

## BOUNDED RATIONALITY, MOTIVATION & PRIVATE INFORMATION AND ITS IMPLICATIONS ON CONTRACTS

**Akshay Bhat**

Assistant Professor, Goa Institute of Management

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### Abstract

*This conceptual essay is to introduce management scholars to the topics of Bounded Rationality, as propounded by Simon (1957) with the initial emphasis of the topic being given to Motivation, in addition to Coordination the other central problem to any Economic Organization and Management. Often these terms are used in scholarly articles but there are subtle differences between the economic and behavioural literature parlances, definition and understanding. These definitions as described in economics with their understanding are very important to understand contracts, the nature of contracts and underlying assumptions made. Here, influential articles from prominent economics' article are gleaned; the terms' rationale and understanding and important aspects are documented to serve as a primer for scholars. The article further elucidates the importance and flaws of Contracts: which are prima facie agreements made by two or more people which are voluntary in nature and accepted by both the parties entering into a contract when they both see their advantage, which on further decomposing will be seen to be mutually beneficial as well, however, under important caveats.*

**Keywords:** *Bounded Rationality, Private Information, Motivation, Coordination, Contracts, Obligations, Adverse Selection, Trust, Commitment, Hold-up*

**Motivation and Coordination Problems:** Motivation problems (Baumeister, 2016; Heckhausen & Gollwitzer, 1987; Mitchell, 1982; Shane, Locke, & Collins, 2003) arise because individuals have their own concerns and interests (Williamson, 1979), which are rarely perfectly aligned with the interests of other individuals, to the intra and inter groups to which the individual may belong to and the society as a whole. The Coordination problem (Arrow, 1969; Gulati, Ranjay, 2013; Poppo & Zenger, 2002; Simon, 1972; Williamson, 1991), however deals with the following things under its ambit : a) What deliverables are to be met b) How they should be achieved and c) What key deliverable each individual must deliver, at the macro organizational level the problem is who makes what decisions and with what pertinent and relevant information the individual possesses to make those decisions and how readily the required information is made accessible (Parker, 2008; Simon, 1993; Simon, 1972). In contrast to Coordination, the Motivation Problem is to ensure that that everyone involved in the team willingly does his part at the individual level and accurately delivering feedback of the outcome of the task which they are doing in order to ascertain to the decision maker that he can take appropriate decisions, also it is key that the individual who is assigned the task carries it out himself in the planned manner by the decision maker. To explore the topic in detail assumptions that individuals will do what they perceive to be in their own individual interests is given importance throughout, this amalgamates into informing us that not only is the decision maker privy of how he is affected but also how others are affected by decision taken.

**Contracts to deal with Motivation Problems:** So to deal with the problem of Motivation, it is expressed that a perfect contract (Coase, 1937; Geyskens, Steenkamp, & Kumar, 2006; Hennart, 1988; Khalid, 2006; Kogut, 1988; Oxley, 1997; Poppo &

Zenger, 2002; Williamson, 1979), henceforth, also called a “*Complete Contract*” would be impervious to solve the problem, a complete contract would specify all sets of actions each party is liable to and arrange the realised costs and benefits in case of all foreboding contingencies. This is concomitant that both parties are inclined to abide by the contract terms. So, this elucidates that if the original plan were an efficient one, a complete contract would implement an efficient outcome, therefore with this idealised mind-set we find that Motivation Problems primarily arise because some contracts cannot be described in a complete and enforceable contract. Therefore, a complete contract would need the following requirements (Geyskens, Steenkamp, & Kumar, 2006b; Parker, 2008; Herbert Simon, 1972; Williamson, 1975).

Firstly, the parties must have the foresight to see all relevant contingencies which would creep up and how they will adapt to the problems which arise, they must be unambiguous, also which factors were considered and which are actually beforehand; Secondly, the parties entering into the contract must be able to determine and agree to an efficient course of action for each possible contingency; Thirdly, The parties entering into the contract must abide by the terms, this has two elements namely C1) First the parties must agree that the contract cannot be modified later which would rob the initial contract of its credibility, C2) Each party individually must be able in its own accord to judge if the contract terms are being met and if they are being violated by the other enforce the contract terms on the other.

**Bounded Rationality and Adverse Selection:** The problems of actual contracting which are limited (not all contingencies are fully accounted for) by the problems of (Dow & Han, 2015; Evans, Luo, & Nagarajan, 2014; B. R. Holmstrom & Tirole, 1989; Kistruck, Sutter, Lount, & Smith, 2013; Knowles, 2012; Lerner & Schoar, 2005; Manser, 2010; Rödl, 2013): Limited Foresight, Imprecise Language, Costs of calculating solutions and the costs of writing down a plan – collectively called as the “Bounded Rationality” (Simon, 1972) of people during actual transactions among people. Therefore in such cases when there are contracts with what probably we can assume are loose ends or rather incomplete contracts arising because of the problems of bounded rationality we can expect that when parties try to adapt in case of contingencies and incomplete contracts they may give rise to opportunistic behaviour amongst the parties including reneging (Williamson, 1975, 1979; Williamson & Williamson, 2017), this nagging fear of opportunism may at times deter parties from relying on one another as much as they should for efficiency, such incomplete contracts may further lead to problems of imperfect commitment and hence reluctance to enter into a contract.

In certain cases, even if the contingency can be seen and planned, and contractual commitments enforced, one of the bar gainers may have relevant private information before the contract is signed, this private information interferes with the possibility of reaching a value maximizing agreement, E.g. it is lead to believe that sellers have relevant information about the product that they are selling in a second hand market because they believe that the product utility is now minimal and are interested in disposing it off to the sceptical second hand buyers, this leads to inefficiency, the Source of Inefficiency is called “Adverse Selection” (“Adverse Selection in Competitive Search Equilibrium,” 2010; Azevedo & Gottlieb, 2017; Cohen & Siegelman, 2010; Eckbo & Masulis, 1992; Gârleanu & Pedersen, 2004;

Laffont & Tirole, 1990; Sorrentinino, 2014) ; Adverse selection is one of the major problems of pre contractual opportunism it arises because one of the parties has hold of information which may not be explicitly mentioned to the other during the agreement of the contract and the contract is being entered into because of one of the vested interest of one of the party with the Precontractual information. Such private information can also block the efficient functioning of any contract. (Sellers are adverse to the interests of the buyers). In reality real contracts are seldom perfect, leaving room for self-interested behaviour that will thwart the realization of effective plans.

In reality all possible outcomes of a contract cannot be described in detail(Altmann, Falk, Grunewald, & Huffman, 2014; Crocker & Reynolds, 1993; Dow & Han, 2015; Fehr, 2003; Hart & Moore, 1988; Hendrikse, Hippmann, & Windsperger, 2015; Herold, 2010; Maskin & Tirole, 1999; Saussier, 2000; Spier, 1992), the idea of foreseeing and unambiguously describing every contingency that might possibly be relevant to the agreement is not possible in the complex environment. In reality real people are subject to unforeseen circumstances as the outcomes could not be looked into with adequate foresight during the planning phase, Costly Calculations and Contracting sometimes the management looks at the positive side of an outcome and often neglects the other possible outcomes as the opportunity cost of calculating this second outcome would hamper more productive work, it is only when the plan is put into execution and the second outcome which is actually against the managements interest comes into prominence gives rise to the identification of loopholes in the original contract. Imprecise Language can hamper the outcomes and efficiency of most contracts, furthermore simply adding more clauses and subdivisions in the contract too can make disputes more likely.

**Contractual Responses to Bounded Rationality:** Contractual Responses can be looked into with an angle that people design their contracts recognizing that they cannot possibly be perfectly adapted to all possible future outcomes; one such solution is to write rather inflexible contracts with blanket provisions that are to apply very broadly. A broad blanket provision minimises the cost of describing eventualities and leaves little room for ex post uncertainty about what behaviour is required. Such spot transactional contracts are called “SpotMarket Contracts”. They include A) Relational Contracts in which the parties do not agree to the detailed plan of action but on a larger goal and objectives, on general provisions that are broadly applicable and the plan of action as to what should be done when contingency arises. And the power distribution amongst the parties involved in the contract. B) Implicit contracts which do not have any document as the mutual expectations are shared between the parties and are commonly used with this they can be powerful means to economise on bounded rationality and contracting costs, therefore shared values, ways of thinking and belief as to how things must be done are key aspects of shared contracts. A natural drawback of implicit contract is that by their very nature they cannot be tried in a court of law as there is no formal contract(Gurcaylilar-Yenidogan, Yenidogan, & Windsperger, 2011; Hendrikse et al., 2015; Hendrikse & Windsperger, 2011; Kashyap & Murtha, 2017; Luo, 2002; Matvos, 2013; Solis-Rodriguez & Gonzalez-Diaz, 2012).

**Effects of Contractual Incompleteness:** Contracts are meant to protect people by aligning incentives, when contracts are incomplete, the alignment can be imperfect,

therefore the concern with the possibility of being disadvantaged by self-interested behaviour that an incomplete contract does not adequately control or may prevent an agreement from being reached in the first place. It may also inefficiently limit the extent of cooperation (Altmann et al., 2014; Crocker & Reynolds, 1993; Dow & Han, 2015; Evans et al., 2014; Fehr, 2003; Gurcayllar-Yenidogan et al., 2011; Hart & Moore, 1988; Hendrikse et al., 2015; Hendrikse & Windsperger, 2011; Herold, 2010; B. R. Holmstrom & Tirole, 1989; Kashyap & Murtha, 2017; Kistruck et al., 2013; Lerner & Schoar, 2005; Luo, 2002; Maskin & Tirole, 1999; Matvos, 2013; Rödl, 2013; Saussier, 2000; Solis-Rodriguez & Gonzalez-Diaz, 2012; Spier, 1992).

**Commitment and Reneging:** Achieving commitment can be very valuable because it can affect others expectations and at the same time lead to the modification of their own behaviour, this is illustrated by an example that when apple launched a special range of Macintosh Computers they installed a standalone plant producing the apple range of computers. This led to the behaviour modification of a) Employees: they knew they had to succeed b) Competitors: they felt there would be little point to drive apple out of the market when they had dedicated themselves to a cause and c) Customers: when they saw this much publicised move by apple they knew that they could count on its support and hence would have preferred an apple mac over any other PC; **Commitment Problem No 1: Reneging**, is especially problematic with incomplete contracts because what should be done is often left incomplete some self-interested actions may be adopted by one party who takes advantage of the loopholes, the other party in contract with it may complain but may not have the power to label it a cheat as the first party may say that it is carrying out this action as per the agreed terms which in totality is incomplete. Thus reneging not only impedes efficiency but also affects performance; **Commitment Problem No 2: Ex Post Renegotiation** is a rather subtle problem because in some cases it will be rather beneficial for both parties to renegotiate the ex post because what was efficient when the contract was first entered into may not be the same now after actions have been taken and further information revealed, if parties understand this at the time of crafting the original contract document they will later face these incentives, they may not be able to draft the contract in an efficient manner. *Viz* stock options to motivate employees to raise the stock price of a company (*vis a vis* current market price) is exercised by most companies as an incentive to improve and motivate employee performance. Suppose after issue of this statement the stock price falls drastically, the employees would be demotivated, and thus the contract terms if remediated would be better for the employer and the employees to increase efficiency at work.

A complication of Ex Post renegotiation includes, is that in some contexts it will turn out ex-post that breaching the original contract terms will lead to more personal gain for one of the parties, and it insists on inefficient functioning of the initial contract, *viz* a chain and a manufacturer enter into a contract of producing a few goods, but later the manufacturer finds more lucrative opportunities and breaches the initial contract with the manufacturer by paying damages when the chain may insist on delivery after it had entered into a contract.

**Investments and Specific-Assets and hold-up because of imperfect contracting:**

An Investment is an expenditure of money or other resources that create a potential flow of benefits and services, the potential flow is itself called an asset. Tangible assets

like houses, machinery are the most commonly identifiable assets also; investments in education create a valuable asset: Human Capital which also leads to cash flows and benefits. But Specific Assets are those, which are most valuable in a specific setting or relationship. A parallel can be drawn with the term Co-specialized Assets, which is used when two or more assets have maximum value when used in conjunction and lose much of their value if used in isolation. Viz A rail road which ply's between a coal mine and an electric utility, also these two assets (railroad, coalmine) lose value if isolated and gain a lot of value when used in conjunction, also there is a problem of a selfish motive develops between any one of the owners of either assets as the other will fall vulnerable to meet the demands which are post contractual in nature, a classical term for this is called the 'Hold-up problem'(Che & Sákovics, 2004; Khanna & Mathews, 2016; Lemley & Shapiro, 2007; Susarla, Subramanyam, & Karhade, 2010) (Which is an example of post contractual opportunisms) in this the general business problem is that each party worries about being forced to accept disadvantageous terms later, after it has sunk an investment, or is precarious about its investment being devalued at the actions of others. A party which is forced to accept this worsening terms after it has incurred sunk costs is called a Held-up company. This leads to conclude that it is the specificity of assets (Balakrishnan & Fox, 1993; Grigoryan & Keating, 2008; B. Holmstrom & Roberts, 2012; Iversen & Soskice, 2001; Joskow, 1988; Riordan & Williamson, 1985; Sawant, 2012; Tirole, 1985) together with imperfect contracting that leads to the hold-up problem, which is not a common occurrence it applied in the standard market context where this is perfect contracting in an ambit if a large number of buyers and sellers, but rather the opportunistic behaviour that develops in the players who have invested in large specific assets and either make or are rendered vulnerable to the other dependent member who is in contract with it.

Clearly if the contracts were made complete, with the contract preventing either of the partners from indulging in a post opportunistic behaviour: the hold-up problem would be eliminated, but with an example a concept is highlighted. Suppose that there is a contract between a mine and an electric utility to supply coal, these two facing the expected contentious problem of HOLD UP: why? Because it may later arise if either of the partners falls prey to its selfish desires and breaches the contract, to prevent this post opportunistic behaviour a long term contract is entered into by the mine and the utility, but for this the price of coal should be set, now the question arises at what price? Hence the contract the coal mine owner may face rising labour and other costs which he does not expect, for this should an escalator clause be included which adjusts the price of the coal when some mining index cost rises, or should the price of coal be tied to the spot market price of coal in that particular area ? that is why when faced with such scenarios we have a strategic solution, in an empirical study carried out by the noted MIT Economist Paul Joskov, most Coal Mines and Power utilities were owned by the same company (Vertical Integration or had entered into contracts with each other which were of a long term in nature and had escalator clauses. A mathematical example of the hold-up problem is the famous prisoner's dilemma problem also this opines that the threat of breach of contract and the hold-up problem, concern that post contractual opportunism may occur, depresses and

discourages a firm from investing, therefore it is quintessential that firms must commit not to attempt and grab more than their share of returns.

### Conclusion

This article has illustrated conceptually relational and implicit contracts as a response to contractual incompleteness, when also faced with problems of bounded rationality and asset specificity; where these contracts serve to set expectations and establish decision processes to deal with inevitable and unforeseen circumstances while avoiding the trouble to jot inundated details. And in the case of cospecialized assets it is best for the same firm to own both, or the other solution is one which is called COMMITMENT between both partners. And in a world of costly and incomplete contracting trust is utmost important in realizing transactions which are important and which may be profitable, thus in renegeing or breaching a contract the firm loses its reputation, thus losing the chance to conduct transactions later on. Thus the tenacity to maintain a reputation by a firm removes the incentive for behaviours which are opportunistic and post contractually harmful to the transactional partners of the firm. The focus of this paper concludes that to add richness to the field of economic sciences. The 'soft' part of management, namely the social-sciences serves as a complementary field, and its constructs of trust and commitment can add more richness to appreciate the phenomena of contracts, rationality and motivation with its underlying assumptions of self-interest of individual players. as we see in the 'real' world.

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