CLAIMS

What is claimed is:

1. A computer-implemented method of using past transaction declines to predict future fraudulent behavior of an account comprising:

determining that a transaction has been declined for an account;

determining a risk score for the account;

comparing the risk score for the account to a risk threshold;

in response to the risk score being determined to be over the risk threshold, comparing the transaction for the account to one or more transactions in a transaction profile for a historical fraudulent transaction;

determining a best fit of the transaction profiles of the historical fraudulent transaction;

determining a measure of success for the best fit of the transaction profiles of the historical fraudulent transaction;

determining if the measure of success is over a threshold;

in response to the measure of success being over a threshold, updating profiles of historical fraudulent transactions based on the transaction to include the transaction that has been declined;

predicting future fraudulent transactions; and

attempting to stop future fraudulent transactions based on the predicted future fraudulent transactions.

2. The computer-implemented method of claim 1, wherein the risk score is a determined value from analyzing past purchase history of the account holder using a risk score algorithm.

3. The computer-implemented method of claim 1, wherein a risk threshold is a level of risk determined to be acceptable for a purchase for an account holder.

4. The computer-implemented method of claim 1, wherein comparing the transaction for the account to one or more transactions in a transaction profile for a historical fraudulent transaction uses a graph with the transaction and with the one or more transactions in a transaction profile for a historical fraudulent transaction and

the comparison is a distance on the graph of the transactions and the transactions of the fraudsters.

5. The computer-implemented method of claim 1, wherein the transaction profile comprises attempted transactions that proceeded and followed a fraudulent transaction for a purchaser.

6. The computer-implemented method of claim 1, wherein the finding the best fit comprises graphing the transaction and graphing the transactions from similar transaction profiles and finding the smallest total distance between the transaction and transactions of the historical fraudulent transaction.

7. The computer-implemented method of claim 1, wherein finding the best fit comprises graphing the past transactions of the account and the past transaction from similar transaction profiled and finding the historical fraudulent transaction.

8. The computer-implemented method of claim 1, wherein the measure of success comprises a dollar amount which the fraudster may expect.

9. The computer-implemented method of claim 1, wherein comparing the transaction for the account to one or more transactions for a historical fraudulent transaction is made using a graph.

10. A system of using past transaction declines to predict future fraudulent behavior of an account comprising:

determining that a transaction has been declined for an account;

determining a risk score for the account;

comparing the risk score for the account to a risk threshold;

in response to the risk score being determined to be over the risk threshold, comparing the transaction for the account to one or more transactions in a transaction profile for a historical fraudulent transaction;

determining a best fit of the transaction profiles of the historical fraudulent transaction;

determining a measure of success for the best fit of the transaction profiles of the historical fraudulent transaction;

determining if the measure of success is over a threshold;

in response to the measure of success being over a threshold, updating profiles of historical fraudulent transactions based on the transaction to include the transaction that has been declined;

predicting future fraudulent transactions; and

attempting to stop future fraudulent transactions based on the predicted future fraudulent transactions.

11. The system of claim 10, wherein the risk score is a determined value from analyzing past purchase history of the account holder using a risk score algorithm.

12. The system of claim 10, wherein a risk threshold is a level of risk determined to be acceptable for a purchase for an account holder.

13. The system of claim 10, wherein comparing the transaction for the account to one or more transactions in a transaction profile for a historical fraudulent transaction uses a graph with the transaction and with the one or more transactions in a transaction profile for a historical fraudulent transaction and the comparison is a distance on the graph of the transactions and the transactions of the fraudsters.

14. The system of claim 10, wherein the transaction profile comprises attempted transactions that proceeded and followed a fraudulent transaction for a purchaser.

15. The system of claim 10, wherein the finding the best fit comprises graphing the transaction and graphing the transactions from similar transaction profiles and finding the smallest total distance between the transaction and transactions of the historical fraudulent transaction.

16. The system of claim 10, wherein finding the best fit comprises graphing the past transactions of the account and the past transaction from similar transaction profiled and finding the historical fraudulent transaction.

17. The system of claim 10, wherein the measure of success comprises a dollar amount which the fraudster may expect.

18. The system of claim 10, wherein comparing the transaction for the account to one or more transactions for a historical fraudulent transaction is made using a graph.