

# Uncertainty reduction theory



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## **Abstract**

This paper deals with uncertainty reduction theory from its origin to date. Ever since uncertainty reduction theory was first created, many researchers have examined it by comparing it with other theories. Uncertainty reduction theory had been tested across different cultures in order to confirm its generalizability. It had also been applied to real life situations to examine how individuals interact in their initial encounters with strangers. In addition, researchers suggested testing uncertainty reduction theory beyond initial encounters rather than strangers.

Finally, criticisms were provided for potential future studies. Introduction Uncertainty reduction theory was created by Charles Berger in 1975. This theory addressed the process of how we get information about other people in initial encounters. The first time we meet a stranger, we face a high level of uncertainty and we must want to reduce that uncertainty by getting more information about the other person. Therefore, Berger and Calabrese (1975) provided several strategies for us to deal with this kind of initial interaction. Researches examining axioms and theorems of uncertainty reduction theory were presented by many professional researchers in order to expand or adjust the original theory created by Berger in 1975.

On the other hand, researchers also extend uncertainty reduction theory beyond initial interactions between strangers by testing across different relationships and different cultures. Timeline The initial phases of interaction

between strangers were labeled as follows: entry phase, personal phase, and exit phase (Berger & Calabrese, 1975). During the first phase, when strangers are faced with each other in a particular situation, their communication behaviors are determined by a set of communication rules or norms and they tend to ask and give a symmetric amount of information. After interactants start to explore each other's attitudes and opinions, they are ready for the second phase which contains socially undesirable aspects of their personalities and social relations. In the final phase decisions are made concerning the desirability of future interaction.

What Berger and Calabrese (1975) meant by uncertainty was prediction and explanation components. At the very beginning of a particular encounter, one person must attempt to develop predictions about the other before the other acts. The individual is engaged in the first stage of uncertainty reduction, a proactive process of creating predictions. Then, the individual may wonder the meaning of the other interactant's behavior, trying to reduce the number of plausible alternative explanations in his mind.

It's the second stage of uncertainty reduction concerning the problem of retroactively explaining other's behavior. The relationships were explained between uncertainty and other variables: verbal communication, nonverbal expressiveness, information seeking, intimacy, reciprocity rate, similarity, and liking (Berger & Calabrese, 1975). They posited seven axioms and twenty-one theorems for studying the development of interpersonal relationships as follows. (1) The amount of verbal communication between strangers and the level of uncertainty are related negatively.

2) As nonverbal affiliative expressiveness increases, the level of uncertainty will decrease. (3) High levels of uncertainty cause increases in information seeking behavior. (4) Uncertainty in a relationship decreases the intimacy level of communication content. (5) High levels of uncertainty produce high rates of reciprocity.

(6) Similarities between persons reduce uncertainty. (7) Increases in uncertainty level produce decreases in liking. From the preceding seven axioms, the following twenty one theorems are deduced. Verbal communication is positively related to nonverbal expressiveness (T1), intimacy (T2), liking (T5), and similarity (T6) and is negatively related to information seeking (T3) and reciprocity rate (T4) respectively. Nonverbal expressiveness is positively related to intimacy (T7), liking (T10), and similarity (T11) and is negatively related to information seeking (T8) and reciprocity rate (T9).

The intimacy level of communication content is inversely related to information seeking (T12) and reciprocity rate (T13) and is positively related to liking (T14) and similarity (T15). Information seeking is positively related to reciprocity rate (T16) and is negatively related to liking (T17) and similarity (T18). Reciprocity rate is inversely related to liking (T19) and similarity (T20). Similarity and liking (T21) are positively related.

Uncertainty reduction theory could be applied to long-term relationships as well as initial encounter (Berger, 1979). Berger presented that uncertainty may happen on two different levels: behavioral and cognitive. He stated that reducing uncertainty in behavior increases the predicting ability of how a

person will act when he/she is facing a situation. In the mean time, cognitive uncertainty affects the ability to explain the main rational reasons for that certain action. Clatterbuck (1979) tested the hypotheses derived from the axioms of uncertainty reduction theory in order to offer a means of operationalizing uncertainty in initial interactions through measures of attributional confidence. The process of reducing uncertainty is divided into two interactive processes: retroactive attribution (explanation) and proactive attribution (prediction).

When individuals have adequate information which allows the best possible understanding of the situation, they can make retroactive and proactive attributions which constitute the concept of certainty, or attributional confidence to plan their behavior most appropriately and effectively. Or they will face ambiguity or uncertainty about outcomes when information is less than optimal. Therefore, for the individual, reducing uncertainty and increasing attributional confidence become synonymous. To measure retroactive attributional confidence, subjects were asked about how confident they were in factual knowledge of the other.

Proactive attributional confidence was measured by asking subjects how confident they were in prediction about the other. All hypotheses were confirmed showing that attributional confidence is an operationalization of uncertainty. An Attributional Confidence Scale was designed by Clatterbuck (1976, 1979) to operationalize the uncertainty reduction theory developed by Berger and Calabrese (1975). However, Clatterbuck (1979) found two caveats which should be advanced concerning the relationships among CLUES, attributional confidence, and uncertainty. First, it was not totally

clear in Berger and Calabrese that uncertainty and attributional confidence were identical constructs. Secondly, the CLUES instruments only weakly supported the hypotheses.

Since all hypotheses were qualified to reject the null hypotheses, one would not reject the CLUES instruments just because they did not support uncertainty reduction theory as strongly as proponents would expect. In conclusion, it seemed that the empirical study of uncertainty would be aided by the development of measures of attributional confidence. There were three conditions in which persons tend to reduce their uncertainties about others: (1) observation of deviant behavior, (2) anticipated interaction, and (3) high probabilities of receiving rewards and punishments from others (Berger & Bradac, 1982). First, when persons encounter novel or unpredictable behavior of others, they are likely to know more about the others.

Second, when persons expect to interact with each other in the future, they will monitor their present interaction more carefully and try to reduce their uncertainties about each other more. Third, persons have the tendency to reduce their uncertainties about other persons with supportiveness such as understanding, rapport, reinforcement and loyalty more than persons might punish them. They suggested that individuals reduce the predictive and explanatory uncertainties by employing three general classes of strategies: passive, active, and interactive. Passive strategies are reactivity searching and disinhibition searching. Observers gain knowledge of other persons by observing them without them knowing that they are being observed.

Active strategies are asking others about the target person and environmental structuring. However, observers need to balance the second-hand information about the target persons from informants. They also need to consider the situation the target persons might be told by informants that they are being observed. Sometimes, observers have the chance to construct environmental situation to see the responses of the targets.

Interactive strategies are interrogation and self-disclosure relying on communication with the other persons directly. It means that observers gain information about a stranger by simply asking the stranger questions about himself or herself. The other strategy is to disclose something about ourselves and the other person is likely to disclose in return. However, deception detection could also be one kind of strategy when deception comes into interactive strategies.

The target person may give false information in response to the questions or disclosures in terms of both interrogation and self-disclosure. Some conditions were also pointed out in which the observers might not succeed in reducing uncertainty when the targets tend to remain unknown (Berger & Bradac, 1982). The target might avoid developing a relationship with the person seeking knowledge when the target does not like the person for some reason. Or, some persons regard privacy as extremely personal information and do not like to share with others unless those other are invited.

Under this kind of situations, the targets might have some possible ways to remain unknown with others. First, they can isolate themselves. Second,

they might give minimal response to show their desire not to communicate. Third, they might interact within confines of role-determined actions.

Finally, they might talk with others but keep the focus of interaction away from oneself. The psychological variables of self-monitoring and self-consciousness were discussed to influence the use of uncertainty reduction strategies (Berger & Bradac, 1982). The studies were cited from Snyder (1974), Fenigstein, Scheier, and Buss (1975) to explain the components of self-monitoring and self-consciousness. According to Snyder (1974), persons with high self-monitoring are more sensitive to the behavior of others and have better developed acting skills. They could gain more understanding from the person they are interacting and they also avoid expressing their inner feeling to prevent from offending that person.

In contrast, persons with low self-monitoring are less concerned with the impressions they make on others because they are less sensitive to notice. Two different components in self-consciousness were suggested by Fenigstein, et al (1975). One is private self-consciousness that happens when one is focused on as an object. The other is public self-consciousness that occurs when we become aware that other persons are focusing their attention on us. An advantage of an extension of uncertainty reduction theory was proposed by explaining that uncertainty reduction theory can be applied to strangers from different cultures during the first meeting (Gudykunst, 1985). First, the explanatory power and generality of the theory could be increased.



Also, the observation observed by Thibaut and Kelly (1959) that uncertainty was higher in intercultural encounters than in intracultural interactions had been improved by combination of uncertainty and intercultural encounters. Moreover, the extension of uncertainty reduction theory explained uncertainty and its influence on the quality of group interaction separated by Rose (1981). Gudykunst (1985) presented that attributional confidence is the opposite of uncertainty and explained attributional confidence which develop as a result of these predictions. First, attributional confidence is related to attitude similarity, interpersonal attraction, quantity of communication, and the uses of interactive strategies positively. Second, using interactive strategies increases the attributional confidence.

Finally, there is a positive correlational relationship between attitude similarity and interpersonal attraction. He explained the study showed that there are variations across relationships and the intimacy level of a relationship should be included as part of the model. Gudykunst, Yang, and Nishida (1985) thought uncertainty reduction theory was generated from research on white subjects in the United States. In order to increase the generalizability, they decided to examine uncertainty reduction theory on three different cultures. Japan and Korea were selected for comparison because they are high-context culture which is opposite of the United States. They tested a model including self-monitoring and self-consciousness because the impact of these variables Berger and Bradac (1982) mentioned on the interactive strategies had not been examined.

Uncertainty reduction theory focused on initial interaction with strangers, but the desire to reduce uncertainty should not stop with initial encounters.

Therefore, the study compared acquaintances, friends, and dating relationships on the above cultures. As a result, the data revealed that self-consciousness and the use of interactive uncertainty reduction strategies were not related and it also showed the result was inconsistent with the recent study of uncertainty reduction theory by Berger and Bradac (1982). The relationship between self-monitoring and the use of interactive uncertainty reduction strategies was only partly supported in friend data. Gudykunst, Yang, and Nishida (1985) explained the possible cause by Schaffer, Smith, and Tomarelli's (1982) research. They found the reason why relationship was not supported in acquaintance and dating data might be that high self-monitors tend to reciprocate intimacy and emotionality more than low self-monitors.

The uncertainty reduction is one important element in organizational settings by proposing a strategical view of environmental uncertainty for business-oriented organizations (Jauch & Kraft, 1986). Jauch and Kraft presented that decisions of managers sometimes cause aggressive creation of environmental uncertainty. The actions of the managers and the organization both affect the environment. They created a model that can explain how organizational performance was affected directly by the environment. Furthermore, they elaborated how various uncertainty management strategies were used. First, internal uncertainty reduction strategies were used to obtain operational information of the organization.

Second, external uncertainty reduction strategies were used to obtain environmental knowledge. Third, primary information sources were gained by the combination of internal and external uncertainty stimulations.

Sunnafrank (1986) pointed that the works from Clatterbuck (1979) and Gudykunst, Yang and Nishida (1985) involved relatively direct tests of theoretical relationships normally provided only partial and weak support. He presented the predicted-outcome-value perspective could be complementary with uncertainty reduction theory.

Several propositions were detailed regarding beginning relationships. First, when greater predicted outcome values are expected in the relational future, individuals should be more attracted to partners and relationships. Second, increasingly positive predicted outcomes will generate more communicative attempts to extend initial interactions and to establish future contact. In reverse, decreasingly positive predicted outcomes will lead to terminated or curtailed conversation and also future contact. Finally, individuals will aim to guide conversations toward topics expected to create the most positive predicted outcomes.

Therefore, Sunnafrank (1986) claimed that predicted-outcome-value levels are the primary determinant of change in initial interactions, and uncertainty reduction theory is only an important vehicle for the main goal of achieving positive relational outcomes. Berger (1986) attempted to reinforce the uncertainty reduction theory by explaining two ways that uncertainty is relevant to interpersonal communication processes. First, uncertainty reduction concerns the interaction process itself in the broad sense. Second, the narrow sense concerns the outcomes of the interaction. Uncertainty reduction theory suggested that individuals make numerous predictions about the behaviors and attitudes of their interaction partners in initial encounters. Some of these predictions are related to outcome values.

Thus, predicted outcome values are a subset of the totality of uncertainty reduction activities that occur during initial encounters. Without uncertainty reduction there would be no predicted outcome values. Therefore, predicted outcome values are no more or less important to relationship development than is uncertainty reduction. The influences of ethnicity, gender, dyadic composition and self-monitoring were examined on interactive strategies: interrogation and self-disclosure (Gudykunst & Hammer, 1987). Subjects were divided equally between black and white, male and female soliciting from voluntary students on campus.

The study showed that ethnicity and self-monitoring have independent influences on uncertainty reduction in initial interactions. However, the effects of gender and dyadic composition were interactive in nature. The findings further presented that two axioms (3 and 7) posited by Berger and Calabrese (1975) can not be generalized across ethnic groups. It appeared to assume that interrogation lead to uncertainty reduction and uncertainty reduction lead to liking in black subjective culture was inappropriate. Therefore, these two axioms may have limitation of applying only in white subjective culture. Besides the above study, the influence of social identity and the intimacy of relationships were examined on uncertainty reduction processes in interethnic relationships (Gudykunst & Hammer, 1988).

Gudykunst and Hammer tested the hypotheses derived from social identity theory among two groups of respondents, Hispanics and Caucasians.

Respondents were asked to think about a specific relationship with a person from another ethnic group and to keep the relationship in mind when answering all of the questions. They also had been told to think either of

someone they wanted to get to know or someone they did not want to get to know when they first met. The study revealed that social identity had a significant positive effect on uncertainty reduction processes and so did the effect for intimacy in relationships. Therefore, a strong identification with the group leads to greater confidence in dealing with members out side of the group.

Another test was proposed contrasting uncertainty reduction theory and predicted outcome value theory (Sunnfrank, 1990). College students were asked to get acquainted to their assigned partners for a given time after they had been paired during their first day of classes. The study showed no support for original uncertainty reduction theory (Berger & Calabrese, 1975), but strong support for predicted outcome value theory. The result revealed that the communication behaviors during initial interaction and relational decisions are guided by interactants' desires to maximize their outcomes. Therefore, initial interactants attempt to form predictions about future outcome value of the relationship and behaviors in which they might want to engage. Sunnafrank (1990) explained that by predicted outcome value theory that uncertainty reduction helps initial interactants to develop outcome value predictions on which their communication decisions are based.

As a result, individuals attempt to reduce uncertainty because of the desires to form outcome value predictions. A reconceptualization of uncertainty reduction theory, motivation to reduce uncertainty, was proposed to provide a theoretical framework for examining organizational communication at various levels of analysis (Kramer, 1999). He presented that uncertainty

reduction theory created by Berger (1975) was a theory for interpersonal communication and it had been used for examining initial interactions primarily. He suggested that the original presented uncertainty reduction theory needed to be reconsidered and thereby, he proposed a reconceptualization of it.

Finally, he addressed how motivation to reduce uncertainty really worked in organizational communication field. Four possible different reasons for low motivation of information-seeking were suggested. First, individuals do not generate uncertainty in every encounter because some situations were too easily predicted or understood to cause significant uncertainty. Second, individuals have different levels of tolerance for uncertainty (Kellerman & Reynolds, 1990). Thus, for some individuals regarded uncertainty as no concern or positive may tolerate it. Third, sometimes minimal information-seeking and covert communication were sufficient to reduce uncertainty.

Fiske and Taylor (1984) provided attribution theory describing another situation which could reduce uncertainty. Uncertainty may be reduced by making causal attributions which concerns the traits or situation of persons. Kramer (1999) thought that uncertainty reduction theory research had viewed information seeking and uncertainty reduction as always positive, but the research of motivation to uncertainty reduction suggested that there could be both positive and negative outcomes. Therefore, he proposed that motivation to uncertainty reduction could be used across individual, group, and organizational levels of analyses.

In addition, it could lead our understanding of common issues to other researches. A normative theory which is quite different from uncertainty reduction theory was proposed by Goldsmith (2001). He clarified the functions between these two approaches. Uncertainty reduction theory asks how people will behave and why. On the other hand, the normative approach asks how people should behave if they wish to achieve desired outcomes and why. Goldsmith also proposed a set of questions about uncertainty and communication involved explaining why within a speech community, some communicative responses to conflicting goals are likely to be more effective and appropriate than other responses.

Three important shifts from uncertainty reduction theory to normative theory were mentioned. First, the focus on the level of uncertainty in an interaction moved to the focus on the meaning of uncertainty. Second, measuring the frequency of behaviors changed to identifying communicative practices and the features that differentiate more from less skillful responses. Third, predicting and explaining the occurrence of behavior became predicting and explaining the evaluation of behavior as more or less appropriate and effective.

As a result, he hoped to help individuals formulate more clearly the types of questions we ask about uncertainty and communication and to collect data appropriate to answering those questions. A foundation was provided for examining how relationship characteristics shape information-seeking strategies by reconsidering assumptions about uncertainty reduction within close relationships (Knobloch & Solomon, 2002). Therefore, Knobloch and Solomon examined the focus of uncertainty, the function of uncertainty

reduction, and the nature of information seeking within close relationships. First, they focused on uncertainty generating from three related sources: self uncertainty, partner uncertainty, and relational uncertainty. Second, they proposed the function of uncertainty reduction is important within close relationships than within acquaintance relationships. Third, they examined relationship intimacy, power dynamics, and information expectancies as factors that shape the directness of the information-seeking strategies people use under conditions of relational uncertainty.

In conclusion, Knobloch and Solomon (2002) suggested that the dynamics of relational uncertainty negotiation may enhance relationship health and prevent people from the more negative consequences of information-seeking. Critique Gudykunst, Yang, and Nishida (1985) believed that uncertainty reduction theory could be applied to examine interactants from different cultures. They extended the theory by comparing within both high-context and low-context cultures and also by examining in different kind of relationships. Sunnafrank (1986) suggested that uncertainty reduction theory is not the primary concern of individuals in beginning relationships. He explained how predicted outcome value theory was more crucial for initial interactants. In 1990, Sunnafrank once again presented that the results from his study directly challenge the position of uncertainty reduction theory.

He proposed that individual engage in reducing uncertainty in order to predict future outcomes. Smith (1996) presented that the essential element of every initial interaction in the service encounter is to reduce uncertainty. However, there was no guide for empirical research and a lack of sufficient knowledge about how to train service providers regarding these initial



communicative encounters. Uncertainty reduction theory had shown its heuristic value and could be kept examining and applying in future studies.

Application Uncertainty reduction theory was applied to explore the communication experiences of newcomers and transferees during job transitions (Kramer, 1994). The study tended to explore the communication these employees use to deal with their changing environments when they face the uncertainty of new positions. It suggested that it may lead to a better understanding of the process how employees communicate to manage uncertainty during job transitions by comparing how newcomers and transferees deal with the uncertainty of new positions. Respondents were asked to complete a series of three questionnaires in a sequential order. Transferees were asked about their job experiences before leaving old positions and newcomers were asked during the last week of the job training program for the first questionnaire. All respondents completed the second questionnaire near the end of the first month at new locations and finished the third one after three months.

Results of the analyses found tentative support to those transferees would report higher levels of communication behaviors and newcomers would report higher levels of passive communication behaviors. Results revealed that transferees and newcomers would significantly increase their information seeking behaviors during transitions into new positions. In conclusions, transferees were more proactive in their communication than newcomers and they were able to make positive relationships after their transfers. Clear support was found that both types of employees use proactive strategies, asking for feedback from peers and supervisors, to

reduce their uncertainties during job transitions. It also indicated that he communication experiences of both types of employees were significant when facing with uncertainties during the adjustment process.

Although the expected differences between transferees and newcomers were minimal, uncertainty reduction theory was found to support a variety of results. Another application of uncertainty reduction theory was made to service encounters in order to suggest a new way of service quality (Smith, 1996). One of the several exchanges of communication elements between the service provider and the consumer is uncertainty. Therefore, service quality experiences should be increased by reducing uncertainty between them in the service encounter. For a customer, uncertainty exists each time when approaching a service provider. The customer may be uncertain about whether the desire of service would be fulfilled or not by a service provider.

As a result, uncertainty could be either negative or positive influence in a service encounter. Some customers may reduce their uncertainty by asking for service proactively, but others do not. Thus, how to reduce the uncertainty in the initial encounter became an important issue for service provider to satisfy with the expectation of the costumer because the service worker is the company in the eyes of the customer (Crosby, Evans & Cowles, 1990). In conclusion, Smith (1996) suggested that service management should make use of uncertainty reduction theory as a new approach to their training and development of service workers when they continue to strive for a better understanding of uncertainty of the initial service encounter.

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