing companies enter agreements wherein the technical scope of services to be provided is clearly stated.	0,559	0,187	0,275	0,347	0,239
IDESC 6	The suppliers have suitable scale and functional structure, enough to meet present needs as far as service provision is concerned.	0,238	0,203	0,834	0,165	0,037
IDESC 2	Buyer's supplies policy adopted in regard to suppliers is clearly defined and inspires credibility.	0,044	-0,022	0,690	0,193	0,338
IDESC 5	The suppliers fully understand the degree of advancement displayed by the technologies involved in services rendered.	0,219	0,161	0,638	0,464	0,114
IDESC 4	The potential of both current and competing suppliers are considered when inviting new proposals and quotations for service provision by suppliers.	0,148	0,564	0,624	0,129	0,013
IDESC 3	The suppliers establish a suitable profit margin for service provision, and evaluate the results per completed activity.	0,011	0,397	0,343	0,543	0,281
IDESC 1	The suppliers receive explanations about strategies and policies regarding service supply, as periodically defined by Buyer's Top Management.	0,203	0,415	0,362	0,293	0,550

Table 5 b: Rotated Factor Matrix for ANCOM: Conduction (importance)

Rotated Factor Matrix – Buyer Conduction - Forcing 5 factors						
		Factors				
		IMPLEMEN-TATION	EVALUA-TION	SCOPE	CONFIGU-RATION	NEGOTI-ATION
ANCON 10	Service provision scopes are clearly defined in tenders.	0,631	0,205	0,336	0,128	0,273
ANCON 11	Investments required to ensure improved services are brought in more often by initiative of the suppliers.	-0,013	0,117	0,305	0,813	0,103
ANCON 12	The suppliers take into account posture and attitude criteria adopted when selecting employees to work in service provision.	0,223	0,418	0,068	0,711	0,286
ANCON 13	Current business levels and revenues deriving from service provision are significant to suppliers' business.	0,217	0,382	0,322	0,667	-0,066
ANCON 8	As each new need for service arises, some of the contracted service-providing companies are previously selected and invited to submit proposals for consideration.	0,203	0,192	0,318	0,630	0,297

ANCON 17	Procedures regulating activities to ensure the quality of services supplied are standardized by user areas and suited to the level of sophistication of each service.	0,298	0,168	0,592	0,302	0,371
ANCON 9	The suppliers clearly understand Buyer's production technologies, as well as their implications in terms of service-provision technologies required.	0,491	-0,016	0,352	0,242	0,492
ANCON 19	The suppliers are encouraged to apply requirements contained in the integrated management system – Quality, Environment and Health & Safety.	0,250	0,071	0,251	0,491	0,595

Table 5 c: Rotated Factor Matrix for NEGOV: Conduction (importance)

Rotated Factor Matrix – Buyer Conduction - Forcing 5 factors						
		Factors				
		IMPLEMEN-TATION	EVALUA-TION	SCOPE	CONFIGU-RATION	NEGOTI-ATION
NEGOV 18	Service-provision agreements include clauses that encourage specific activities to improve the performance of services provided.	0,272	0,002	0,075	0,138	0,692
NEGOV 23	The service supplier submits a technical design /procedure for the execution of each service to be performed, for approval.	0,678	0,196	0,209	0,091	0,232
NEGOV 21	The resources allocated by suppliers are those planned for in their price sheets, and new investments are made for the provision of services.	0,669	0,424	0,351	-0,082	0,132
NEGOV 16	Tenders are decided more on the basis of technical quality than by just reviewing price sheets.	0,496	0,203	0,361	0,243	0,099
NEGOV 15	Tenders for the supply of services are publicized and conducted so as to allow enough time for quotations to be duly prepared and for service provision to be enabled.	0,454	0,096	-0,209	0,562	0,119
NEGOV 22	Information provided by Buyer's supplies area includes clearly-defined targets and guidelines that must be met by service suppliers.	0,290	0,365	0,532	0,211	0,065
NEGOV 14	The suppliers have easy access to user areas within the company, so as to be able to clearly understand projects, plans and requirements in regard to service activities to be conducted.	0,499	0,513	0,288	0,198	-0,030

Table 5d: Rotated Factor Matrix IMPINT: Conduction (importance)

Rotated Factor Matrix – Buyer Conduction - Forcing 5 factors						
		Factors				
		IMPLEMEN-TATION	EVALUA-TION	SCOPE	CONFIGU-RATION	NEGOTI-ATION
IPINT 30	Critical service provision activities are clearly recorded during service execution.	0,822	0,115	0,125	0,002	0,123
IPINT 28	The production areas are always ready to provide guidance and support to stoppages required for service execution.	0,679	0,343	-0,059	0,237	0,300

IPINT 24	The suppliers have / develop suitable facilities and equipment for performing the contracted services.	0,559	0,119	0,176	0,484	0,183
IPINT 25	The supplier's work structure is well organized enough to allow services to be properly performed, and includes well-defined procedures.	0,552	-0,085	0,106	0,439	0,327
IPINT 29	The employees are properly trained to provide services in compliance with existing procedures of Buyer's user areas.	0,373	0,206	0,256	0,150	0,352
IPINT 20	The suppliers participate in improvement teams jointly with the areas involved, to deal with technical matters in connection with services provided.	0,221	0,257	0,717	-0,085	0,384
IPINT 26	The supplies area clearly states its own responsibilities and procedures when intermediating services between suppliers and users.	0,418	0,338	0,029	0,251	0,649
IPINT 27	For clarification and definition of activities to be carried out in connection with contracted services, contacts between user areas and suppliers is quick, easy and objective.	0,369	0,597	0,097	0,119	0,254

Table 5 e: Rotated Factor Matrix for AVREP: Conduction (importance)

Rotated Factor Matrix – Buyer Conduction - Forcing 5 factors						
		Factors				
		IMPLEMEN-TATION	EVALUA-TION	SCOPE	CONFIG U-RATION	NEGOTI-ATION
AVREP 34	The suppliers' employees are able to understand and participate in activities intended to improve performance in service provision.	0,115	0,743	0,389	0,057	-0,055
AVREP 36	The suppliers are paid for services rendered after clearance is given by the user area and after a quality evaluation is carried out.	0,328	0,728	0,048	0,209	0,362
AVREP 33	The suppliers allocate skilled personnel and apply suitable management methods for service performance and monitoring.	0,228	0,694	0,272	0,293	0,143
AVREP 35	Service provision agreements include clauses that provide for specific auditing activities to be carried out in order to evaluate supplier performance in the provision of services.	0,038	0,638	0,188	0,219	0,426
AVREP 32	The suppliers provide post-service assistance in an organized, structured way.	0,171	0,571	-0,036	0,426	0,081
AVREP 31	Periodic meetings with representatives of the contracted companies are scheduled, with the purpose of evaluating the performance of services provided during the period.	0,161	0,295	0,259	0,000	0,691
AVREP 37	The clients to whom services are provided rely on a management structure that facilitates improvement of service performance..	0,563	0,399	0,090	0,521	0,142

One notices that the conduction construct Scope are well explained by IDESC questions IDESC 6, IDESC 2, IDESC 5 and IDESC 4 in table 5a. The conduction construct Configuration are well explained by ANCON questions ANCON 11, ANCON 12, ANCON 13 and ANCON 8 in table 5b. There is no strong

support to associate the NEGOV constructs with factor Negotiation & Governance in table 5c since only the question of Service-provision agreements that include clauses to encourage specific activities to improve the performance of services provided explain the construct. The conduction construct Implementation are well explained by IPINT questions IPINT 30, IPINT 28, IPINT 24, IPINT 25 and IPINT 29 in table 5d. The strongest identified conduction construct was the AVREP Evaluation and Repositioning Table 5e, as we can see that five of the seven chosen indicators were discriminated in factor 2 and associate to evaluation step (AVREP 34, AVREP 36, AVREP 33, AVREP 35 and AVREP 32). There is no support to associate the IMPINT constructs with factor Negotiation and attribution is only logical supposed.

Uncertainties and opportunities – in the way for value creation in building BS alliances

Consideration of negotiations for the supply of services associated to production at the buyer, according to the logic of BS relational value creating transactions increases the level of uncertainty involved. The overall perception by the buyer in the sense of advancing towards negotiations with suppliers of industrial maintenance services is marked with low content allocation coherence to the enterprise. The importance of evolution for seeking competitive strategic alliances is acknowledged but the treatment of unfavorable factors is perceived as required, particularly in regard to issues pertaining to the organizational dimension. There is a perception gap between the two miming operations, especially concerning aspects of the organizational dimension. The perception of economic aspects dispersed among the content constructs and perceived as less important, points at a need for deeper knowledge of that dimension. The importance of the human dimension was the common feature that cam drive by action all questions towards favorable conditions for seeking strategic alliances.

The overall movement associated to the alternative possibility for strategic alliances, indicates a shift from the areas comprised of content constructs placed in the perspective of favorable conditions in the light of best practices surveyed. Such shift occurred as the issues involved were perceived as carrying less importance given uncertain conditions for creating value. One notices that specific constructs tend to be assigned higher value for practices within Buyer-Supplier transactions seeking strategic alliances, while others are seen as less necessary, but all of them display a trend towards diminished importance, as they translate a projected scenario involving higher levels of uncertainty. The managers tend to adopt combined constructs in order to deal with the complex reality of supplies management at moments of change. In this sense, the managers could clearly and consistently discriminate what most of the questions meant, and made a precise assessment of subjects and their sequence, in line with what actually happens or might happen within the environment under investigation. At the level of strategic analysis of this movement towards change, Fine (2002) seems to explain rather well the phenomenon of an alternative change towards strategic alliances. Experimental results point at the incorporation of three further strategic factors which complement this approach and compound the double-helix structure. To the influential strategic factors considered in assessing the creation of value in client-supplier transactions, the following are thus added:

- Internal personnel development level, sustained by considerations on validity of the Human Factor construct;
- Consistency of the management model adopted in the relational environment, deriving from the client organization and driven by its managers;
- Perception of new alternatives for the establishment of a competitive position.

A summary comparing propositions and verifications in this paper as shown in TAB. 6.

TABLE 6 – COMPARED PROPOSITIONS AND VERIFICATIONS (continue)

PROPOSITIONS	VERIFICATIONS
P1: The greater the degree of development achieved in the human dimension to ensure permanent negotiation understanding in the relationship client / supplier, the greater the capacity of both client and supplier to modify the way transactions are conducted, and evolve towards strategic alliances.	Human dimension factors are significant to ensure permanent negotiation understanding in the relationship client/supplier, and may play an outstanding role in an alternative for change from a quasi-market transaction style – model A, towards strategic alliances – model B.
P2: The greater the capacity of both client and supplier to contribute with co-specialization, anchored on mutual technological contributions, the better the conditions favoring strategic alliance.	Technological dimension factors are significant in determining favorable conditions for an alternative to change the existing client-supplier transaction mode and promote co-specialization contributions under model B conditions, which does not occur intensively under model A.
P3: The more clearly directed is the implementation and management integration of transactions in face of possibilities for change, with the phases of a reference methodology being followed step-by-step, the better are the conditions favoring the adoption of strategic alliances.	The alternative of shifting to strategic alliances shows a trend towards de-concentration, with low levels of perception in regard to the importance of organizational factors and of adopting a disciplined method to conduct business. This phenomenon would happen together with a less significant alteration in the level of agreement with the required contents to conduct transactions on the new level, model B, blocking favorable conditions to implement strategic alliances.

TABLE 6 – COMPARED PROPOSITIONS AND VERIFICATIONS (end)

PROPOSITIONS	VERIFICATIONS
P4: Transactions under a strategic alliance will generate more value to the organizations involved, as well as to the main organization, as they take on the shape of co-producing possibilities in defined processes up to the level of operations and direct support, implying innovation.	The alternative of shifting to strategic alliances shows a trend towards de-concentration, with low levels of perception in regard to the importance of economic factors and of the capacity to create value. This phenomenon would happen together with a less significant alteration in the level of agreement with the required contents to conduct transactions on the new level, model B, influencing a movement away from favorable conditions to implement strategic alliances.
P5: The more structured is the management model aligning different organizations, the better are the conditions favoring strategic alliance.	Both client and supplier perceive the value of management phases such as: identification, analysis, negotiation, interfacing and evaluation, under the present condition, although the proposed management model is considered difficult to understand and apply by the parties involved, notably in its analysis, negotiation and evaluation phases.

The observations obtained from the exploratory factorial analysis show that in some extent the databases displays discrimination of their constructs in accordance with the expected theoretical proposal. This leads us to an interpretation according to which the BS relation is only partially seen by participants as organized in terms of conduction or contents taken in logical well-defined sequences.

CONCLUSION AND IMPLICATIONS

It can be stated that buyer's operational and business environment is sensitive to aspects related to the acceleration of modern network economy even in mining operations. The effects of adopting this increased speed of change can be analyzed by using Fine's model. Content-conduction factors were realigned and operationalized so that guidelines could be set for taking decisions when implementing some news alternatives to BS change transactions. Those are guidelines in terms of priority areas and suitable moments for operating transition towards new client-supplier transaction modes as BS strategic alliances. One of the main requirements for starting off a relational, evolutionary transaction mode with implications to organizational governance arises from the consideration of greater participation of suppliers on the production (KANNAN, 2006). The importance of evolution to gain on the competitive strategic alliances is acknowledged but the treatment of unfavorable factors is perceived as required, particularly in regard to issues pertaining to the risks (LEE, 2009, SRINIVASAN, 2011) in organizational level. Not least important, the perception of economic aspects and negotiation, points out to a need for deeper knowledge of these dimensions, considering risks involved and the levels obtained from multiple stages of negotiations involving service supply. The importance of human dimension was the common feature which drove the overall perception towards favorable conditions for building more reliable transactions compared to best strategic alliances practices. The discussion of finding possibilities for a break-away from the current governance and management model for doing business with service providers may be advantageous to the mineral processing industry, particularly in regard to the case studied. Otherwise is not expected to occur by simple continuity or by corrections introduced in aspects of the current practice. One verifies that current market practices adopted in transactions with suppliers cannot evolve towards creating value in a significant way, solely founded in the usual approaches on routine/improvement measures, based in QMS and TQM, already consolidated within the environment where relationship with suppliers take place. The contribution of this proposal resides in two aspects of the general model proposed by Fine (2002). First, as it renders more explicit the 'High Level of Human Development' factor associated to a recognition of the presence and importance of the HUM construct in evolutionary complementary to the 'Organizational Inflexibility' factor. Secondly, as it renders more explicit the 'Management Model Maturity Level' factor associated to the ORG construct in evolutionary complementary to the 'High Dimensional Complexity' factor. Application of the concept to the BS relational environment mode of change also confirms Fine's (2002) assertion according to which there would be a movement described towards verticalizing their activities in order to supply their clients demand for de-verticalization. The possibility of leveraging business by building the conditions required for adopting Buyer-Supplier relational value creating transactions is associated to the modularization of production processes. It is also important the cultivation of the fundamentals of excellence, their management criteria and adoption of a more robust processes to be developed and consolidated from a new perspective of a movement towards a proactive, refined, innovative and integrated change of current practices. The ontological domain of conduction aspects for BS for this case signalize a management sequence of implementation, evaluation, scope, configuration and negotiation, that signalize an arrangement perceived as centered on the basis of an action planned view for the PDCL life cycle (DEMING, 1990, FNQ, 2011).Thus implementation of BS relational value creating transactions seen as an evolutionary step will imply turbulent changes in existing relationships with suppliers. In such case, alongside with innovative transformations occurring in areas of greater potential, current practices will keep on undergoing changes that are also guided by best practices identified and implemented taking in account the perspective of criteria for excellence (FNQ,2011).

REFERENCES

CAMILO, R. D. (1989) *O Sistema da Qualidade na Indústria de Produção Não Seriada*. Quality the Language for the Future, Proceedings IQC, Rio de Janeiro: IQC.

CAMILO, R.D. (2002) Alianças Estratégicas Cliente-Fornecedor como Alternativa de Transação para os serviços na Indústria Mineral: O Caso Samarco. Doctoral Dissertation, CPGEM, UFMG.

CAMILO, R. D. (2010) Modelagem Dinâmica da Gestão. Curitiba: Juruá.

COUSINS,P. D., LAWSON, B. and SQUIRE, B.(2008) "Performance measurement in strategic buyer-supplier relationships: The mediating role of socialization mechanisms", International Journal of Operations & Production Management, Vol. 28 Iss: 3, pp.238 – 258

DEMING, W. E. (1990) Out of Crises. Rio de Janeiro : Marques-Saraiva.

DEMING, W.E. (1993) The New Economics for Industry, Government, Education. Cambridge: MIT-CAES

DOZ, Y. and KOSONEN, M. (2008) The dynamics of strategic agility: Nokia's rollercoaster experience. California Management Review, v. 50, n. 3, p. 95.

EVANS, J. R. & MAI, F. (2014) Insights From the Baldrige Award Item-Level Blinded Applicant Scoring Data. QMJ VOL. 21, NO. 2, ASQ

EVANS, J. R. and JACK, E. P. (2003) Validating Key Results Linkages in the Baldrige Performance Excellence Model. QMJ VOL. 3, ASQ

FINE, C. H. (1998) Clock Speed: Winning Industry Control in the Age of Temporary Advantage, Sloan School of Management, MIT, Perseus Books.

FINE, C.H. et al. (2002) Rapid-response Capability in Value-Chain Design. Sloan Management Review, Winter.

FNQ (2011) Critérios de Excelência da Gestão. São Paulo: Fundação Nacional da Qualidade.

GARVIN, D. A. (2002) Aprendizagem em ação. Rio de Janeiro: Qualitymark.

GUARNIERI, P. HATAKEYAMA, K, and RESENDE, L. M. (2009) Estudo de Caso de um Condomínio Industrial na Indústria Automobilística: Caso GM Gravataí . Revista Produção on line. Vol. IX/ Num.I .

HAMEL. G., DOZ, Y.L. (1998). *Alliance Advantage. The Art of Creating Value through Partnering*. Boston: Harvard Business School Press.

HARBISON, J. R. , PEKAR, P. J. (1999) *Alianças estratégicas*. São Paulo: Futura.

JONES, M. R. (2014) Identifying Critical Factors That Predict Quality Management Program Success: Data Mining Analysis of Baldrige Award Data. QMJ VOL. 21, NO. 3, ASQ

KALE, P., SINGH, H., & BELL, J. (2009) Relating well: Building capabilities for sustaining alliance networks. In P. Kleindorfer & Y. Wind (Eds.), The network challenge: Strategies for managing the new interlinked enterprise. London: Pearson Press.

KANNAN, V. R. & TAN, K. C. (2006) "Buyer-Supplier Relationships: The Impact of Supplier Selection and Buyer-Supplier Engagement on Relationship and Firm Performance", International Journal of Physical Distribution & Logistics Management, Vol. 36 ISS: 10, 755

KIM, K. K. PARK, S., RYOO, S. Y. AND PARK, S. K. (2010) Inter-organizational Cooperation in Buyer–Supplier Relationships: both Perspectives. Journal of Business Research V. 63, 8, pp . 863–869

LEE, A. H. I. (2009) A Fuzzy Supplier Selection Model with the Consideration of Benefits, Opportunities, Costs and Risks. Eexpert Systems with Applications. VOL. 36, 2, PART 2, 2879–2893

LEONARD, D. & MCADAM, R. (2002) The Strategic Dynamics of Total Quality Management: A Grounded Theory Research Study. QMJ VOL. 9, NO. 1, ASQ

LUNNAN, R., & HAUGLAND, S. (2008). Predicting and Measuring Alliance Performance: a Multidimensional Analysis. Strategic Management Journal, 29(5), 545–556.

MAYLOR, H. TURNER, N. AND SWART, J. (2013) Mechanisms for Managing Ambidexterity: a Review and Research Agenda. International Journal of Management Reviews, VOL. 15, 317–332

MELO, A. A., ZAWISLAK, P. A. (2005) Productive Organization in the Automotive Industry in South of Brazil : the Relations Between Suppliers and Buyers' Compromise of Governance and the Creation of New Competencies. REAd: Revista Eletrônica de Administração. Porto Alegre. Edição 44, vol. 11, n. 2

NARASIMHAN, R. AND NAIR, A. (2005) The Antecedent Role of Quality, Information Sharing and Supply Chain Proximity on Strategic Alliance Formation and Performance. International Journal of Production Economics, v. 96, issue 3, 18 pages 301–313

PAULRAJ, A., LADO, A. A.and CHEN, I. J (2008) Inter-Organizational Communication As A Relational Competency: Antecedents and Performance Outcomes In Collaborative Buyer–Supplier Relationships. Journal of Operations Management V. 26, 1, 45–64

SENGE, P. 1990. A quinta disciplina. São Paulo: Best Seller.

VAN DE VEN, A. H. & POOLE, M. S. (2005) Alternative approaches for studying organizational change. Organization studies, v. 26, n. 9, p. 1377-1404

SRINIVASAN, M., MUKHERJEE, D. and GAUR, A.S. (2011) Buyer–supplier partnership quality and supply chain performance: Moderating role of risks, and environmental uncertainty. European Management Journal, v. 29, n. 4, 260-271.