

Organizational Learning and the Narcotic Effect

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ABSTRACT

Despite arbitration has been widely spread during last three or four decades as a mean to resolve bargaining impasse in the public sector, still some people believe that arbitration is not compatible with genuine collective bargaining due to the narcotic effect. Surprisingly little theoretical attention, however, has been given to the narcotic effect. Based on the bounded rationality and organizational learning theory, the present study identified three potential mechanisms through which the usage of arbitration may increase the probability of its usage in the subsequent negotiation: uncertainty reduction, increased overconfidence, and ambiguity associated with arbitration outcomes. Some testable propositions were also proposed.

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Dispute settlement procedures can become habit-forming and negotiations become only a ritual (Final Report of the Governor's Committee on Public Employee Relations, 1966, p.33).

Although compulsory interest arbitration is widely used as a mean to resolve bargaining impasse in the public sector, there still exists controversy on whether arbitration is really compatible with bargaining. One of critics is that compulsory interest arbitration may have the narcotic effect. The bargaining parties tend to become increasingly reliant on arbitration, once they use it. The narcotic effect argument implies that compulsory interest arbitration will eventually reduce the parties' willingness or ability to reach voluntary settlements. Despite its important implications on bargaining behaviors, however, relatively little systematic research has been done on the narcotic effect and the results are far less clear.

Kochan and Baderschnider (1978, 1981) found a modest narcotic effect in the first three rounds of bargaining after passages of fact-finding and conventional arbitration laws in New York. The conditional probability technique used by Kochan and Baderschnider, however, cannot distinguish the causal effect of using an impasse resolution procedure from the parties' high propensity of using it (Butler and Ehrenberg, 1981). Reanalyzing Kochan and Baderschnider's data with the "runs test" and a fixed-effect, linear-probability model, Butler and Ehrenberg (1981) found some evidence for the narcotic effect during the initial period. Their results showed, however, that there was a negative narcotic effect in later years. That is, in later years the usage of arbitration in one round of negotiation decreased, rather than increased, the probability to use the procedure in a subsequent round.

Chelius and Extejt (1985) examined experience in Iowa, Indiana, Pennsylvania as well as New York. Both of conventional arbitration and final offer

arbitration were used in these states. Their results of Armitage test, a similar runs test used by Bulter and Ehrenberg (1981), showed that though the narcotic effect was observed in some cases, after initial period adjustment there were no narcotic effects under any of the bargaining laws or for any of employee groups analyzed. Currie (1989) analyzed 35 years of conventional interest arbitration experience in British Columbia by using a fixed-effect logistic model, to find that the usage of arbitration in one round of negotiation increased the probability to use the procedure in a subsequent round at least by ten percent.

Due to the small number of empirical studies and their mixed results, it is difficult to draw a firm conclusion on whether there exists the narcotic effect or not. However, the findings in the previous studies seem to suggest that the narcotic effect may occur but it may not be a universal phenomenon. The narcotic effect may be stronger in some situations or under some types of dispute resolution procedures than others. To address such questions requires a more elaborate theory on why the narcotic effect occurs. However, the narcotic effect has received surprisingly little theoretical attention. "The usual rationale for the study of the 'narcotic effect' is not theoretical but normative, since the extent to which arbitration discourages negotiation is used as a criterion for judging arbitration system (Currie, 1989, p. 364)." The purpose of this study is to search some theoretical explanations of the narcotic effect by applying organizational learning theory. Negotiation under the threat of arbitration is briefly reviewed first. Then the theory of narcotic effect based on organizational learning theories is proposed and some testable propositions are derived from the theory.

I. Negotiation under the Threat of Arbitration

To understand why the narcotic effect occurs, we first need to understand how arbitration creates incentives for the bargaining parties with conflicting interests to reach voluntary agreements. Under arbitration, arbitrators have authorities to issue final awards that bind the parties if the parties fail to reach voluntary agreements. Strikes, most frequently used dispute settlement mechanism in the private sector, create incentives for the parties to reach voluntary settlements by imposing direct costs of lost incomes and profits on both parties. By contrast, arbitration does not impose such direct costs on the parties. Arbitration creates the incentives through a fundamentally different mechanism.

In their seminal paper, Farber and Katz (1979) assumes that an arbitrator of a dispute has his/her own view of what is fair in that case, which is exogenous to the parties' behaviors and not precisely known to the parties. They argue that a risk aversion party is willing to give up some of expected gains from arbitration to avoid uncertainty associated with arbitration. If risk aversion dominates in the bargaining relationship and the parties have identical expectation, this creates a positive contract zone, a range of potential settlements that both parties prefer to arbitration. The contract zone sets the bounds for the potential voluntary settlements.

Thus, one simple reason why impasse occurs is a negative contract zone. Under arbitration, a negative contract zone can occur either because risk-seeking dominates in the bargaining relationship or because at least one of the parties has biased expectation of arbitrators' behaviors or both. However, Babcock and Olson's (1992) study on teacher collective bargaining in Wisconsin suggests that a negative contract zone is not a major cause of dispute in interest arbitration. Their results show that the

average contract zone for the parties who received arbitration awards was positive. Only 14 percent of cases in which the parties received awards had negative contract zones.

If there exists a positive contract zone, why do the bargaining parties fail to reach voluntary agreements? There exist two possible explanations. One is incomplete information about their opponent. Under incomplete information about their opponent, use of impasse, such as strikes or arbitration, can be a rational strategy *ex ante*, though irrational *ex post* (Tracy, 1986, 1987). The other is a bargaining error due to psychological biases in decision-making. One potentially important psychological bias is self-serving bias. Self-serving bias represents the biased information processing by individual that leads to "conflate what is fair with what benefits oneself (Babcock and Loewenstein, 1997, p. 110)." Another related psychological bias is overconfidence. Previous research on human judgement has consistently demonstrated that individuals tend to be overconfident in their beliefs and judgements (e.g., Kahneman and Tversky, 1973). In a final-offer arbitration experiment, Bazerman and Neale (1982) found that the sum of the parties' beliefs about their chances of winning was greater than one.

Understanding of why impasse occurs under arbitration is not sufficient to explain the narcotic effect, however. A theory of the narcotic effect requires to explain how the use of arbitration influences the causes of dispute in arbitration, such as the possibility of a negative contract zone, the incomplete information problem or the psychological biases. The present study focuses on how usage of arbitration affects the contract zone and psychological biases, two of the three factors mentioned above. Bounded rationality and organizational learning literature provides some useful insights.

II. Toward a Theory of the Narcotic Effect

Contrary to traditional decision making theories, bounded rationality theory maintains that human intellectual capacities are limited to capture the complexities of the problems that individuals and organizations face (March and Simon, 1958). Under the bounded rationality, organizations never have all relevant information but have to learn from either their own direct experience or from observation of experience in other organizations. In such learning process, March and Simon argued, organizations try to find satisfactory, rather than optimal, solutions. In addition, since attention is scarce resource, most behaviors in organizations are based on routines developed from past experience. That is, organizations develop routines from the behaviors that produced satisfactory outcomes previously and keep using them until they fail to produce satisfactory outcomes. Search for alternatives is usually motivated by a novel stimulus or a problem, failure to satisfy one or more organizational goals (Cyert and March, 1963; March and Simon, 1958).

Two implications relevant to the narcotic effect can be derived from the bounded rationality theory. First, organizations learn from their experience. The more do the bargaining parties learn about an arbitrator's behaviors, the less uncertainty exists on arbitrators' behavior. In arbitration system, amount of uncertainty and risk preference of the parties are the two most important determinants of the size of contract zone. Second, organizations do not always learn correctly from experience because of ambiguity in the relationship between organizational action and outcome (March and Olson, 1975). Experience requires interpretation and the psychological biases may influence how the parties interpret ambiguous information.

2.1 Uncertainty

As mentioned above, the major source of arbitration leverage to create a positive contract zone derives from the uncertainty of the parties regarding arbitrator's view of fairness. If the parties are risk averse, they would be willing to settle for less than the expected arbitration award to avoid uncertainty associated with arbitration. The more uncertainty exists, the more expected gains are risk-aversion parties willing to give up to avoid the uncertainty. Thus, as long as risk averse dominates in the bargaining relationship, the existence and the size of a positive contract zone depend on the amount of uncertainty regarding arbitrator's view of fairness.

Foregoing discussion suggests that a potential mechanism that the usage of arbitration in one round of negotiation increases the probability to use it in subsequent round is to reduce uncertainty regarding arbitrator's view of fairness. When arbitration is first introduced, there exists substantial amount of uncertainty on arbitrators' behaviors. Although many arbitration laws specify a list of factors that should be considered in arbitration decisions, they do not provide any meaningful criteria to arbitrators as well as to the parties. This is largely because those factors in the lists are very broadly defined and few laws specify how much weights should be given to each factor. However, the uncertainty surrounding arbitrators and the arbitration procedure is likely reduced as the bargaining parties learn more about arbitrators' behavior and the arbitration procedure. This may result in smaller contract zones or even negative contract zones (Farber and Katz, 1979).

Note that not only the mere existence of a positive contract zone, but also the size of a positive contract zone likely affects the probability of impasse. Given the existence of incomplete information about opponent and

bargaining errors, the size of contract zone is likely to be inversely associated with the probability of bargaining impasse. It is easier for the parties to find contract zone as the size of the contract zone increases.

Organizational learning literature suggests the one of the most important mechanisms through which organizations learn is learning from their own experience. Under arbitration system, the bargaining parties can learn what arbitrators think fair in their case by receiving their own arbitration award. Olson and Rau's (1997) study showed the importance of the learning by doing process under arbitration system. Their analysis on teacher bargaining experience under a final-offer arbitration in Wisconsin showed that in the next round of contract negotiation following arbitration, negotiated settlements were higher when the unions' final offers were selected than when the employers' final offers were selected. They also found that the weights the parties gave to factors converged toward those consistent with the arbitrators' after arbitration.

Another potentially important learning mechanism, learning from other's experience, however, appears to be less effective than the learning by doing. Olson and Rau (1997) found that similar convergence in weights was not observed in the bargaining relations that never experienced arbitration. These results suggest that the bargaining parties do learn from their experience of arbitration and direct experience is more informative than experience by others. The parties learn from their experience, which reduces uncertainty around arbitrators and the arbitration procedure. This likely results in increased usage of arbitration as a positive contract zone shrinks or becomes negative.

It should be noted that there exist a countervailing effect, however. The amount of biases in the parties' expectation of arbitrators' view of fairness may also be reduced as the parties learn more about arbitrator's behaviors. Previous research demonstrated that the bargaining parties tend to have

self-serving biases. Even when parties have the same information, they tend to come to different conclusions about what is a fair settlement. In addition, the parties tend to believe that their position would prevail in arbitration (Babcock, et al, 1995, Babcock and Loewenstein, 1997, Babcock, Wang, and Loewenstein, 1996). In their study on Pennsylvania public school teacher negotiation, Babcock et al. (1996) found that the average salary in the school districts that unions selected as their comparables was substantially and statistically significantly higher than the average salary in the districts that school boards selected as comparables.

The self-serving bias may be expected to decrease as the parties have more information on arbitrators' behaviors, which results in a larger positive contract zone, *ceteris paribus*. The reduction of self-serving bias may offset the effect of decreased uncertainty. However, previous studies have also demonstrated that it is very difficult to reduce the self-serving biases. The self-serving bias is so strong that even professionals are not immune from it. Most people seem unconscious of their self-serving bias (Babcock and Loewenstein, 1997). This suggests that the effect of reduction in uncertainty is likely larger than the effect of reduction in biases. Olson and Rau (1997) found that the variation in negotiated settlement declined after arbitration, which is consistent with the argument that learning from experience may reduce the size of a positive contract zone. Thus, organizational learning by the parties is likely to reduce the size of a positive contract zone.

2.2 Overconfidence Bias

The use of arbitration may increase the overconfidence bias in the both parties. As mentioned above, individuals tend to be overconfident with the accuracy of their judgements (Bazerman and Neale, 1982; Kahneman and

Tversky, 1973). If both sides of the bargaining table believe that they will win the award, they are less willing to make concessions to reach a voluntary settlement.

It is reasonable to expect that confidence increase through experience of success. But can failures increase confidence? This may occur due to the self-serving bias in attribution process (Bradley, 1978) and misconceptions of chance (Tversky and Kahneman, 1974). Previous research has demonstrated that there exists self-serving bias in attribution process. People tend to take credit for their successes and to attribute their failure to luck (Bradley, 1978). In addition, people have misconceptions of chance. For example, if a flip of a coin produces a head, people tend to expect a tail in the next flip. Tversky and Kahneman (1974) have demonstrated that people view chance as a self-correcting process in which a deviation in one direction induces a deviation in the opposite direction to restore the equilibrium. In fact deviations are not corrected as a chance process unfolds, they are merely diluted.

The relationship between organizational actions and outcomes are not always clear. Organizations need to figure out what causes the outcomes (March and Olson, 1975). Under a conventional arbitration system, actual arbitration awards can be described as the following:

$$W_a = E(W_a) + e$$

The actual award is determined by two factors, the expected fair wage belief of the arbitration, $E(W_a)$ and random error, e . To learn from experience, the parties should first determine first whether the actual outcome reflect their accurate (or inaccurate) judgement about $E(W_a)$ or due to random error. Literature on the self-serving bias suggests that the losing party is more likely to attribute their failure to random error. If the

losing party views chance as self-correcting process, the losing party is more likely to be more confident with their chance to win than before (i.e., we lost last time, this is our turn). The experience of arbitration may increase overconfidence bias in the both sides of the bargaining table.

2.3 Ambiguity of Success

Another form of self-serving bias is that people tend to interpret ambiguous outcomes as successes. Previous research has demonstrated that organizations often seem to be able to interpret the outcomes or reinterpret their goals in such a way to make themselves successful even when the shortfall seems quite large (Staw and Ross, 1978; Ross and Staw, 1986). The perceived values of what they achieved in arbitration likely increases after arbitration compared to before arbitration. And the parties likely devalue what they lost in arbitration. The more ambiguous is an outcome, the more room exists for the parties to interpret it as an success.

Under final-offer arbitration, arbitrators are required to select one of the final offers by the parties. In such case, there exists little ambiguity regarding which party wins or loses. By contrast, under conventional arbitration arbitrators can select whatever they think fair. General observation is that arbitrators tend to select the average of the parties' offers though it is not clear whether arbitrators split the differences or the parties locate their offers in equal distance from what arbitrators think fair. In this case, there exists ambiguity that allows for the parties to reinterpret the outcome to claim victory. Since organizations tend to use repeatedly the behaviors or routines that produced satisfactory outcomes previously, the probability of arbitration to be used in subsequent round increases as the degree of ambiguity in arbitration award increases.

III. Propositions

Proposition 1: The narcotic effect will be stronger during the initial adjustment period of arbitration than during the later period.

One mechanism that the use of arbitration increases the probability to use it in subsequent negotiations is reduction of uncertainty regarding arbitrators' behaviors. When arbitration is first introduced, there exists high uncertainty regarding what arbitrators' think fair. As mentioned above, the factors that arbitrators should consider when they make decisions are either not specified in arbitration laws or too broad, if specified, to be a guide both to the parties and to arbitrators. Thus, when arbitration is first introduced, there exists substantial amount of uncertainty on what arbitrators think fair. The bargaining parties have to learn about it from their own experience and experience of others.

There are several reasons to expect that the narcotic effect is stronger during the initial period of adjustment than the later period. The marginal contribution of additional piece of information regarding arbitrators' behavior to uncertainty reduction likely decreases as the parties accumulates more information. The reduction of uncertainty is likely to be substantial when the parties receive their own arbitration award for the first time. Such award provides the parties with general information on the criteria arbitrators use. Subsequent arbitration experience may provide additional information which helps the parties to refine their understandings on arbitrators' behaviors, but the amount of uncertainty reduced by later arbitration experience is not as large as in the initial experience.

In addition, the high uncertainty during the initial period of arbitration may increase susceptibility of the parties to the psychological biases. It

was observed that overconfidence is more likely to occur when the parties have limited information (Lichtenstein & Fischhoff, 1977, 1980).

Proposition 2: The narcotic effect will be stronger under conventional arbitration than under final-offer arbitration.

The narcotic effect is likely stronger under conventional arbitration than under final-offer arbitration. First, the awards under conventional arbitration provide more information on what arbitrators think fair, thus reduce uncertainty to greater extent, than the awards in final-offer arbitration. Under conventional arbitration, an arbitrator can select whatever he or she think fair. By contrast, under final-offer arbitration system, an arbitrator is required to select the offer closer to what he or she think fair among the two final offers by the parties. Thus, awards under final-offer arbitration only reveal the location of arbitrators' view of fairness relative to the mean of the offers.

Moreover, under conventional arbitration the winner and the loser are more ambiguous as under final-offer arbitration. Under final-offer arbitration, arbitrators are forced to select either the union's offer or the employer's offer. Thus, there exists little, if any, ambiguity over who wins the award. By contrast, under conventional arbitration arbitrators in general split the differences of the offers. This suggests that there exists more room for the parties to interpret the outcome as success.

Proposition 3: The narcotic effect will become stronger as cohesiveness within each party increases.

As mentioned above, one of the potential causes of the narcotic effect is psychological biases people have. People have self-serving bias, overconfidence

and tend to interpret ambiguous outcomes as successes. Organizations may differ in their susceptibility to such biases, however. Janis (1972) found that as a group becomes more cohesive, contradicting views are suppressed. Cohesive groups tend to develop an illusion of invulnerability. Thus, they are more likely susceptible to the psychological biases. The existence of different groups within the parties is likely to reduce such tendency. Different groups may have different goals and evaluate the same outcome differently (Levitt and March, 1988). This is especially true when there exists competition over leadership within an organization. Factions within an organization likely challenge the attempt by current leaders to interpret ambiguous outcomes as successes. New leaders are inclined to interpret previous outcomes more negatively than their predecessors are (Hedberg, 1981).

IV. Discussion

Despite arbitration has been widely spread during last three or four decades as a mean to resolve bargaining impasse in the public sector, still some people believe that arbitration is not compatible with genuine collective bargaining due to the narcotic effect. The purpose of the present study is not to examine whether the narcotic effect really exists but to develop some theoretical explanations on why the narcotic effect occurs. Previous studies on the narcotic effect in general focused on the first question and their results are far less clear. This suggests that the narcotic effect may exist but may not be a universal phenomenon. To improve our understanding on the narcotic effect, it is needed to develop a theory on why it happens. Surprisingly little theoretical attention, however, has been given to the narcotic effect.

Based on the bounded rationality and organizational learning theory, this paper identified three potential mechanisms through which the usage of arbitration may increase the probability of its usage in the subsequent negotiation. First, the bargaining parties may learn from their arbitration experience. This might reduce uncertainty around arbitrators and the arbitration procedure, which in turn, reduces the size of a positive contract zone or make it negative. Secondly, the combination of self-serving bias and misconception of chance can lead to increased overconfidence in the both sides of the table. Finally, due to the ambiguity associated with arbitration outcome and psychological biases, it may be possible that both parties claim victory. Organizational learning literature suggests that organizations tend to use repeatedly the behavior that produces satisfactory outcomes previously. Thus, if both parties are satisfied with the arbitration outcomes, the probability for the parties to use arbitration in subsequent negotiation will increase.

This discussion suggests that the narcotic effect may be more severe in certain circumstances than in others. Thus, it will be more fruitful to investigate in when the narcotic effect occurs, rather than to focus whether the narcotic effect occurs or not. Some testable propositions are also developed in this study.

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조직 학습과 중독 효과

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요 약

중재제도는 지난 3~40여년간 공공 부문의 분쟁해결수단으로서 널리 사용되어 왔음에도 불구하고, 노사 당사자간의 자율적 협상을 저해하고 제3자에 의한 중재에 의존하는 현상을 강화시키는 경향 (중독효과)이 있다는 비판을 받고 있다. 그러나 중재제도의 중독효과에 대한 이론적 논의는 거의 없는실정이다. 이에 본 연구에서는 제한된 합리성과 조직 학습 이론을 활용하여, 불확실성의 감소, 지나친 자신감, 중재 결과와 관련된 모호성 등이 중재의 중독효과에 대한 원인임을 밝히고자 한다.

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