What is claimed is:

1. Apparatus for analyzing an inter-personal distance and a behavior of purchasing comprising:

a people flow sensor that detects a movement of a person in a store;

a flow line data recording unit that detects flow lines in the store of the plurality of people detected by the people flow sensor and records the flow lines as flow line data;

an inter-personal distance analysis recording unit that analyzes a distance between the plurality of people by using the flow line data recorded in the flow line data recording unit and records behavior patterns of the plurality of people obtained from the flow line data in an associating manner;

a purchase index analysis recording unit that determines and records purchase circumstances of products in the store of the plurality of people recorded in the flow line data recording unit;

a data storage unit that stores data recorded in the inter-personal distance analysis recording unit and data recorded in the purchase index analysis recording unit; and

a result display unit that displays the data stored in the data storage unit,

wherein the result display unit displays a correlation between an index representing approach distance and approach time to another person, and an index of purchase rate.

2. The apparatus for analyzing an inter-personal distance and a behavior of purchasing according to claim 1,

wherein the inter-personal distance analysis recording unit analyzes a distance between the plurality of people by using the flow line data and records the distance in association with behavior patterns of the plurality of people,

detects positions of the plurality of people detected by the people flow sensor,

thoroughly measures the distance between the plurality of people,

records time information when the positions of the plurality of people are detected,

determines behavior patterns taken by the plurality of people of which positions are detected from position coordinates of the plurality of people, positions of hands, and positions of heads, and

records the behavior patterns of the plurality of people in association with the distances between the plurality of people.

3. The apparatus for analyzing an inter-personal distance and a behavior of purchasing according to claim 2,

wherein, when thoroughly measuring the distance between the plurality of people,

the inter-personal distance analysis recording unit determines whether the plurality of people can mutually recognize

counterparts by using layout information of product shelves in the store and thoroughly measures the distance between the plurality of people when it is determined that the plurality of people can mutually recognize the counterparts.

4. The apparatus for analyzing an inter-personal distance and a behavior of purchasing according to claim 2,

wherein the inter-personal distance analysis recording unit analyzes the distance between the plurality of people by using the flow line data and records the distance in association with the behavior patterns of the plurality of people, and

determines a direction of a body of a specific person from a direction of a hand, a foot, a head, or a face, a travelling direction, a walking speed, and the like of the specific person in the plurality of people and estimates whether the specific person recognizes the plurality of people other than the specific person.

5. The apparatus for analyzing an inter-personal distance and a behavior of purchasing according to claim 2,

wherein the inter-personal distance analysis recording unit determines whether the plurality of people are acquaintances each other by using information on changes in the thoroughly measured distance between the plurality of people and the recorded time information, and adds information that the plurality of people are acquaintances each other to the recorded information in which the behavior patterns of the plurality of people are associated with

the distance between the plurality of people.

6. The apparatus for analyzing an inter-personal distance and a behavior of purchasing according to claim 2,

wherein the inter-personal distance analysis recording unit includes an employee determination unit that identifies and detects an employee of the store from customers of the store, and when the distance between the plurality of people is thoroughly measured, the employee and the customer are identified, and the distance is measured.

7. The apparatus for analyzing an inter-personal distance and a behavior of purchasing according to claim 1,

wherein the result display unit displays a relationship between average time during when there is another person within a predetermined distance from the respective people and conversion rates of the respective people with respect to the respective people among the plurality of people detected by the people flow sensor in a graph or displays a distribution in the store of the average time during when there is another person within a predetermined distance from the respective people with respect to the respective people of the plurality of people detected by the people flow sensor.

8. A method for analyzing an inter-personal distance and a behavior of purchasing by using an analysis apparatus including a people flow sensor, a flow line data recording unit, an inter-

personal distance analysis recording unit, a purchase index analysis recording unit, a data storage unit, and a result display unit, the method comprising:

recording flow lines in a store of a plurality of people detected by the people flow sensor as flow line data in the flow line data recording unit;

analyzing a distance between the plurality of people from the flow line data by the inter-personal distance analysis recording unit, recording the distance in association with behavior patterns of the plurality of people obtained from the flow line data, and determining and recording purchase circumstances of products in the store of the plurality of people recorded in the flow line data recording unit by the purchase index analysis recording unit;

storing data recorded in the inter-personal distance analysis recording unit and data recorded in the purchase index analysis recording unit in the data storage unit; and

displaying the data stored in the data storage unit on the result display unit, wherein the result display unit displays a correlation between an index representing approach distance and approach time to another person, and an index of purchase rate.

9. The method for analyzing an inter-personal distance and a behavior of purchasing according to claim 8,

wherein the inter-personal distance analysis recording unit analyzes a distance between the plurality of people by using the

flow line data and records the distance in association with the behavior patterns of the plurality of people,

detects positions of the plurality of people detected by the people flow sensor,

thoroughly measures the distance between the plurality of people,

records time information when the positions of the plurality of people are detected,

determines the behavior patterns taken by the plurality of people of which positions are detected from position coordinates of the plurality of people, positions of hands, and positions of heads, and

records the behavior patterns of the plurality of people in association with the distances between the plurality of people.

10. The method for analyzing an inter-personal distance and a behavior of purchasing according to claim 9,

wherein, when the distance between the plurality of people is thoroughly measured by the inter-personal distance analysis recording unit,

whether the plurality of people can mutually recognize counterparts by using layout information of product shelves in the store is determined, and the distance between the plurality of people is thoroughly measured, when it is determined that the plurality of people can mutually recognize the counterparts.

11. The method for analyzing an inter-personal distance and a behavior of purchasing according to claim 9,

wherein the inter-personal distance analysis recording unit analyzes the distance between the plurality of people by using the flow line data and records the distance in association with the behavior patterns of the plurality of people, and

determines a direction of a body of a specific person from a direction of a hand, a foot, a head, or a face, a travelling direction, a walking speed, and the like of the specific person in the plurality of people and estimates whether the specific person recognizes the plurality of people other than the specific person.

12. The method for analyzing an inter-personal distance and a behavior of purchasing according to claim 9,

wherein the inter-personal distance analysis recording unit determines whether the plurality of people are acquaintances each other by using information on changes in the thoroughly measured distance between the plurality of people and the recorded time information, and adds information that the plurality of people are acquaintances each other to the recorded information in which the behavior patterns of the plurality of people are associated with the distance between the plurality of people.

13. The method for analyzing an inter-personal distance and a behavior of purchasing according to claim 9,

wherein, when the distance between the plurality of people is

thoroughly measured, the inter-personal distance analysis recording unit identifies an employee of the store from customers of the store and measures the distance.

14. The method for analyzing an inter-personal distance and a behavior of purchasing according to claim 8,

wherein a relationship between average time during when there is another person within a predetermined distance from the respective people and conversion rates of the respective people with respect to the respective people among the plurality of people detected by the people flow sensor based on the data stored in the data storage unit is displayed on the result display unit in a graph, or a distribution in the store of the average time during when there is another person within a predetermined distance from the respective people with respect to the respective people of the plurality of people detected by the people flow sensor is displayed on the result display unit.