

A TRAGEDY OF THE COMMONS WITHIN THE HUNTER VALLEY COAL INDUSTRY

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ABSTRACT

The global demand for export raw energy supplies has helped Hunter Valley's coal industry prosper in the current commodity boom. But as the Hunter Valley coal industry grows, so does the logistical and political complexity of the region. The current problem that the industry faces is the vessel queue off the Port of Newcastle. In short, under-investment in infrastructure by the Government and the industry can be to blame. Although solutions have been implemented to help manage demand, underlying causes have not yet been addressed. Therefore, this paper seeks to provide a greater understanding of the possible causes impeding effective supply chain management practices in the Hunter region. More specifically an identified policy variable imposed onto the Kooragang coal loading terminal will be discussed as a possible factor in growth and development within the Hunter Valley coal chain. The research methods used for this study includes semi-structured interviews with Hunter Valley coal industry members, submission reports from Australia's regulatory body, Government reports, and company documents such as media releases and conference papers.

Keywords: supply chain management, common-user provision, Hunter Valley coal industry

INTRODUCTION

The ever increasing need to feed the global energy demand is one factor that has helped boost Australia's coal industry. One area that has gained great financial benefit due to this increase in raw energy consumption, and multiplying coal prices, is the Hunter Valley coal industry (HVCI); which also boasts as the world's largest coal loading port. However, unanticipated demand, especially from Asia, and the lack of investment in infrastructure within all of the components in the Hunter Valley coal chain (HVCC) has resulted in bottlenecks and capacity constraints leading to an extensive vessel queue off the Port of Newcastle [17]. The HVCC is a complex structure with numerous players who have interlinking and overlapping roles. This has led to a 'blame game' that seems never-ending and which has resulted in no real long-term, collaborative and holistic solution to the capacity constraints within the HVCC.

Port Waratah Coal Services (PWCS), the manager of the coal loading terminals at the Port of Newcastle, has proposed 'solutions' since 1998 to help curb the capacity constraint and decrease the vessel queue. However, most of the proposed solutions were, and still are, based around a demand management system. However, implementation of an industry-wide demand management system requires authorisation from the Australian Consumer and Competition Commission (ACCC). Although this is a cumbersome process, it is necessary; as PWCS has the ability to affect free market competition.

The ACCC application process also allows the submissions of objections and/or approvals for the proposed 'solutions' by PWCS' by all the stakeholders that may be affected before the Final Determination is made by ACCC [5]. Numerous submissions have been forwarded to the ACCC, which in most cases (in 2004), objected to the proposed solution by PWCS. One such objection to PWCS' proposed solution was based on the Kooragang terminal leased under a condition of the terminal being a common-user facility. This provision provides all users of the loading terminal, whether they are incumbents or new entrants, fair and equitable access to coal loading services at costs that are not discriminatory amongst the users of the facility [3]. However, other industry members have argued that having a common-user facility, at the Kooragang terminal, is one of the causes of the capacity constraint at the port. They argue that having a Common User Provision (CUP) results in a lack of commercial drives for investment in infrastructure and also impairs the competitiveness of PWCS. This paper seeks to explore the role the CUP provides for the HVCI and gain an understanding of the different behaviours that the industry has towards the CUP. This paper aims to illuminate the issue of industry-level integration within the supply chain management context as the transportation of coal in the Hunter region can only be effectively operated within a sole coal transport corridor.

Key components of the coal supply chain

The complex structure of the HVCC needs to be introduced, so that the interest of the members can be understood. The key components in the coal supply chain include

coal producers, coal transporters, transportation infrastructure, coal loaders and shippers. The relationships between the components are discussed below.

Coal producers - Coal mining is conducted mainly by open-cut mining throughout the Hunter Valley, but also by traditional underground mining. Mine ownership is diverse, with 31 coal mines owned by 17 individual coal producers [19]. Of the 17 individual owners, seven are large producers, two of which (Xstrata and Coal and Allied - its major shareholder is Rio Tinto) produce 70 per cent of the coal mined in the Hunter Valley [28]. Mining produces 80 different export blends of coal [19].

Transport infrastructure – Coal is predominantly transport from mines to the port by rail. Track infrastructure is owned by the New South Wales state government and is leased to the Australian Rail Track Corporation (ARTC) on a 60 year lease. The terms of the lease allow ARTC to sell track access to train operators. ARTC will invest \$152 million on track and signalling upgrades over the next five years. The proposed investment program will increase the capacity of rail infrastructure from 85 MTPA to over 100 MTPA. Transit times will also be improved [14] .

Rail providers – Coal trains are operated by Pacific National (PN) and Queensland Rail (QR) under the terms of track access purchased from ARTC. At the mine, coal is transported from a railway siding or coal loading facility. PWCS informs rail providers of transport requirements for shipment. Coal is then transported to the port where it is offloaded into stockpiles prior to blending, if required. Once the vessel arrives coal is reclaimed from stockpiles for loading [2].

Coal loaders – The Port of Newcastle has two coal loaders located at Carrington and Kooragang. Major coal producers Xstrata and Rio Tinto own the port and coal loading facilities at Newcastle. Rio Tinto appoints the port management [27]. As the port owners are also the major producers the Australian competition regulator (ACCC) requires that an open access system be operated [27]. April 2007, the New South Wales government announced approval for construction of a third coal loader at Newcastle. Newcastle Coal Infrastructure Group (NCIG), a consortium of coal producers that excludes Xstrata and Rio Tinto, has been appointed to build the new \$1 billion facility. The members of NCIG are significant coal producers who plan to increase their output by 30 million tonnes during the next five to ten years. When completed in 2009 the new facility will have a maximum capacity of 66 million tonnes per year [20].

Supply chain coordination – The Hunter Valley Coal Chain Council (HVCCC) was established in the 1980s with the purpose of ensuring effective and efficient coal despatches from mine to vessel. In 2003 the Hunter Valley Coal Chain Logistics Team (HVCCLT) was created to oversee planning of all coal exports from the Hunter Valley. Membership of HVCCLT includes the train operators PN and QR; the track owners ARTC and Railcorp; the cargo assembly and coal loader operator PWCS; and the port manager Newcastle Port Corporation. The HVCCLT has the dual objectives of maximising coal export volumes and coordinating planning for the provision of future coal chain infrastructure.[20]

Application of Authorisation

The growth and development of the HVCI since the late 1960s was slow, incremental, and predictable. A previous member of the HVCCC has noted that the problems in the HVCI in the late 1980s was not related to bottlenecks or capacity constraints, but rather to the requirements of the Transport Worker's Union and where capacity of the coal chain exceeded demand[29]. Therefore by 2004, the complacency of the Governments to invest in major export infrastructures (such as rail and ports), and to properly forecast demand, resulted in bottlenecks and capacity issues in the HVCC. Consequentially, a large queue of vessels off the Port of Newcastle formed.

This highly publicised debacle of the HVCC caused PWCS to propose the 'Capacity Distribution System' (CDS) to the ACCC on the 5th of February 2004. The CDS is a system based on loading allocations which are divided on a pro-rata quarterly basis that is in line with coal producers' demand forecasts and the capacity available at the Port of Newcastle [5]. PWCS believed that the CDS could assist with the demand for coal loading services at a manageable level and at the same time, decrease the number of ships waiting at bay [11]. However, the implementation process of such 'solutions' requires an authorisation application for interim authority to the Australian Consumer and Competition Commission (ACCC) in accordance to the *Trade Practices Act 1974 (Cth)*(TPA) Subsection 88(1) and 88(7). Authorisation is required because of PWCS' shareholder structure which consists of the major producers in the HVCI, interlinked with PWCS' current monopoly status as the only coal export facility at the Port of Newcastle [22]. PWCS' persistence to apply for authorisation to the ACCC was because their international reputation would be marred, demurrage costs would significantly become a financial burden for coal producers, and that there would be severe public detriment [11].

Fairness and Anti-Competitive Behaviour

However, the final determination by ACCC can only be considered after voluntary submissions by the HVCI members to either support or to object to the CDS. As expected, the major shareholders of PWCS (that is, Coal and Allied and Xstrata) were in full support of the proposed CDS, while other industry members (smaller coal producers, coal traders, service providers, and other relevant industry stakeholders) were opposed to it. The main objections that were raised in the submissions to the ACCC against the proposed CDS by PWCS are described below.

Structure and role of PWCS – as Coal & Allied and Xstrata hold up to 70 percent of the shares of PWCS, this therefore represents a conflict of interest on a fair and balanced approach with relation to smaller producers. Also, the fact that PWCS does not take part in the contract of sale of coal, and thus does not incur demurrage, makes PWCS not an appropriate organisation to implement such a solution [9].

Proposal is an anti-competitive solution – the CDS is a non-market 'solution' that contradicts the open market coal industry. It clearly cuts production output and sales. This may result in a breach of contract by coal producers as they are unable to fulfill

contractual arrangements with buyers. In addition, the CDS covers up the real problem and relieves the pressure from PWCS to upgrade port facilities and increase efficiency. [9]

Incorrect assumptions about demurrage costs – the estimated costs of demurrage in PWCS’ application for authorisation of the CDS does not take into account that high demurrage costs are usually offset by the high demand for coal shipped through Newcastle. Consequently, high demand and limited supply brings a substantial increase to the market prices of coal. Therefore, the demurrage costs of coal producer are absorbed, but in the end, paid for by the coal purchasers. PWCS has exacerbated the demurrage issue as their major shareholders operate on the spot market, where demurrage rates are much higher than on the Japanese Steel Mills terms [10].

Proposal creates unfairness – smaller producers are unable to absorb the cut in production like larger producers can. Producers such as Xstrata have other mining sites where they can boost coal output to recover any losses in one area. In addition, coal traders are being greatly disadvantaged because they are not allocated any capacity in the CDS. The only fair solution that the industry will accept is one that is created and forced by market drivers and not from the coal loading facility whose position creates a conflict of interest [8].

PWCS is a common user facility – to create fairness, equal rights, and equal access for existing producers and new entrants, the coal loader needs to be maintained as a common user facility [12].

Many of the above objections noted in the submissions, are mainly reciprocal claims to what PWCS believes are detrimental to the industry and the public. However, most of the industry objections were based on face value cause-and-effects in an attempt to prove the unfairness and the anti-competitive behaviour of PWCS to the ACCC. None of the submissions by the industry members provided any real alternative solutions, but rather, insisted that market forces should provide the solutions. In spite of this, the only objection that has some legal substance that PWCS must abide by is the condition that the Kooragang coal loading terminal must operate as a common-user facility. The common-user provision (CUP) is a condition under the lease agreement between the Minister of Public Works and Services of New South Wales and PWCS (Lease 844348K under the Real Property Act 1900 (NSW)). The CUP requires that PWCS,

“(M)ake available its services to any and every shipper of coal through the Port of Newcastle...under conditions and at a cost for like services that are not discriminatory as between user...[4]”

Nowadays, PWCS is focused on the issue of obtaining a waiver on the CUP from the NSW Government, as it has positioned PWCS at a detrimental disadvantage. It is claimed, by some industry members and PWCS, that the CUP is affecting the ability of PWCS to provide a longer-term solution to the bottlenecks, capacity constraints and vessel queues.

A longer-term solution

The CUP has undoubtedly created a thriving coal industry in the Hunter Region. This is because the CUP allows any new entrants in the coal industry the same access, opportunities, terms and conditions as incumbents. The main purpose of including the CUP by the Government of the day was to prevent any discrimination of use of the coal loading facility especially with regards to proprietary rights and shareholder value [9]. However a group of miners strongly argue that it is because Coal and Allied and Rio Tinto have a large proportionate share of PWCS that they are able to influence the way the coal loading facility operates [29]. This is the reason why many coal industry members are opposed to the removal of the CUP. In contrary, PWCS considers the removal of the CUP will provide a longer and more sustainable solution.

The first argument for the removal of the CUP is that it will provide a longer term commercial framework [24]. Currently, the system in place to manage the excessive demand is the Medium Term Balancing System (MTBS). The MTBS allocates capacity on a pro-rata quarterly basis, but for larger producers allocation is provided on a monthly basis. The modified MTBS was approved by the ACCC as it helped provide greater flexibility, smooth out fluctuations, reduce demurrage costs for coal producers and – most importantly – decreased the vessel queue off the Port of Newcastle [1]. However, the MTBS should only be used as a short to medium term transitional solution. This is because the MTBS still does not provide a degree of certainty in forecasting and effectively managing operations for more than 14 days [29]. Thus the reason for PWCS' need to acquire binding long-term commercial contracts, which leads to the second argument.

The second argument is that the CUP has now positioned PWCS at a detrimental disadvantage in the coal loading service market [29]. Currently, PWCS has the monopoly status in the coal loading service. However, the duopoly has been challenged with the prospect of a third coal loader to be developed by the Newcastle Coal Infrastructure Group (NCIG). As the HVCi operates under an open and unregulated market, NCIG has the advantage of securing contractual agreements on coal loading services from the day construction was approved, and up to more than 15 years time. This is because NCIG's coal loading terminal is not under a 'common user' facility lease agreement. Thus, NCIG is able to have a much more sustainable and secure growth and investment strategy, as they have the certainty of demand from contractual commercial agreements. In other words, investments in capacity increases are justifiable as they are able to foresee demand and meet the requirements that the industry needs. This is why PWCS has the grounds to apply to the NSW Government to remove the lease condition on the grounds that it compromises the competitiveness of PWCS [29].

The industry has consistently placed pressures on PWCS to meet the requirements of an expanding and growing industry. However, the industry is unwilling to make contractual arrangement that will provide the foundation for sustainable investment strategies for infrastructure. A recent media release by ACCC Chairman Graeme Samuel has noted that the MTBS does not have the ability to result in net public benefit beyond 2008 [7]. Samuel (2008) considers capacity expansions are superficial measures that does not address the underlying issue which is believed to be the CUP at the PWCS's Kooragang coal loading terminal. Most importantly, Samuel (2008)

has pointed out the crux of PWCS's problem, that is, the CUP restricts the ability of PWCS to enter into long-term contracts that will underpin investments. Removal of the CUP will result in individual assessments of capacity requirements instead of the capacity of the whole coal chain [6].

Discussion

The case for PWCS is that the CUP is constraining coal capacity because new entrants are diluting the volume of capacity from existing companies [30]. But the industry argues that PWCS is obligated to produce increases in capacity of coal throughput at the port to meet the demands for their services.

PWCS' sluggish investment strategy may be correlated to the issue faced by terminal operators that infrastructure projects, in relation to port expansions, are extremely capital intensive. That is, there are higher fixed costs than there are variable costs in port infrastructure projects [28]. Hence, high utilisation and business arrangements should reflect the users' demand [28] for the facilities and therefore, provide a sustainable rate of return on long-term capital assets. The Kooragang Terminal, however, is a common-user facility thus PWCS has to charge the same rate per tonne to coal exporters, this is known as the 'common charge' [13]. The common charge not just provides PWCS' shareholders with a known fixed rate of return but also accommodates for several expansion projects for increasing demand of coal shipments [13]. In addition, as PWCS is an industry owned monopoly, there should be natural intentions for shareholders to invest in the industry in order to meet their needs as customers. The industry/shareholder thus should hold more importance on the efficacy of coal throughput than dividends [23]. However, this is not truly the case in the HVCI. The industry always fails to admit that PWCS has provided increased capacity for coal loading services, since 1994. PWCS has invested \$860 million in coal loading upgrades which increased PWCS combined coal loading capacity to 102 MTPA [23]. But on the other hand, it can be said that the expansions in capacity have been small-incremental increases which have not yet been able to cater for the unexpected spike in export coal demands. Therefore, the question that exists here is; why have expansion projects for PWCS' coal loading terminals been slow to meet demand?

Firstly, PWCS (2004) has commented that they are committed to achieving a sustainable and balanced solution. But political issues militate against the possibility of a collaborative and meaningful outcome. Such issues include the objections that were submitted to the ACCC in respect to PWCS's Application for Authorisation A90906, A90907, A90908 for the CDS, for example, the structure of PWCS and especially the CUP. The Infrastructure Taskforce (2005) has made implicit investigations that regulatory issues are a factor in the slow down of investment in infrastructure used by export industries. Australia's regulatory framework is said to be adversarial, cumbersome, complicated, time consuming, and inefficient [15]. When quick decision making is expected, no one wants to be the loser, and thus follows a myriad of judicial challenges, appeals, court verdicts and tribunals [25]. Furthermore, Ximena, Dollar, and Micco's paper (2002) has noted that the determinants of port efficiency is also associated to management and/or policy variables. Such policy

variables are and/or can be similar to *Cargo Handling Restrictions* and *Mandatory Port Services* [18]. Although the study was related to foreign suppliers and local companies in port services, the similarity to the problem faced by PWCS with respect to the CUP is high. The imposition of the CUP have, for example, restricted PWCS to effectively implement a market based efficient pricing models to drive customer behaviours to maximise throughput, that is, a '\$x' per day per square metre of stockpile space consumed versus a '\$x' per tonne pricing model [23]. Industry members have persistently protested that PWCS should follow a level playing field when it comes to their coal loading service. However, when PWCS protests that the CUP detrimentally disadvantages their market position with regards to the contractual commercial arrangement made by NCIG, it is not considered as a market-based solution.

Furthermore, the CUP, as a form of policy variable, has affected how the industry refers to PWCS, that is, a mere service provider and not a valued component in the coal exporters' process of sale. This has therefore resulted in coal exporters trying to forcefully push coal through the port, even though it is well known that the sum of all the parts of the HVCC exceeds capacity [29]. This raises the issue that the HVCI members lacks the commercial drive to work towards an integrated, holistic and collaborative approach to finding a resolution for the complexity of issues affecting the coal chain [19]. Their only main prerogative is to have increase in coal throughput capacity at the Port of Newcastle.

Industry members want a market-driven resolution to the bottlenecks and capacity constraints in the HVCC. However, when such a 'market-driven' solution is presented, it is not accepted by the industry participants. It is rather referred to as an unfair, unequitable, and anti-competitive solution. Support for PWCS' on the CUP dilemma was minimal, especially from the ACCC. Where in 2004, the ACCC Commission explicitly expressed their impartial view on how the CUP affects the industry [47]. However by 2008, the ACCC Chairman Graeme Samuel backflipped ACCC's stance on the CUP issue of PWCS. Therefore, the CUP is now believed to be one of the significant underlying issues that needs to be addressed by the HVCI [7].

It is evident within the HVCI that there is a high degree of mistrust and a lack of communication between all components in the coal supply chain. It is no surprise that companies want to maximise production in the current commodity boom in Australia. As Australia's coal market was once a buyer's market but has now shifted to a seller's market. However, this has resulted in sub-optimal supply chain management practices within the HVCI in which basic coal infrastructures and transport services are not valued as crucial components and members of the HVCC. Bichou and Gray (2004) stresses that there is a need for an integrative approach for increased port performance to not only to reduce costs, but to be customer responsive and increase customer satisfaction [16]. Thus the challenge for the HVCI should not be focused on managing demand, but rather, an industry-level collaboration is required.

CONCLUSION

In conclusion, what this paper has explored is how difficult it is to implement value-adding operational and commercial solution(s) that can benefit the whole coal supply chain in the Hunter region. Unfortunately, the required solution is beyond the fact that there needs to be an increase in coal throughput capacity at the coal loading terminals. The logistical problem in the Hunter Valley region consist of layers of embedded issues that the coal industry has yet to be fully recognise. An integrated systems solution, an alignment of investment strategies, and for the industry to work together and collaborate for a more sustainable industry growth and development is crucial. The HVCI has to realise that there is no other alternative to transport its coal to end consumers, and therefore have to align individual supply chain management strategies and objectives that will benefit all HVCI stakeholders. The scope of this paper covers the issues related to the CUP in the HVCC which may provide some resolution to the HVCI's current issues. However, further research needs to be taken to fully recognise what issues are really causing the inefficiencies experienced by the HVCI, and therefore which would assist with possible solution(s) to the its coal supply chain.

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