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Corn Grain Marketing Strategy Unbiasing for 2023

Last November, the *Nebraska Farmer* and the University of Nebraska-Lincoln (UNL) Center for Agricultural Profitability (CAP) published an article exploring how human behavior influences the decision process. This work is an addition to that previous paper, in the sense that it specifically focuses on the past year's corn market and some transpired events that may lead to bias in the coming year's development and implementation of marketing strategy and grain pricing. If you are interested in reviewing the original article, please follow either of these two links: farmprogress.com or cap.unl.edu.

To review briefly, the previous article discussed the role heuristic reasoning plays in making farm business decisions. Given recent experience with the Testing Ag Performance Solutions (TAPS) program, it is uniquely understandable how these heuristics impact managers, in addition to how framing influences action. For those of you who are unfamiliar with the TAPS program, TAPS hosts a series of farm management competitions that allow entrants to compete in profitability, efficiency, and yield. One of these contests is the irrigated sprinkler corn competition, held in North Platte, NE, at UNL's West Central Research, Extension & Education Center (WCREEC). Last year, the program included a "2022 Crowdsourcing Team," which competed in the irrigated sprinkler corn competition. This team input management decisions, including choices pertaining to multi-peril crop insurance, variety selection, planting density, irrigation, nitrogen fertilization, and grain marketing, through public polls on Twitter with participation an open invitation to all. Interestingly, the Crowdsourcing Team's marketing strategy was very different than the winning strategy. The Crowdsourcing Team strategized to market a portion of the expected crop via forward contracting throughout the season. This is a typical strategy used to spread out the price risk; in 2022, however, this strategy did not result in an average price that exceeded the harvest price. In fact, the winning team sold all grain at harvest. In most years, it is expected that the Crowdsourcing Team's selected strategy would capture the traditional market highs in the late spring and early summer, while the winning team's strategy reflected a high degree of risk associated with the traditional market year's low at harvest, and selling 100% at a single point, although it did pay off. Whether this action was a stroke of genius or luck is not known, nor is it the point of this discussion. What is important is how this information relates to cognitive bias and possibly impacts the new year's marketing strategy development.

Perhaps those on the winning team and others who marketed similarly may feel confident in their success. It should be noted, however, that everyone might do well to consider a common mistake or cognitive bias to which we humans are all subject: the Dunning-Kruger effect. This effect occurs when a person has immediate success doing a complex task, which may cause them to overestimate their own competence and ability in the near future, (Dunning-Kruger effect, n.d.). This may mean that individuals believe they are able to 'outguess the market,' they may act and feel as though they have a handle on marketing, and/or perceive that they have an infallible system, but, as we know, markets are genuinely unpredictable and will not behave according to expectation. This bias leads those affected to be less cautious, to take more risk than is prudent, and could end badly for those who fail to recognize it and compensate.

Another possible cognitive bias to be aware of is availability or distance bias. Since what happened most recently is most easily remembered, the 2022 marketing experience could naturally lead to expectations that the coming year will be similar, (Availability heuristic, n.d.). This could result in subconsciously expecting the price at harvest to be the high point in the market and, without awareness of so doing, searching for signs or information in the market that would support that idea. This act of looking for facts to support or confirm one's thinking is known as confirmation bias, and we all do it naturally, (Confirmation bias, n.d.). Closely related to the availability heuristic is the negativity bias. Negativity bias is defined as "results in adverse events having a more significant impact on our psychological state than positive events," (Negativity bias, n.d.). For instance, individuals who participated as part of the Crowdsourcing Team and had a negative experience with diversifying risk in 2022 may consequently conclude that selling throughout the whole market season is a bad idea and abandon it as a risk-deferring strategy. Another classic example is when someone uses the futures market to hedge and has a less-than-desired outcome, resulting in abandonment of hedging without wanting to learn more about it as a risk mitigation tool. Both demonstrate the result of putting an unjustified amount of emphasis on the negative experience and ignoring any of the positive facts.

A closely related bias trap is known as gambler's fallacy, which "describes one's belief that the probability of a random event occurring in the future is influenced by previous instances of that type of event," (Gambler's fallacy, n.d.). A fair coin is flipped five times successively and lands showing the head's side. Knowing this, what is the chance that the sixth toss will land showing heads? If you think less than 50%, then you would be exhibiting the effect of gambler's fallacy. The key is to remember that each of the coin tosses is independent of the previous toss, thus the statement 'fair coin' implies a 50% chance of each toss ending in heads or tails. Let's apply this concept to this year's marketing outcomes. First, it is important to note that the average December futures price in October (or harvest price) has been lower than the average December futures contract price in February (or base price) 64% of the time over the past 22 years, (AG360 Insurance, 2023). In the past three years, however, the opposite has been true, and the average corn December futures price has been lower in February than in October, meaning base prices have recently trended lower than harvest prices. Now, what are the odds that October harvest price will be higher than February base price in the 2023 market year? If you feel the past three years will have a huge effect on this year's outcome, indicating that harvest price couldn't possibly again be higher than base price, then you may be exhibiting gambler's fallacy. Rational thought indicates that the market prices are controlled by an almost infinite, unforeseeable series of events, which logically indicates that this year's predicted outcome needs to be based on something more than the history of the past three years' outcomes.

The last bias discussed here is anchoring bias, this heuristic error in thinking "causes us to rely too heavily on the first piece of information we are given about a topic," (Anchoring bias, n.d.). For instance, during the early part of the market season, a producer listens to what they feel is a trusted market report that indicates supplies are expected to be short and will likely pull corn prices higher. As the year unfolds, however, supplies materialize, and prices begin to decline. But, along with confirmation and negativity biases, the producer decides not to sell, instead thinking that the price drop is a market glitch and higher prices are due to come. This inaction results in losing out on an opportunity to market at least a portion of the crop at a fair price.

There are many more types of biases with nearly a hundred of them listed, described, and discussed at thedecisionlab.com. From the forgoing information, one might think that heuristic tools that are naturally used by all of us are all inherently bad. Nothing could be farther from the truth. At times, heuristics are what keep us safe and/or allow us to make good decisions when they are appropriately recognized and used. The key is to learn to recognize effects of these biases and work at compensating, appropriately. It is when heuristic and rational thoughts are properly applied that our best decisions are consistently made. Success in marketing grain or any other farm decision is to consistently make the best choice possible, since even the best choice may not result in the outcome we expect or desire.

Marketing choices, as with all actions and decisions, should be tempered with recognition and understanding of the normally occurring human foibles, and measures taken to nullify potential bias and error in the thinking process. This valuable element may be acquired through honest self-reflection and the study and application of behavioral science principles. An understanding of the relationships between the individual making the decisions, and the challenges and tendencies they have as a human being in making objective choices, positions them to make improved decisions that are better suited for achieving desired outcomes and goals. Understanding behavior along with its application is a powerful foundation upon which all the other quantitative tools, methods, and knowledge may be leveraged. This short discussion of the topic is intended as just a small sample of the possible relationships between producers' grain marketing decisions and behavioral tendencies as human beings. The hope is that readers will see value in the topic and desire to learn more and to act upon that knowledge, which will propel them to a higher level of decision-making performance. This improved ability to make decisions will benefit both their business and personal endeavors.

Two additional video resources that provide interesting insight into decision-making processes:

Davies, A., & Davies, E. (2017, Sept. 25). *Heuristics and biases in decision making, explained.* Learn Library, YouTube Video. https://www.youtube.com/watch?v=ReFqFPJHLhA.

Gigerenzer, G. (2017, Jan. 26). *How do smart people make smart decisions?* TEDx Norrköping, TEDx Talks, YouTube Video. https://www.youtube.com/watch?v=-Lg7G8TMe_A.

References:

Anchoring bias. (n.d.). In *The Decision Lab*. https://thedecisionlab.com/biases/anchoring-bias.

Availability heuristic. (n.d.). In *The Decision Lab*. https://thedecisionlab.com/biases/availability-heuristic.

AG360 Insurance. (2023). *Crop insurance pricing.* Retrieved April 7, 2023, from https://www.ag360insurance.com/crop-insurance-pricing/.

Confirmation bias. (n.d.). In *The Decision Lab*. https://thedecisionlab.com/biases/confirmation-bias.

Dunning-Kruger effect. (n.d.). In *The Decision Lab*. https://thedeicsionlab.com/biases/dunning-kruger-effect.

Gambler's fallacy. (n.d.). In *The Decision Lab*. https://thedecisionlab.com/biases/gamblers-fallacy.

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