

INTERNATIONAL JOURNAL OF LEGAL SCIENCE AND INNOVATION

[ISSN 2581-9453]

Volume 7 | Issue 3

2025

© 2025 International Journal of Legal Science and Innovation

Follow this and additional works at: <https://www.ijlsi.com/>

Under the aegis of VidhiAagaz – Inking Your Brain (<https://www.vidhiaagaz.com>)

This Article is brought to you for free and open access by the International Journal of Legal Science and Innovation at VidhiAagaz. It has been accepted for inclusion in International Journal of Legal Science and Innovation after due review.

In case of **any suggestion or complaint**, please contact support@vidhiaagaz.com.

To submit your Manuscript for Publication at International Journal of Legal Science and Innovation, kindly email your Manuscript at editor.ijlsi@gmail.com.

A Study on Expansion of Scope of Logistics in Perspective of Intellectual Property

MEENATCHI PRIYATHARSHINI R¹ AND PAVITHRAN S²

ABSTRACT

Every property as a good, is circulated and distributed in such a way that it reaches people in a way equitable manner, in a welfare society. This process of distribution is a huge chain which involves the labor of various contributors which involves both mental labor and physical labor. When Intellectual property as a result of intellectual labor, and its logistics is concerned, does logistics of the end result of intellect, i.e., the commodity, satisfies the logistics of Intellectual Property? Of course! It is one means of IP logistics, but not in toto. Thus, for the fullest and efficient logistics, there is a need of creation of knowledge society. This research paper, studies how an intellect could be logistically reached out to people. The existing law, which regulates the flow of technology, ensures the complete disclosure of the IP and its availability for the public utility, upon the interest of the society. But this is incomplete without the creation of knowledge society and this research paper suggests education as a means, by making an attempt to introduce the inter-discipline of IP Logistics.

Keywords: IP, Intellect, logistics, intellectualization, education

I. INTRODUCTION

Intellectual property is different from other forms of property due to its intangible nature. There are various theories which necessitates the protection of intellectual property and commercialization of the same. If IP is not commercialized and protected it has no value attached to it. According to the economic theory, the value of the intellectual property, if left unprotected would be subjected to the doctrine of diminishing marginal utility (Isaac, 2023). Yet, strict protection of the same would lead to low or merely zero transfer of knowledge to the society, where sharing of this intellect to the society for the further development and utility is the primary aim of IP laws. Having distribution in one hand, lets take a look of what logistics is. Logistics is the proper, effective and efficient distribution of goods, services and information from the point of origin to the point of need or consumption. Logistics was initiated in the military field, later on it expanded its scope to the overall supply of products. Having said the

¹ Author is a Student at School of Excellence in Law, Tamil Nadu Dr. Ambedkar Law University, Chennai, India.

² Author is a Student at School of Excellence in Law, Tamil Nadu Dr. Ambedkar Law University, Chennai, India.

meaning of both Logistics and Intellectual Property (IP), lets travel through this paper, to define IP Logistics.

II. LOGISTICS – MEANING, DEFINITION AND SCOPE

Logistics, having derived from a French word '*logistique*', which means 'quarter', its scope has been expanded to cover business-oriented system, apart from military and arms. This trend can be seen through various definitions given by scholars and of course, dictionaries and encyclopedia. Before getting into the meaning of the word, it is essential to trace the nature of it. To make it to the point, it is a both art as well as a science (Langford, 2006). To state it as a science, it involves the scientific and quantitative skills into the field. On the other hand, it merges this systematic progress with the human mind of judgements and creativity, to attain the fullest fruit out of the entire process. Yes! It's a process and not a single defined step. It travels a path, which often forms a chain or channel for flow of products, depending on the field of interest (Logistics: Chartered Management Institute , 2004).

A. Military-centered view

A historical sketch of logistics, becomes the one of the most crucial reasons for the success of Alexander the Great, which indeed let him had the marvellous millitary campaign. Yet another example, for a failure due to weak logistics could be the loss of thousands of horses and lakhs of men, by Napoleon in Russia, due to poor road network and inadequate supply of food for the soldiers as well as the animals (Sutherland, 2008). The histroical place of '*Gangaikondasolapuram*', establishes the richness of Ancient India's wealth and logistics strategies. The Arthasasthra of Kautilya, mandates that the Chief of army should be aware of the demand of the weapons precisely along with the availability of its supply and the distribution of the same to different units under his control (Check-Teck, 2010). That's what, the Chambers Encyclopedic, defines logistics, as 'the art of moving and supplying troops and military equipment'. The Oxford Dictionary defines logistics as the 'organisation of supplies, stores, quarters, which supports the troop movements' (Oxford Dictionary). A H Burne, defines Logistics to be the science of moving and supplying troops (Burne, 1944). Apart from strategy and tactics, which involves in the art of handling troops in the war and battle field, logistics also plays a crucial role, infact a deciding role of victory. Thus, the essentials of logistics from these definitions could be limited to the

- (i) supply of military products such as medicines, arms, informations, men, etc.,
- (ii) the national infrastructure and manufacturing base which supports in logistics
- (iii) the intellect of combining this infrastructure with the products.

Thus, there is a combination of scientific products and human intellectual judgements in a systematic manner for the fullest and efficient utility of the products, by the needy. In other words, the proper utility of the products is obtained for which it was intended.

B. Supply-chain oriented

Apart from military men and arms, the supply of goods and services across the globe and nation also, is covered under logistics. The Council of Logistics Management, have given a definition, whereby logistics has been made a part of the supply chain. This definition includes the three areas of planning, implementing and controlling of flow and storage of goods, services and information. The extra added feature is that the efficiency and effective flow of such products is also considered. Apart from management of the movement and storage of products, the Dictionary of Business and Management, has involved the processing of materials and information (Chartered Management Institute , 2004). In 1947, Americans used the term logistics, to describe the technique of packing stores (Oxford Dictionary). Now, its necessitated to understand what supply chain is. This is the planning, organizing and controlling of the flow of materials from the point of suppliers to the point of consumers (David J. Bloomberg, 2009).

Thus, this distribution of the products from the point of production to consumption can be defined as logistics. The three phases of American Marketing history are featured by the facilities of logistics made by the introduction of transport facilities such as railways and the telegrams which, made it easy to reach the nook and corner of the Nation (Tedlow, 1998). The establishment of EIC in South Asian countries, having them as markets is also made possible by the proper management of flow of goods and services with the help logistic facilities (Roy, 2011). There can be several routes of reaching the consumers, with or without the involvement of intermediaries. This also includes the flow of materials from the source of raw materials to the manufacturing factory and from the manufacturers to the consumers. This path may include retailers, wholesalers, warehousing, transportation, crossing of national borders, etc., and it also includes the all-possible means of transport – airways, waterways and roadways.

The historical trace of the same includes the evidences of trade relationships that existed in world countries from ancient days. A best example could be the presence of inter-regional and intra-regional trade in Indus Valley Civilization (Joshi, 2021). The advance Navy of European countries have also facilitated logistics of goods. This flow of goods and services have evolved to the generation of electronics and internet in the form of e-commerce. Whereby, the physical existence of markets is being replaced with virtual markets connecting the points of source and consumption, by reducing the long-run intermediaries.

C. Defining Logistics

Thus, the definition of Logistics in a narrow sense could be restricted to its origin of military oriented definition, where the supply of troops and its necessities are covered under the scope of logistics. The broader definition of logistics is management of the movement of products from the place of surplus to the place of demand. This can be fit into any system of movement and the products, when viewed in the perspective of military, would include arms, mens, supply of medicines, food, etc., and when it comes to goods, the supply of raw materials to the manufacturing units, the supply of processed goods to the consumers, the transportation, the intermediaries, the warehousing facilities, storage, etc., which can be classified as outbound and inbound logistics.

Thus, based on the system, the products differ and based on the complexity of the system the components of logistics differ.

III. INTELLECTUAL PROPERTY – DEFINITION AND SCOPE

A. Intellect

The term '*Intellect*' can be defined as the mental ability or power of an individual to understand and analyze every fact in this world. As explained by Durkheim, individuals are guided and narrated by social facts, which is a pattern of behavior. Apart from this we have universal facts which are universal in nature and are proved scientifically. As stated by Aristotle, man is a rational-being who is capable of thinking which is right and wrong, and eventually bring out a reasoned decision. As Natural Law theorists claim, law is out of the rational thinking of man and all these activities of human brain in analyzing the social and universal facts around him could be defined as intellect. The acquired facts and skills through one's life experience becomes his knowledge. The levels of knowledge along with other factors such as interest, capacity, feasibility, technological support, etc., determines the extend of intellectual contribution of a human being to this society.

B. Property

Anything that possess a value to a person can be defined as property. In a broader sense, as stated by Hobbes, property includes, life and limb of a human and all those legal rights that he possesses apart from the estates and status. All these are owned by an individual and one such property is the intellectual property, which in the perspective of natural law scholars, an idea, which is out of an individual's intellect is owned by him and no one has the right to infringe the same, by means of appropriation. In a narrow sense, the definition of property includes the intangible and tangible estates a person has. This category of intangible property is the

intellectual property.

C. Intellectual Property

Thus, it can be given a structure stating, Intellectual Property (IP) is the result of the intellect labor, where the knowledge of an individual, upon the intellect labor, gives a product which is an intangible form of product which cannot be touch and felt. It is incorporeal in nature. This incorporeal property, however belongs to the IP owner, who invested his labor. And that is what the Labor Theory of John Locke says, whereby the labor of a person must be respected and given protection against misappropriation. For example, the idea or process of making an electromagnet is the intangible intellectual property. This idea of inventing it is being protected by the IP laws of the land, by way of giving certain Intellectual Property Rights (IPR). These rights include the completion of any third part from inventing the product using the intellect of the IP owner, without his express or implied consent. Major IP includes patent, copyright, trademark, etc.,

But for a mere idea, IPR and IP protection cannot be given. IP Laws mandate certain requirements, for the maximum utility of the product by the public, as stated by the Utilitarian Theory. Thus, the intangible property is being expressed or circulated in this world through tangible means or through electronic means. This makes two components being connected with intellectual property. One, the intangible intellect and the other, the tangible output.

IV. IP LOGISTICS

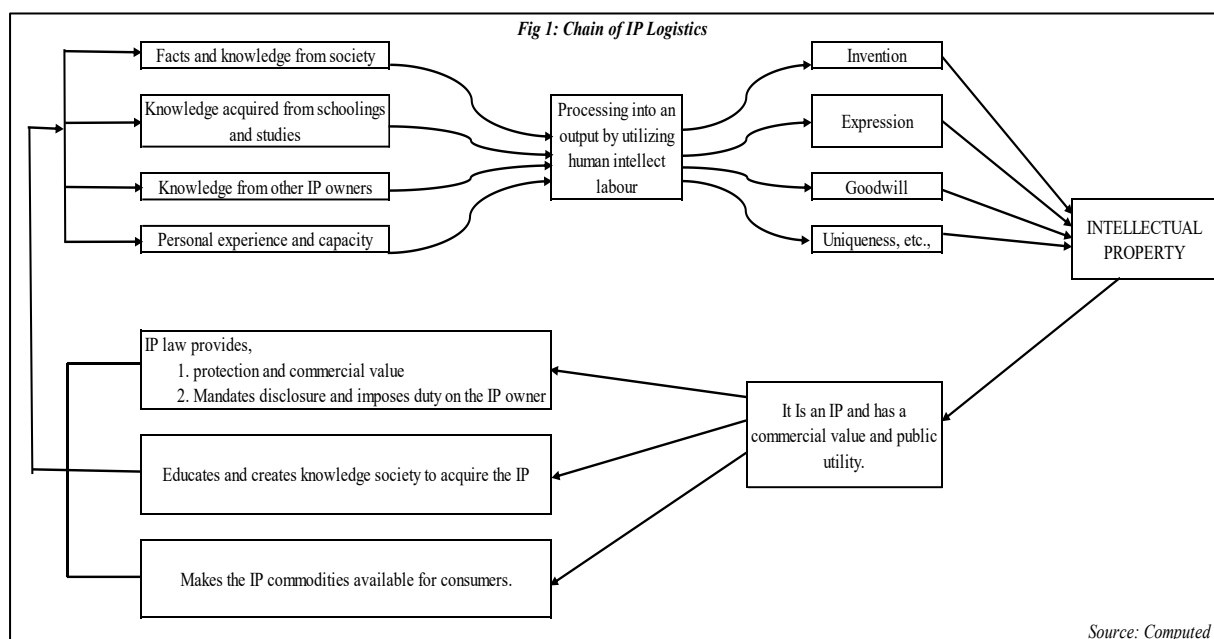
As stated earlier, logistics is the distribution of products from the point of production to the point of demand. Here, in IP logistics, it is the distribution of the intellectual property for which the IP owner gets a commercial value. The product here in IP is an intangible property. Thus, logistics of IP is through the distribution of,

1. Tangible commodity and service, and
2. The intangible Intellect of the IP owner, whereby essentially a knowledge society is created.

This distribution is regulated by state by means of law and policies. Here, the place of production of the IP is none other than the individual's brain. An IP owner, obtains knowledge from the society and with his mental capacity and ability, the IP owner, makes use of the available sources to create a new product, it may be an invention or expression or reputation, etc., Among the inputs, one of the notable inputs is the intellect of a previous IP owner. This intellect by means of both intangible and tangible should serve this society back, of course,

with certain commercial benefits to acknowledge the labor of the IP owner. When such IP produced by an IP owner is served back to the society, the society gets the knowledge of the existence of such IP and obtains utility from it. This increases the knowledge standard of a society, that what we mention as *knowledge society*.

Figure 1, being self-explanatory, shows the flow of knowledge from the society to the IP owner and vice-versa. The brain of the IP owner acts as the factory where, the intellect labor is invested to produce the intellectual property, which is further distributed in the society to the consumer by the means of the two-fold approach, regulated by law.



V. MEANS OF DISTRIBUTION

A. Logistics of intellectual property by means of law

IP Laws in India, mandate certain criterions for providing IP protection. The Trade Secret Avoidance Theory, with its essence states that there should not be any trade secrets as such and everything must be openly disclosed for the further development of intellect. As stated earlier, mere ideas are not given protection and rights. These rights and protection are given in exchange of sharing the IP owner's intellectual property to the world for the better utility of it by the world. When we try to explain it in terms of Social Contract Theory, the people in general and the IP owner get into a contract, having disclosure of the details of the inventive ideas or intellect to the people, the people would guarantee his rights over the intellect by way of respecting it. On the other hand, a stronger IP protection, may lead to a decrease in the innovation and development of a country. And this increase and decrease of innovations are based on the features of the country, such as to the development and technological advancement

in the country. Yet, a weak IP protection increases innovations in a state, increases innovation, as the information regarding the invention would be easy to access for the purpose of research and development (Rod Falvey, 2006).

Let's have some examples. If patent is considered. According to Indian Patent Act, 1970, three things are mandated for an invention to be patented – novelty, inventive step and industrial application. The first two criteria ensures that a previous IP owner is not left with nothing and the third requirement, mandates the utility of that particular IP for welfare and development of the Nation as a whole. The law also mandates a complete disclosure of the best utility of the invention and the method of its production and, every single needed information. In return, the patent law gives a monopoly for 20 years. Of course, with a check of compulsory licenses and frequent renewals. All these provisions of Patent Law, mandates the transfer of intellect or flow of intellect. Another supporting rule, could be that one privilege provided for R&D, were the researchers, for the purpose of research can regenerate and reproduce the invention, which would not at any cost affect the rights of the IP owner.

Yet another example could be copyrights, where the way of expression is copyrighted and the person who created it or who was the reason for such creation is given copyright protection. The act imposes a duty upon the IP holder for not providing any hindrance in fair use in terms of research, education and for the fullest utility of the product, for which it was intended to be used, by including the principle of limitation and exception, where the purpose of copyright is public welfare (Chowdhury, 2008). Thus, the right of the author to protect his work and obtain economic benefits from it, is balanced by the right vested on the public to get access to the work for the intellectual prosperity (James, 2004). Thus, IP laws in general, promote dissimilation of knowledge and transfer of knowledge from the point of production to the point of consumption, serving as means for distribution of tangible commodity – through compulsory marketing, industrial application, etc., – as well the intangible intellect or knowledge of the IP owner – through mandating the complete disclosure of the invention, availability of the copyrightable subject matter for the public, reasonable restrictions in trademarks registrations, etc.,. (Refer fig 1)

B. Logistics of IP by means of distribution of commodity and service

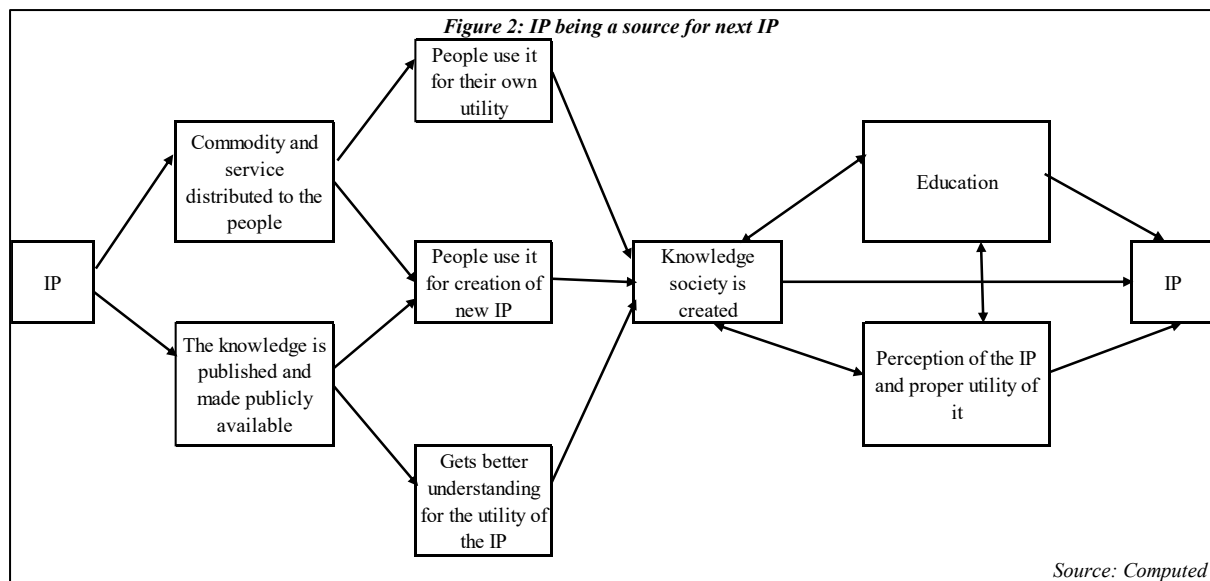
It becomes mandatory for a well-established market system for any property and especially intellectual property, in order to promote economic growth of a country (Yongmin Chen, 2005). And as, Stiglitz (1989) has stated, the working of a proper market system affects the country's economy. The major difference between other properties and IP is that, it is an

intangible property, where the tangible outputs are subjected to exhaustion, but the actual IP work stays with the IP owner, as an asset which yields economic benefit like any other physical labor has invested (James, 2004). The proper functioning of an already existing supply chain logistics would result in the proper distribution of the tangible output of the intellect and this results in the efficient and effective utility of the end result of the IP owner's intellectual labor, reserving a space for further development and research in one hand. On the other hand, not every individual would be intended to further develop the intellect or create an innovative one out of it. But they might need its utility to some extent and this thirst of utility is also satisfied. Thus, satisfying the outbound logistics of IP. (Refer fig 1)

C. Logistics of IP by means of creating a Knowledge Society

Apart from the above listed two, there is a need of knowledge society which is to be created for the proper utility of the IP and for the further production of IP into this materialistic world. Knowledge is commercialized and there is a creation of knowledge market, where knowledge has a very bad requirement and compete with each other to a very great extent, that it tends to be a *knowledge war*. Satisfaction of the consumers being a key role of logistics, letting the consumers aware of the existence of the product also becomes a part of logistics. This transfer of information in the system of IP Logistics is incomplete without facilitating the creation of *phosita*, i.e., a knowledgeable society. Anything that aids in development of logistics, needs to be more sustainable (He, 2018). This knowledge society is created through proper education and research opportunities for the people.

For example, when patent is considered, the intellect of producing the invention and the proper and best utility of the invention should be made accessible. At the same time, the consumers must be capable of inculcating the accessible knowledge through means of education without any sort of discrimination and disability in this welfare state. Individual capacity to observe and infer an intellect available in the public domain, has nothing to be done by the state but the equal and equitable creation of such opportunity to get know of such intellects is indeed, a duty on the part of a welfare state. When trademarks are considered, the intellect is the one whereby, the way of creation of such reputation to the trade and distinctiveness of the mark. It also includes the proper marketing of the products with a simultaneous duty imposed to produce quality products. This is what is being a major part covered under marketing and management.



Thus, the obligation on the state to create a knowledge society by giving equal and equitable opportunities, becomes the overall base for the happening of both inbound and outbound logistics. In fact, the knowledge created results in perception of the IP in a proper way for the better utility of it and better understanding of it. This knowledge society, can be created by means of proper and uniform access through education and all these three- knowledge society, perception of IP and education are inter-related and they support each other. Thus, this knowledge obtained serves as the input for next IP. (Refer Fig 2)

VI. SUGGESTION

A. Education – as means for creating knowledge society

When the state is considered, its duty to provide equal and equitable access to Intellect is taken into consideration, followed by ensuring that there is availability of the IP products in the market at a reasonable and affordable price, in an adequate amount for the people. By providing such equal and equitable access, the expected knowledge society can be created, where people make the utmost utility of the available pool of intellectual properties in a productive and sustainable manner. For that, a proper education is being mandated. A study by Kumar (2012), says that the government allocated funds for the technological advancement of education system are not properly utilized and this has to be sort out.

Mukesh (2018), in his study suggests that the Indian Education system's standards are comparatively lower than that of the students' ability of entrepreneurship. A study by Gupta (2012), suggests that the importance given for research and development in higher education has to be increased. Taking a look into the All India Survey on Higher Education (AISHE) 2020-2021, gives a clear statistics of significant increase in students enrolled in higher

education, where there is an increase of 4.14 crores of students enrolled, which is a 21% of increase from 2014-2015 along with which the number of universities, colleges and faculties have also increased. But, for an increase of 4.14 crores of students enrollment, there is only an increase of 47,914 faculties, which is very obviously inadequate (Ministry of Education, 2020-2021). Need of such a proper and feasible school as well as higher education is necessary for creating a knowledge society, where the IP could be utilized properly and returned back as a raw material for the factory of IP production – human brain.

- There must be intellectual property oriented curriculum for school as well as college students, where instead of studying a subject-matter as study material for scoring grades and marks, they have to be taught as intellectual property.
- The innovativeness of young students should be stimulated through the teaching of faculties. Apart from the reality and universal facts in the subject, the faculties should guide students in such a way that there is a lot to research and discovery beyond the syllabus and textbooks.
- Theoretical classes should be substantiated with practical application of the subject matter. The quality of questioning the reliability of a fact should be developed, because, proving and disproving lead to development of science. The higher education faculties should be trained in accordance with practical application.
- Teaching should promote both the best utility of a product and further researching of the product. Language should not be a barrier for a person to obtain knowledge.
- Apart from this, in creating a knowledge society, the next step of the government should be acknowledging the abstract ideas of students and supporting them by means of motivating recognitions from the state or central or local government authorities.
- Meeting of like-minded people would serve the place for logistics of Intellect and such place could be created by conducting seminars, conferences and exhibitions where, students studying from 6th standard should participate.
- Sessions where, the IP owner would explain about his IP product, could be arranged for college and university students.
- Separate discipline of study for researching the cultural and indigenous property should be developed so that, the anonymous intellect spread in this society would get recognised. And this becomes a raw source for further research and development.
- Many research and works has to be done in this inter-discipline, whereby, new and

innovative ideas could be created for the cost-effective distribution of IP, especially, the distribution of the intangible component of intellect, rather than the tangible goods and services.

B. Laws and Policies – as a means of creating Knowledge Society

- Apart from the above discussed points and suggestions, to acknowledge the society on the whole, there could be programmes, seminars and demonstrations conducted for popularising government initiatives such as StartUp India.
- And a separate online platform could be maintained by the government, where people could feed their valuable ideas, which may not be a complete research but could be an inspiration for other.
- When IP laws are considered, they should be in such a way that they promote the transfer of technology and knowledge more effectively. Efficient implementation of prohibition of evergreen patents from the *Novartis AG* case is notable.
- Apart from this, a specified percentage of profit of the IP owner, when he crosses the threshold point of profit, could be allocated for the promotion of further research and development.
- Simplified version of the invention and the experience of the inventor, on his option, could be shared to the younger generations, by the owner himself in person. For such initiatives of the inventor, there could be rewards and awards given as incentives by the government. By all these methods, knowledge is disseminated to create a knowledge society, whereby the logistics of intellect gets a complete structure.

VII. CONCLUSION

The research paper defines the expanding scope of logistics, where the restricted definition of logistics in the perspective of military is expanded to involve the general process of distribution of products and information from the source to the point of consumption. This also includes the supply of raw materials to the center of production. When IP Logistics is concerned, the human brain is the center of production, where the desired IP product is manufactured or processed. The raw materials supplied include a person's personal capacity, experience, the knowledge that he got from the society, etc., and very particularly it also includes the knowledge he obtained from any previous IP owner. When once, this IP product is processed, it becomes an intangible property, which is stored in the mind of the IP owner and also, its expressed in any tangible means for a more suitable expression for this society.

Thus, IP Logistics is the distribution of this Intellect property for the utility of the consumer as well for the further production of new IP in the society. This is already facilitated and ensured by the existing IP laws which mandates the complete disclosure and expression of the IP in tangible means for the public to utilise it. Sameway, law also mandates the marketing of the IP product, through which the tangible component of the IP reaches for the people's utility to the best possible. But does this completes the chain of IP logistics? there must be proper assurance of accessibility to the IP knowledge in the society, which in turn would create the knowledge society to survive in this knowledge world, where knowledge is marketed. This research paper, thus attempts to propose the inter-discipline of IP Logistics, which is the logistics of the intellectual property, and is facilitated by creation of a knowledge through the means of proper education system.

“Intellectual Property can only be commercialised in a knowledge society. In such a society, every IP plays as a source material for future IP – That’s where IP Logistics sums up!”

VIII. REFERENCES

1. Burne, A. H. (1944). *Art of War on Land*.
2. Chartered Management Institute . (2004). Logistics. *Dictionary of Business and Management*. Bloomsbury.
3. Check-Teck, F. (2010). Exploring thinking from antiquity in managing logistics, supply and resources: Chinese Sun Tzu, Indian Kautilya and supply chain management. *International Journal of Indian Culture and Business Management*, 3(2), 121-137.
4. Chowdhury, A. R. (2008, February). The future of copyright in India. *Journal Of Intellectual Property Law & Practice*, 3(2), 102-114. Retrieved from <https://doi.org/10.1093/jiplp/jpm227>
5. David J. Bloomberg, S. L. (2009). *Logistics*. PHI Learning Pvt. Ltd.
6. Dreier, T. (2001). Balancing Proprietary and Public Domain Interests: Inside or Outside of Proprietary Rights. In D. L. Rochelle Dreyfuss, *Expanding the Boundaries of Intellectual Property, Innovation Policy for the Knowledge Society* (pp. 295-316). New York: Oxford.
7. Gupta, D. a. (2012). Higher education in India: structure, statistics and challenges. *Journal of education and Practice*, 3(2).
8. He, M. J. (2018). Logistics Space: A Literature Review from the Sustainability Perspective. *Sustainability*, 10(8), 2815. Retrieved from <https://doi.org/10.3390/su10082815>
9. Isaac, E. V. (2023). *Intellectual Property* (2 ed.). India: EBC.
10. James, T. C. (2004, May). Copyright Law of India and the Academic Community. *Journal of Intellectual Property Rights*, 207-225. Retrieved from [https://nopr.niscares.in/bitstream/123456789/4877/1/JIPR%209\(3\)%20207-225.pdf](https://nopr.niscares.in/bitstream/123456789/4877/1/JIPR%209(3)%20207-225.pdf)
11. Joshi, A. (2021, May). Exploring the Indus Valley Civilization in India. Retrieved from https://www.researchgate.net/publication/351250270_EXPLORING_THE_INDUS_VALLEY_CIVILIZATION_IN_INDIA
12. Kumar, M. (2012). Study of Past and Present Education System in India. *International Journal of Physical and Social Sciences*, 2(8), 85-91.
13. Langford, J. W. (2006). *Logistics Principles and Applications* (2nd ed.). USA: McGraw-Hill Professional.

14. Ministry of Education. (2020-2021). *All India Survey on Higher Education (AISHE)*. India: Ministry of Education.
15. Mukesh, H. V. (2018). Entrepreneurial potential and higher education system in India. *The journal of entrepreneurship*, 27(2), 258-276.
16. Oxford Dictionary. (n.d.). Logistics. *The Oxford English Dictionary*, VIII, 2.
17. Rod Falvey, N. F. (2006). *The Role of Intellectual Property Rights in Technology Transfer and Economic Growth: Theory and Evidence*. Retrieved from UNIDO: https://www.unido.org/sites/default/files/2009-04/Role_of_intellectual_property_rights_in_technology_transfer_and_economic_growth_0.pdf
18. Roy, K. (2011). The hybrid military establishment of the East India Company in South Asia: 1750–1849. *Journal of Global History*, 6(2), 195-218. doi:doi:10.1017/S1740022811000222
19. Stiglitz, J. E. (1989). Markets, Market Failures, and Development. *The American Economic Review*, 79(2), 197-203. Retrieved from <http://www.jstor.org/stable/1827756>
20. Sutherland, J. L. (2008). Logistics from a Historical Perspective. In G. D. Taylor, *Logistics Engineering Handbook* (pp. 1-9). New York: CRC Press.
21. Tedlow, R. S. (1998). The Fourth Phase of Marketing, Marketing history and the bussiness world today. In M. C. Martin Carter, *The Economics of Marketing* (pp. 56-82). Great Britain: Edward Elgar Publishing Limited.
22. Yongmin Chen, T. P. (2005). Intellectual property rights and innovation in developing countries. *Journal of Development Economics*, 78, 474-493. doi:http://dx.doi.org/10.1016/j.jdeveco.2004.11.005
