Industrial Location Theory of Alfred Weber

Paper- C8

B. A. 4th Semester (Honours)

&

Paper- GE 4

B. A. 4th Semester (Generic Elective)

Dr. Navamallika Sharma

Assistant Professor, Department of Geography

Nanda Nath Saikia College, Titabar, Assam

Introduction:

Alfred Weber propounded his famous industrial location theory in 1909 which was published in a book entitled ‘Uber den standart der Industrien’ written in German language.

In 1929, it was translated into English and published in ‘The Theory of Location of Industries’.

This theory is also known as ‘ Pure Theory’ and ‘Least Cost Theory’.

Introduction:

The basis of this theory is the study of general factors which pull an industry towards different geographical regions. It is thus deductive in approach.

In his theory he has taken into consideration factors that decide the actual setting up of an industry in a particular area.

Assumptions of the theory:

1. The area is typically uniform or isotropic in form of terrain or relief, climate, soils, economic system, technology and distribution of population.
2. Manufacturing involves single product at a time and the product is supplied to a single market.
3. Raw materials are not evenly distributed in space but at a few known and fixed locations which are available at equal transportation cost throughout.
4. Markets are known as fixed at specific places.

Assumptions of the theory:

5. The distribution of labour is fixed, as are wages at any specific location. Wages, however, can vary from one location to another. This means that labour was not mobile and thus not affected by the location of industries.
6. Transport costs are uniform and tend to increase with increasing linear distance and weight of material transported. Transport routes are not fixed but connect origin and destination by the shortest distance.
7. There is a perfect market competition.
8. Each industry would incur identical production cost.
9. There would be a uniform demand and uniform price for a product at all markets.

Aim of the Theory:

Weber Classified the factors affecting location of industries into two broad groups:

a) Regional factors or primary causes of regional distribution of industries.

b) Agglomerative and degglomerative factors or secondary causes responsible for redistribution of industry.

a) Regional factors:

According to Weber, there are two general regional factors which affect the cost of production-

i) Transportation costs and

ii) Labour costs

b) Agglomerative and degglomerative factors:

Agglomerative factors make industries centralize at a particular place. Such factors may include banking and insurance facilities, external economies and the like.

Degglomerative factors are those which decentralize the location of industries. Examples of such factors are local taxes, cost of land, residence, labour costs and transportation costs.

Role of transportation costs:

1. One market (M), one raw material (R1) condition gives rise to 3 situations:

- **Raw material available everywhere-** the best location in this situation is the market, as that will simply eliminate the transportation costs for the manufacturing unit.
- **Raw material fixed and pure-** the manufacturing unit, in this case, should be located either at the market or at the source.
- **Raw material fixed and gross (it loses weight on processing):** the best location will be at source.

Role of transportation costs:

2. One market (M), two Raw materials (R1,R2) gives rise to four situations:

- **Both R1 and R2 are found everywhere: Here, the best location will be at the market, as in that case, lowest transportation costs would prevail.**
- **R1 is fixed, R2 is found everywhere, both are pure: the best location would be at the market, because then, transportation charges for R1 only will have to be paid.**
- **Both R1 and R2 are fixed and pure: the best location will be at the market, because in that case lowest aggregate transportation charges will prevail.**
- **Both R1 and R2 are fixed and gross: this is a complex situation, for which Weber introduced the "locational triangle". Two raw materials R1 and R2 and market (M) form the three nodes of this triangle. The transportation charges are a product of the cargo weight and the distance carried by transportation. Thus a pull is being exerted on the location by each of these three nodes.**

Locational Triangle

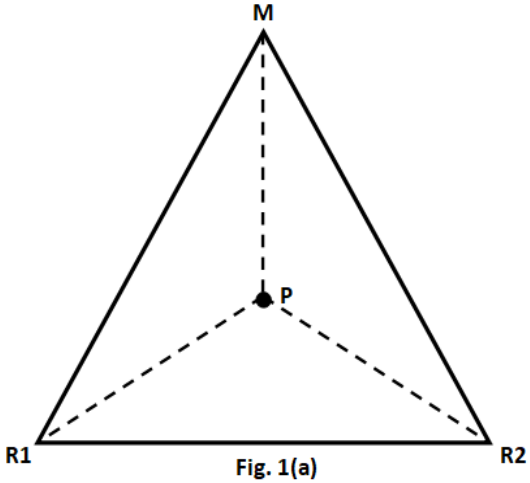


Fig. 1(a)

M- Market

R1, R2- Raw materials

P- Least cost location

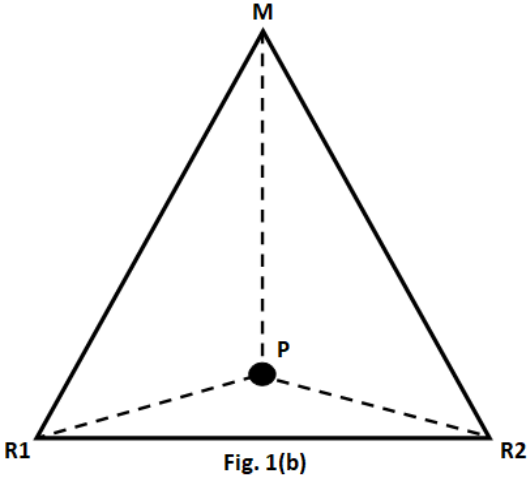


Fig. 1(b)

M- Market

R1, R2- Raw materials

P- Least cost location

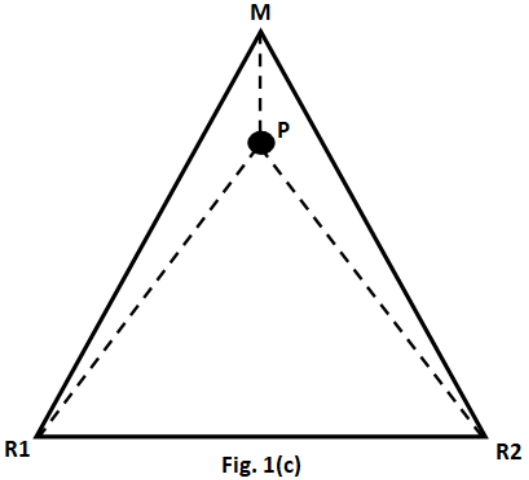


Fig. 1(c)

M- Market

R1, R2- Raw materials

P- Least cost location

Role of labour costs:

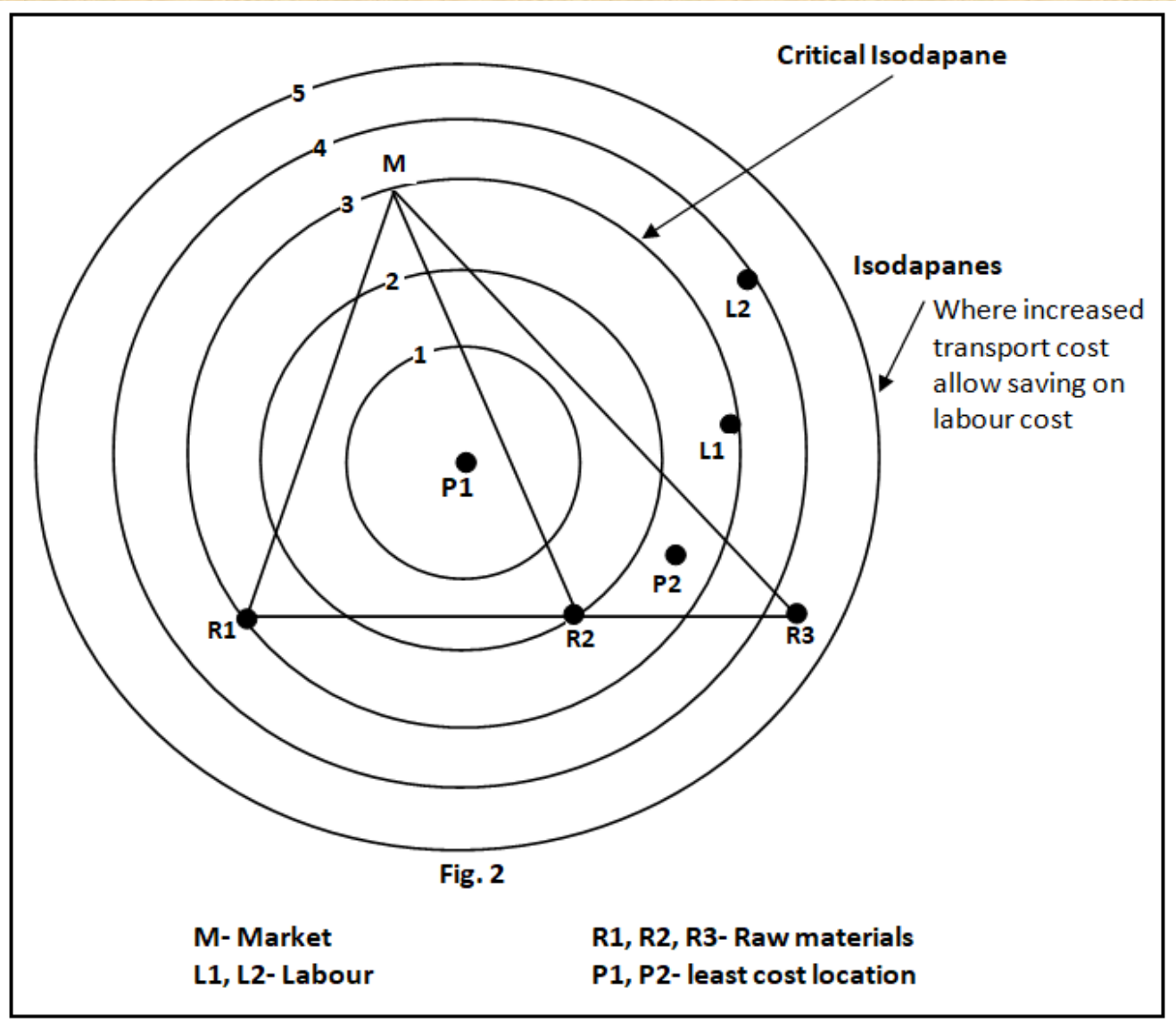
To determine the role of locational pattern of labour force on manufacturing location, Weber's locational triangle is placed in concentric pattern of rising transportation costs outwards from the centre .

It is assumed that the labour force is dispersed outwards and the distance from the centre represents savings on account of labour costs decrease and a point (L) comes where the savings on labour cost overcome the handicap of rising transportation costs. This is a more profitable location than 'P' which is the lowest transportation cost location. In this regard, he used isodapene method.

Isodapene:

An isodapane is defined as a contour line drawn through all the points with equal total transport costs, with reference to the supply of each input at the point of industrial location, as well as the finished products. Isodapane joints those points where increased transport costs are balanced by labour movement cost savings.

Role of labour cost:



Role of agglomeration:

The coming together or agglomeration of industries offers cuts in production costs if two or more industries operate in the same location.

Agglomeration of industries occurs when several industrial enterprises with different industrial plants would mutually concur to locate and operate at a clustered spatial point closely. Agglomeration economies denote the savings of the individual plants that result when they operate at the same location. This saving is the result of common use of such activities as financial services, public utilities, auxiliary industries etc.

Role of agglomeration:

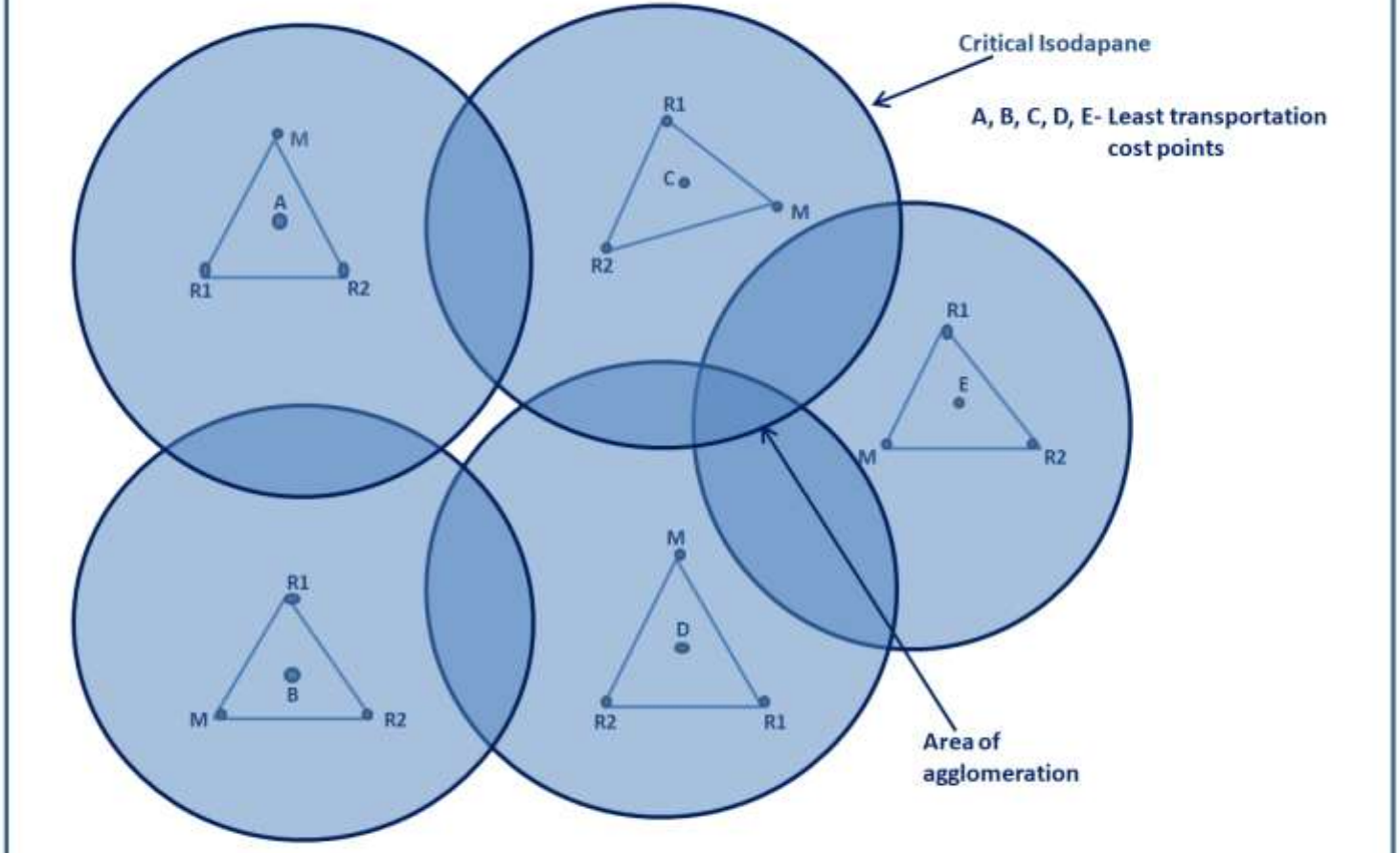


Fig. 3: Role of agglomeration

Criticism of the theory:

- Unrealistic assumptions
- Labour centers notion is defective
- Ideas about fixed points of consumption is not realistic
- Vague generalization
- Defective method of analysis
- Overburdened with technical consideration

Present day validation:

Weber formulated his theory within the context of heavy manufacturing industry in Germany in the 19th century, where transportation costs played a fundamental role in determining location decision. The validation of the Weber's theory is still seen in present time where examples can be seen in the location of industries like sugar and iron and steel industries which are located near the availability of raw materials. The availability of cheap labour have encouraged General Motors to locate their manufacturing plants in Vietnam.

But with the technology and transport revolution as well as effect of globalization, the industrial composition and organization have changed due to new products and production processes, advance in communication and transportation technologies and most recently the rise of a knowledge based economy. Knowledge inputs, in the form of human capital, training and skill development and research need to be brought together for development of industries. Apart from these, major expenditure is accounted for by advertising and branding which has become far more important in this tough competing market.

THANK YOU