“Versatility” of Yōseikō in Post-War Japan: A Case Study of the Toyota Motor

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Abstract
In Japan, there is a category of workers referred to as “yōseikō.” They are technical workers who have received special training at private companies’ in-house training institutions. The purpose of this study is to reveal the actual content of “versatility” of yōseikō trained during the 1950s and 1960s. Dealing with the case of the Toyota Motor Corporation, the investigation sets itself two tasks. The first question is: Did yōseikō work at one section of the production line, or at several sections? The second one is: At what sections was yōseikō’s versatility utilized during the 1970s and 1980s? As research sources, the study makes use of yōseikō’s interview records, lists of new employees and those of the recipients of continuous service awards published in a company newsletter called the Toyota Shinbun [Toyota Motor newsletter]. As a result of the investigation, it is revealed that, concerning yōseikō trained during the 1950s, they basically stayed in their specialized sections, and were not transferred to completely different departments. In addition, it is revealed that they were engaged, as highly skilled workers, in the development of new products and factory equipment.

Keyword: yōseikō, Toyota Motor, multi-skilled workers, versatility, in-house training

I. Introduction
1. The Purpose of this Study
The purpose of this investigation is to reveal the actual content of “versatility” of technical workers referred to as “yōseikō,” trained at private companies’ in-house training institutions during the 1950s and 1960s. With a case study of the Toyota Motor, this study attempts to answer two questions. The first one is: Did yōseikō employed mainly during the 1950s work at one section of the production line, or at several sections? In other words, this question is about whether a yōseikō specialized in a particular section of production or he had versatility, or universality, to work across various sections. The second question is: At what sections in production did yōseikō trained mainly during the 1950s demonstrate their versatility during the 1970s and 1980s? In other words, this question is about roles played by yōseikō.

In this study, “yōseikō” is defined as “technical workers who, after having graduated from pre-war elementary schools (or post-war junior high schools), received private companies’ in-house education comprising both lectures and practice for around three years, with expenses and salaries (or,
scholarships) being paid by their companies.” Such workers include both those who were still in in-house schools and those who had already graduated from in-house schools.

2. The Background and Structure of this Study
Because of the remarkable growth of Japan’s auto exports during the 1970s and 1980s, Japanese auto companies, and in particular the Toyota Production System, attracted attention from overseas. In 1978 was published Toyota Seisan Hōshiki [Toyota Production System], which was written by Ōno Taiichi, the main protagonist within the company who pressed forward with the Toyota Production System. Overseas researchers, such as Abernathy and Womack, also implemented investigations into the Toyota Production System from the standpoint of international comparison between Japan, the United States and Europe, confirming Japanese auto companies’ high productivity.2

Fujimoto, who had participated in Womack’s research, found out, together with Tidd, that although both British and Japanese companies studied mass production methods exemplified by the Ford system, there were differences in their adaptations.3 This study claimed that in the case of Japanese companies their technical workforce comprised “teams of multi-skilled workers,” whereas in the case of British companies their technical workforce comprised “single-skill workers and those with traditional skill.”4 In addition, quoting an interview with Ōno, the study explained that “multi-skilled workers” were operators engaged in multiple production process who were able to perform multiple standard operations along a workflow, whereas all-round workers had an ability to perform any operation regardless of workflow. According to Ōno, it was evident that the Toyota Motor laid importance on multi-skilled workers.5

What kind of workers were “multi-skilled workers” who were thought to be characterizing Japanese companies? How wide were their skills? What roles did multi-skilled workers play? Answering these questions, this study aims to reveal the actual content of the “versatility” which technical workers at the Toyota Motor were purported to have. In particular, the investigation sheds light on those technical workers referred to as “yōseikō” who were trained at the Toyota Motor’s in-house educational institution during the 1950s. Although various types of workers were employed by the company as shown in Table 1, yōseikō were the most trusted core workforce.6 Therefore, the actual research subject of this study is the real content of yōseikō’s “versatility.”

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1 Ōno Taiichi, Toyota Seisan Hōshiki [The Toyota Production System], (Tokyo: Daiamondo-sha, 1978).
2 William J. Abernathy, Kim B. Clark and Alan M. Kantrow, Industrial Renaissance, (New York: Basic Books, 1983). James P. Womack, Daniel T. Jones and Daniel Roos, The Machine that changed the world, (New York: Rawson Associates, 1990).
3 Fujimoto Takahiro and Joseph Tidd, “Ford system no dōnyū to genchitekiō: Nichiei jidōsha sangyō no hikaku kenkyū (1)” [Adoption and adaptation of Fordism: A comparative study of the Japanese and UK auto industry (1)], Keizaigaku Ronshū [The University of Tokyo Journal of Economics], vol. 59, no.2 (July 1993), 36-50. Fujimoto Takahiro and Joseph Tidd, “Ford system no dōnyū to genchitekiō: Nichiei jidōsha sangyō no hikaku kenkyū (2),” Keizaigaku Ronshū, vol. 59, no.3 (October 1993), 35-56.
4 See Table 1 on page 38 of Fujimoto Takahiro and Joseph Tidd, “Ford system no dōnyū to genchitekiō: Nichiei jidōsha sangyō no hikaku kenkyū (1),” Keizaigaku Ronshū, vol. 59, no.2 (July 1993).
5 Fujimoto Takahiro and Joseph Tidd, “Ford system no dōnyū to genchitekiō: Nichiei jidōsha sangyō no hikaku kenkyū (2),” Keizaigaku Ronshū, vol. 59, no.3 (October 1993), 41.
6 In the case of the Toyota Motor, all of its new regular technical workers were employed as yōseikō during the 1950s, while other workers were temporary employees. From around the end of the 1950s onwards, the company started to promote, rather actively, excellent ones among those temporary workers to regular employees. It was during the 1960s
With an aim to find out the source of Japanese companies’ strong competitiveness, a research has been conducted on engineers’ transfers to other sections of production in which they did not specialize. On the other hand, there are also some researches, including the above-mentioned international comparison, that emphasize Japanese technical workers’ excellence. However, the actual state of technical workers including yōseikō, the pillars of the production system, has not been fully disclosed.

How wide was the range of jobs and transfers of yōseikō who were considered the core workforce? What roles did they play and what contribution did they make in the course of the company’s development? Raising these questions, this study explores the actual content of their “versatility.” For that purpose, the study reveals the width and content of their work, drawing attention to their transfers and departments to which they belonged. By doing so, the study inquires, at the micro level, the foundation on which the Toyota Motor’s high productivity highlighted by the international comparison was realized.

In the following Section, previous studies are summarized. In Section III, the history of the Toyota Motor and its yōseikō is elucidated. In Section IV, the method of analysis is explained. In Section V, an analysis is conducted on the basis of interviews and data. Then, finally, in Section VI, the whole study is summarized, referring to future tasks.

II. Previous Studies and the Standpoint of this Study

1. Previous Studies: Researches on “Multi-Skilled Workers” implemented after the War

Researches on “multi-skilled workers” implemented after the War can be classified into the following four categories.

(1) Studies that Incidentally Referred to Technical Workers from the Perspective of International Comparison

The first category comprises early studies that incidentally touched upon characteristics of technical workers. This category includes the above-mentioned studies by Abernathy, Womack, Fujimoto and Tidd. Although these studies highlight differences between Japan, the United States and Europe, they mainly deal with subjects such as productivity and introduction of technology, paying little attention to technical workers’ versatility, which was at the basis of production.

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7 Ichihara Hiroshi, “Sengo Hitachi Kōjō ni okeru Gijutsu Keisei to Gijutsusha no Shokumukōdō・Career” [Skill formation and engineers’ jobs and careers at Hitachi’s plants in the post-war period], Shakai Keizai Shigaku [Socio-Economic History], vol. 84, no. 4 (2019), 3-24.
(2) Studies that Inquire into the Meaning, or Notion, of “Multi-Skilled Workers”
Studies in the second category deal with the meaning, or notion, of “versatility (versatilization).” This category of studies is exemplified by those conducted by Kumazawa Makoto, Saguchi and Kumazawa Tōru. These studies are of significance in that they attempt to define historically the notion of the ambiguous and contentious term, “versatility (versatilization).” It should be borne in mind, however, that the meaning of this term has to be defined in consideration of the actual state of work sites. In this sense, these studies share the same weakness: That is, they are not sufficiently corroborated by actual facts. Even with regard to Kumazawa Tōru’s study, which attempts to overcome the weakness through case studies of three work sites of the Hitachi, the number of work sites investigated is too small to completely overcome the weakness.

(3) Studies on Roles and the Range of Operations Performed by Multi-Skilled Workers
Studies in the third category deal with roles and the range of operations performed by multi-skilled workers. Studies by Koike, Nomura, Kinoshita and Ueno exemplify this category. Koike’s study sheds light on the width of skill possessed by technical workers on the shopfloor, applying the notion of “intellectual skill” instead of “multi-skills.” Nomura raises questions about Koike’s argument. Critically examining Koike’s notion of “intellectual skill,” Nomura presents type models of multi-skilled workers. Kinoshita’s is a pioneering study that highlights roles played by yōseikō during the 1950s with a case study of the Nippondenso. Ueno reveals yōseikō’s involvement with the launch of new plants in the post-war period by use of questionnaire surveys on yōseikō in various industries including the electric, steel and motor industries.

Although Koike pays attention to the width of skill, his study does not directly cope with skills of yōseikō who were regarded as multi-skilled workers. While presenting type models, Nomura does not corroborate them. Kinoshita directs attention to yōseikō in the 1950s who were to become the pillars

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8 Kumazawa Makoto, “Nihonteki Nōryokushugi no Daryoku” [The inertia of Japanese meritocracy], Kōnan Keizaigaku Ronshū [Kōnan University Economic Papers], vol. 36, no. 4 (March 1996), 129-160.
9 Saguchi, Kazuō, “Koyō Mondai no Tenkan – 70-nendai ni okeru Kōzu” [Changes in the employment problem – a picture of the 1970s], in Gendai Nihon no Rōshi Kankei [Industrial relations in present-day Japan], ed. Kurita Ken (Tokyo: Rōdō Kagaku Kenkyū-sho Shuppan-bu, 1992).
10 Kumazawa, Tōru, “Tanōkō’ Rinen no Kentō” [A study on the notion of “multi-skilled workers”], in Shakai Seisaku Gakkai Nenpō Dai 42-shū Asia no Rōdō to Seikatsu [Annals of Japan Association for Social Policy Studies, vol. 42, labor and life in Asia], ed. Shakai Seisaku Gakkai [Japan Association for Social Policy Studies] (Tokyo: Yūhikaku, 1998), 255-272.
11 Koike Kazuo, Shigoto no Keizaigaku [The economics of work in Japan] (Tokyo: Tōyō Keizai Shimpō-sha, 1991).
12 Nomura Masami, “1980-nendai ni okeru Nihon Rōdō Kenkyū – Nomura Masami-shi no Hihan ni Taishite” [The argument for intellectual skill (the revised version) - in response to Mr. Masami Nomura’s criticism], Nihon Rōdō Kenkyū Zasshi [The Japanese Journal of Labour Studies], no. 402 (July 1993), 2-11.
13 Kinoshita Jun, “1950-nendai ni okeru Nihon no Rōdō Kenkyū – Koike Kazuo-shi no Shogetsu no Hihanteki Kentō” [Labor studies in Japan during the 1980s – a critical examination of Mr. Kazuo Koike’s theories], Nihon Rōdō Kenkyū Zasshi [The Japanese Journal of Labour Studies], no. 396 (December 1992), 3-21.
14 Ueno Takayuki, “Yōseikō no Haichi Seisaku to Career” [Policies regarding the deployment of yōseikō and their careers], Nihon Rōdō Kyōkai Zasshi [The Monthly Journal of the Japan Institute of Labour], no. 476 (February 2000), 56-65.
of Japanese companies’ production, and reveals part of their roles. However, his study does not deal with changes in their roles during and after 1960s. Although Ueno’s study investigates yōseikō’s roles in various industries through questionnaire surveys, their roles in each specific industry and their diachronic changes are outside its scope.

(4) Historical Studies on Production Methods and Skills
Studies in the fourth category deal with subjects such as the Toyota Production System and skills of technical workers in Japan. Studies by Cusumano, Okayama and Sawai exemplify this category. Cusumano and Okayama show that skill required of workers changed in the process of the establishment of the Toyota Production System. During the process, for instance, a worker became required to operate multiple machines by himself. Sawai demonstrates that policies for the training of skilled workers and systems to train multi-skilled workers during the pre-war period constituted the basis for the training of technical workers during the post-war recovery period.

Although Cusumano and Okayama takes up the subject of changes in skill, they do not look into the actual content of skill and its changes during and after the 1960s. As for Sawai’s study, because its main theme is the continuity and discontinuity between the pre- and post-war periods, the investigation is confined to the period between the 1930s and 1950s. Therefore, with regard to yōseikō trained during the 1950s, questions concerning how their roles and the width of their skill changed during the 1960s are left unanswered.

2. The Standpoint of this Study
This study falls under the third category mentioned above since it deals with the width of skill and its roles. The study can be said to be based on Kinoshita’s research, in that it explores what kinds of jobs yōseikō trained during the 1950s came to perform in later periods. At the same time, this study complements Koike’s and Nomura’s studies through a research on the width of yōseikō’s skill, and also complements Ueno’s study through a research on roles played by yōseikō in their companies.

In addition, this study also provides researches in the first category with a micro foundation, substantiates researches in the second category by presenting empirical facts, and reveals the actual state of workplaces during and after 1960s which were out of scope for researches in the fourth category. Therefore, this study can be of some help, indirectly, to researches in these three categories.

15 Michael A. Cusumano, The Japanese Automobile Industry: Technology and Management at Nissan and Toyota (Cambridge: The Council on East Asian Studies, Harvard University, 1985), Chapter 5.
16 Okayama Reiko, “From skilled to multi-skilled work: the transformation of skill in the post-war Japanese automobile industry,” Meiji Business Review, vol. 42, no. 1, (March 1995), 129-141.
17 Sawai Minoru, Nihon no Ginō Keisei [Skill Formation in Japan] (Nagoya: The University of Nagoya Press, 2016).
III. The History of the Toyota Motor and its Education for Yōseikō
1. The History of the Toyota Motor

The history of the Toyota Motor started when the car manufacturing department was established within the Toyota Automatic Loom Works in 1933. While prototype models were produced under the leadership of Toyoda Kiichirō, the Toyota Motor was established in 1937 as a stock company independent from the Toyota Automatic Loom Works.

The company faced a severe financial crisis in 1950. Consequently, workforce reduction was implemented and top executives including President Toyoda Kiichirō resigned. However, the company made a recovery, and then, it expanded its production rapidly. Its headquarter plant was built in 1938. After that, it constructed its major plants one after another: Motomachi plant (1959); Kamigō plant (1965); Takaoka plant (1966); Miyoshi plant (1968); Tsutsumi plant (1970); Myōchi plant (1973); Shimoyama plant (1975); Kiniura plant (1978); Tahara plant (1979); Teiūō plant (1986); and Hirose plant (1989). The Toyota Motor’s flagship models until 1990 include: Land Cruiser (1951); Crown (1954); Toyopet Corona (1957); Publica (1961); Corolla (1966); Hiace (1967); Hilux (1968); Corona Mark II (1968); Camry (1980); and Estima (1990).

Along with the construction of new plants and the development and production of new models, the number of its employees and its sales amount also increased. At the same time, its export volume grew as well. Although the company’s export rates in 1950, 1960 and 1970 were 4.2 percent, 4.1 percent and 29.9 percent, respectively, the rate reached 51.9 percent in 1977.

2. The History of the Toyota Motor’s Yōseikō Education

(1) The History of Yōseikō Education in Japan

Japan’s oldest in-house educational institutions for trainees include the Mitsubishi Industrial Preparatory School established by the Mitsubishi Nagasaki Shipyard in 1899, the Training Center for Apprentices established by the Hitachi Mine in 1910 and the Training Center for Child Workers established by the Yawata Steel in 1910. Around 1910, Japanese companies’ personnel management changed from the internal contract system to the direct employment system. In the new system, companies employed, as trainees, graduates from pre-war elementary and higher elementary schools, and trained them into their core workers through in-house education. This system, in which companies trained their core workers inside their own companies (the yōseikō system), spread mainly among large companies.

From the mid-1930s onwards, the shortage of skilled workforce became evident. As a countermeasure to this problem, the government issued an ordinance, making it compulsory to train skilled workers at factories. More concretely, all factories with more number of workers than prescribed were required to employ certain stipulated ratios of trainees against the total number of their employees, and to train skilled workers through three-year training programs. In 1944, however, the length of training was reduced from three years to one year due to the deteriorating war situation, making it almost impossible to produce technical workers with sufficient skill. In this way, the pre-war yōseikō system collapsed.

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After the end of the War, attempts were made to resume the yōseikō system in accordance with regulations stipulated in Chapter 7, “Training of Skilled Laborers,” of the Labor Standards Act enacted in 1947. From around 1951 onwards, the yōseikō training of junior high school graduates based on the regulations spread rapidly. During the 1960s, however, it became difficult for companies to employ excellent junior high school graduates because of the increase in the high school advancement rate. In addition, higher abilities were required of workers as a result of technological innovations. Under those circumstances, high school graduates became considered more suitable for technical workers than junior high school graduates. Gradually, therefore, the yōseikō system went into decline. Now, in Japan, the main target of in-house training has shifted to high school graduates, while only a small number of companies implement yōseikō education for junior high school graduates.19

(2) The History of the Toyota Motor’s Yōseikō Education

The Toyota Motor was established as a stock company in 1937. In the following year, the Toyota Motor started education for its technical workers with the foundation of Toyota Kōka Seinen Gakkō [Toyota Technical Youth School]. In April, 1939, “Training Center for Technical Workers” was set up within Toyota Kōka Seinen Gakkō, which was the beginning of the Toyota Motor’s yōseikō education. Students were invited and selected from employees of the Toyota Motor. For the first through third class students, three-year education was provided as planned. However, the lengths of education for the fourth, fifth and sixth students were two years, one year and one year, respectively. As for the seventh students, who entered the training center in April, 1945, the education was suspended due to the War situation, and they were put into the production line without completing their training.

In 1951, the training center was reopened. Since there was no new employment in that year, seventy students were selected as yōseikō from among employees who were under the age of twenty and had been employed by the company for less than three years. They were provided with three-year education, and eventually, became the seventh graduating class. In 1953, the eighth students were enrolled, who were junior high school graduates selected by an examination. Thereafter, the hiring of new junior high school graduates became a regular practice. In 1990, a new one-year course named “Senmon-bu [Professional Course]” was set up for high school graduates, while the traditional yōseikō education course was named “Kōtō-bu [High School Course].” As of 2020, the Toyota Motor still employs junior high school graduates as yōseikō, and the Kōtō-bu still exists. Table 1 shows changes in the numbers of technical workers and yōseikō employed by the company concerning the period this study deals with: namely, during and after 1950s.

| Year | Yōseikō |
|------|---------|
| 1953 | 31      |
| 1954 | 37      |
| 1955 | 16      |
| 1956 | 17      |
| 1957 | 54      |
| 1958 | 47      |
| 1959 | 82      |
| 1960 | 152     |

19 As of 2020, it is confirmed that there are at least four companies in Japan, including the Toyota Motor, that implement yōseikō education, training new graduates from junior high schools at their in-house educational institutions. The other companies are the Densō, the Hino Motors and the Hitachi.”
| Workers                           | Year              | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 |
|----------------------------------|------------------|------|------|------|------|------|------|------|------|------|------|
| Junior college graduates        |                  |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |
| High school graduates           |                  |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |
| Vocational training school graduates |              |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |
| Miscellaneous school graduates  |                  |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |
| ex-Self-Defense Forces          |                  |  334 |  809 | 1677 | 2122 |  966 | 2598 | 2320 | 2709 | 1268 |  1 |
| Junior employees                |                  |  146 |  157 |  29 |  11 |  12 |  146 |  157 |  29 |  11 |  12 |
| Temporary workers               |                  | 3366 | 221  | 2121| 417  | 750  | 1736 | 2470 | 2685 | 4250 |  1 |
| Total                           |                  | 3366 | 2551 | 5680| 8280 | 4920 | 8424 | 9407 | 9612 | 9674 |  1 |
| Year                            |                  | 1961 | 1962 | 1963 | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 |
| Yōseikō                          |                  |  230 |  284 |  184 |  385 |  333 |  211 |  234 |  442 |  541 |  826 |
| Workers                          |                  |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |  --- |
| Junior college graduates        |                  |  133 |   69 |  39 |  30 |   6 |  --- |  --- |  --- |  --- |  --- |
| High school graduates           |                  |  808 |  975 | 1015| 1040 |  887 |  862 | 1134 |  878 |  747 | 1310 |
| Vocational training school graduates |              |  140 |  103 | 117 |  105|   48 |  --- |  --- |  --- |  --- | 10  |
| Miscellaneous school graduates  |                  |  55  |  12 |   7 |  10 |   3 |   1 | --- | --- | --- | --- |
| ex-Self-Defense Forces          |                  |  288 |  155 | 254 |  154 |  29 |  17 |  47 |  5  |  5  | 133 |
| Junior employees                |                  | 2851 |  671 | 1919| 1823 | 139 |  16 |  113|  34 |  491| 929 |
| Temporary workers               |                  |  866 | 1106 | 2346| 2477 |  19 |  179|  76 |  2  |  561| 972 |
| Total                           |                  | 5141 | 3091 | 5697| 5697 |1131 | 1075| 1370|  919| 1804| 3690 |

Source: Tanaka Hirohide, “Nihon-tekki Kōyōkanri o Kizuita Hitotachi 2, Yamamoto Keimei ni Kiku (2)” [People who contributed to the establishment of Japanese-style management 2: An interview with Keimei Yamamoto (2)], Nihon Rōdō Kyōkai Zassi [The Monthly Journal of the Japan Institute of Labour], no. 281, 1982, 65 and 67.
IV. The Method of Analysis
With regard to the first question, that is, “Did yōseikō employed mainly during the 1950s work at one section of the production line, or at several sections?,” the investigation makes use of records of interviews with yōseikō and data concerning sections to which they belonged when they were given long service awards. First of all, interviews with two yōseikō are analyzed: One was recruited by the company during the first half of the 1950s; The other, around 1960. Then, the following lists, published in a company newsletter called the Toyota Shinbun [Toyota Motor newsletter], are analyzed: the lists of new employees regarding the eighth graduating class of the yōseikō training institution (who entered the company in April, 1953) through the fifteenth class (who entered the company in April, 1960)\(^{20}\); the lists of the recipients of the fifteen-year continuous service award; the lists of the recipients of the twenty-year continuous service award; the lists of the recipients of the twenty-five-year continuous service award; the lists of the recipients of the thirty-year continuous service award; and the lists of the recipients of the forty-year continuous service award. By comparing these lists, information is acquired on sections to which yōseikō belonged and to which they were transferred at different stages of their careers. In this way, the first question can be answered. Because they are interval data, transfers during the intervals cannot be known. In this study, a worker is considered to have stayed in the same workplace, if his described workplace after an interval is the same.\(^{21}\)

To the second question, that is, “At what sections in production did yōseikō trained mainly during the 1950s demonstrate their versatility during the 1970s and 1980s?,” the analyses of the lists also gives the answer. By comparison between the above-mentioned lists,\(^{22}\) sections yōseikō were deployed to and roles they played are disclosed.

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\(^{20}\) Whether the list of new employees on the Toyota Shinbun clearly specifies yōseikō, or not, depends on the years. Concerning the years with regard to which workers’ identities as yōseikō are not specified in the lists of new employees, their identities as such are conjectured by use of other records. As for the eighth graduating class, yōseikō’s identities are specified in the list on the Toyota Shinbun (no. 79, 12th April, 1953). As for the ninth, yōseikō’s identities are conjectured. The list is on the Toyota Shinbun (no. 112, 12th April, 1954). As for the tenth, conjectured. (no. 149, 22th April, 1955). As for the eleventh, specified (no. 183, 2nd April, 1956). As for the twelfth, conjectured. (no. 219, 2nd April, 1957). As for the thirteenth, specified (no. 256, 22th April, 1958). As for the fourteenth, specified (no. 299, 4th April, 1959). As for the fifteenth, specified (no. 350, 2nd April, 1960). With regard to the ninth and tenth graduating classes, the lists of new employees only specify names of the new employees and workplaces to which they were deployed. However, the number of yōseikō in each year can be known, and the names of yōseikō who later received outstanding achievement awards from the in-house educational institution are also available. On the basis of such data, it is conjectured that those workers who are identified in the lists as “male workers engaged in work-site operations” were yōseikō. As to the twelfth graduating class, the list of new employees only identifies them as “male graduates from junior high schools.” However, on the basis of other available data such as the number of yōseikō and the names of yōseikō who later received outstanding achievement awards, all of those “male graduates from junior high schools” are conjectured to be yōseikō.

\(^{21}\) For instance, even if there was a case in which a yōseikō who was working in the Engineering Department fifteen years after employment was transferred, two years later, to the Machining department, and then, after another two years, moved back to the Engineering Department, the yōseikō is considered to have stayed at the same workplace in this investigation.

\(^{22}\) The lists of the recipients of the forty-year continuous service award are available only with regard to the eighth graduating class (awarded in 1993) and the ninth graduating class (awarded in 1994). Concerning the tenth through fifteenth graduating classes, workplaces at which yōseikō were working forty years after employment cannot be traced, because the lists of the recipients of the forty-year continuous service award were not published in the company newsletter.
V. Results of the Analysis

1. Analysis 1: Transfers of Yōseikō

(1) Interview Records

1) Case 1. A yōseikō employed during the first half of the 1950s

The yōseikō of Case 1 is a former Kōchō [foreman] at a machine processing section. At the time of the interview (conducted during 2001 and 2002), he had already retired after having reached the retirement age of sixty. After having graduated from a junior high school, he entered the Toyota Motor’s training center for technical workers, because he was “interested in cars.” After the training period, he was deployed to a machine processing section. It was around the beginning of the 1950s. When a new plant was constructed, the entire machine processing section was moved to the new plant. Although he experienced that twice, he continued to do the machine processing work till retirement. At the beginning of the 1960s, when he was in his late twentieth, he was promoted to Hanchō [head of a group]. About fifteen years later, he was promoted to Kumichō [head of a squad]. Then, after a little less than ten years, he was promoted to Kōchō. It was just before he turned fifty.

It was a common practice at the time that when we turned fifty-five, we became able to move to any section we wanted. So I submitted my request to go to the Engineering Department of the headquarters. In my case, however, the head of the Machining Department would not let me go for reasons I do not know. He said to me, “You just have to stay here.” I stayed at the Machining Department, unwillingly, because it was the rule that unless he said yes, I could not go [to the Engineering Department of the headquarters].

2) Case 2. A yōseikō employed around 1960

The yōseikō of Case 2 was Kachō [head] of the prototype development section in his late fifties at the time of the interview (conducted during 2001 and 2002). After having graduated from a junior high school, he entered the Toyota Motor’s training center on advice from his father who had been working for the Toyota Motor.

On graduation, he was deployed to the Vehicle Testing Section of the Second Engineering Department at the headquarters and assigned to the testing and maintenance of prototype vehicles. After about ten years, he was transferred to the Assembly Section of the Third Engineering Department at the headquarters and assigned to the assembling of prototype vehicles. It can be regarded as a transfer to a preceding production process. In the Assembly Section, he was promoted to Hanchō, and then to Kumichō. When he was in his early forties, he became Kōchō of a vehicle testing section. Then, he

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23 Yumoto Makoto, “Ginōkei Teinen Taishokusha no Kigyōnai Career - Toyota Rōdōsha no Jirei Kenkyū” [The business careers of blue-collar workers who have retired - Case Studies on Toyota Workers], Sapporo Gakuin Daigaku Jinchū Gakkai Kiyō [Journal of the Society of Humanities, Sapporo Gakuin University], no. 82 (October 2007), 148-149.

24 Kōchō is one of the job titles of shopfloor workers at a Toyota Plant. The order of promotion for a general shopfloor worker is as follows: Hanchō [head of a group], Kumichō [head of a squad] and Kōchō [foreman].

25 Yumoto Makoto, “Jinjiseido Kaikaku to Career no Fukusenka - Toyota Rōdōsha no Jirei Kenkyū” [Reforms of personnel management system and double-tracked business careers - Case Studies on Toyota Workers], Sapporo Gakuin Daigaku Jinchū Gakkai Kiyō [Journal of the Society of Humanities, Sapporo Gakuin University], no. 78 (November 2005), 77 and 81.
was transferred, within the same department, to preceding processes, that is, the Logistics Section and the Press Section. After having “wandered about” in these sections for about ten years, he was promoted to Kachō of the Vehicle Testing Section to which he had been deployed in the first place. That was when he was in his early fifties. He was in the positions of Hanchō, Kumichō and Kōchō for less than ten years each. His promotions were very smooth.

He has worked in the prototype development department, an important part of production, throughout his career. It started with the testing of vehicles. Then, he has been transferred to the assembly, logistics and preparation for production, press, vehicle testing and assembly sections. However, they were all transfers within the same prototype development department.

(2) Data Analysis
With regard to yōseikō in the eighth graduating class of the training institution (entered the institution in 1953) through the fifteenth graduating class (entered the institution in 1960), the investigation traces sections to which they belonged over the period from fifteen years after employment (thirty years of age) till thirty years after employment (forty-five years of age) at five-year intervals. As for the eighth and ninth classes, it is possible to trace their workplaces for the span of forty years (till the age of fifty-five).

As shown in Table 2, types of transfer are classified into the following eight categories: (1) “Completely the same,” same plant-same workshop (the described workplace of a worker after an interval is the same as before); (2) Same plant-similar workshop (for example, from the Second Production Engineering Department of the headquarters to the Third Production Engineering Department of the headquarters; (3) Different plant-similar workshop (for example, from the Machining Department of the Honsha plant [the Headquarter plant] to the Machining Department of the Tsutsumi plant); (4) Same plant-different workshop (for example, from the Second Machining Department of the Kamigō plant to the Inspection Department of the Kamigō plant); (5) Different plant-different workshop (for example, from the Body Department of the Honsha plant to the Second Production Engineering Department of the headquarters); (6) Labor union (a secondment from a shopfloor to a labor union office, a return from a secondment at a labor union office to a shopfloor, the continuation of a secondment at a labor union office, so forth); (7) Apprentice school (from Toyota Kōgyō Gakuen [Toyota Technical School], the educational institution for the training of yōseikō, to a shopfloor, from a shopfloor to Toyota Kōgyō Gakuen, the continuation of work at Toyota Kōgyō Gakuen, so forth); (8) Unknown (for example, from some workplace to the Manufacturing Department, from the Manufacturing Department to some workplace, a secondment to an unknown workplace in the country).

The following facts are revealed as a result of the investigation into yōseikō’s transfers made during the period from fifteen years after employment till forty years after employment. Their transfers have been checked at four points, that is, twenty years, twenty-five years, thirty years and forty years after employment. With regard to the eighth, ninth, tenth, eleventh, twelfth, thirteenth, fourteenth and fifteenth graduating classes of the company’s training institution, the numbers of their transfers found by the investigation are 81, 116, 45, 39, 135, 121, 186 and 289 cases, respectively: 1,012 cases, in total. As for the eighth and ninth graduating classes, the numbers of cases include transfers found at the fourth check point, that is, forty years after employment. As for the tenth through fifteenth graduating
classes, their transfers are checked at three points: that is, twenty years, twenty-five years and thirty years after employment.

Table 2: Transfer ratios of yōseikō by length of service

| Graduating class and Year | Completely the same | Same plant-same workshop | Same plant-similar workshop | Different plant-similar workshop | Same plant-different workshop | Different plant-different workshop | Labor union | Apprentice school | Unkown | Total |
|---------------------------|---------------------|--------------------------|-----------------------------|----------------------------------|-------------------------------|------------------------------------|------------|-------------------|--------|-------|
| 8th class 1973            | 50                  | 47                       | 47                          | 85                               | 51                            | 52                                 | 70         | 72                | 62     |       |
| 9th class 1974            |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 10th class 1975           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 11th class 1976           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 12th class 1977           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 13th class 1978           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 14th class 1979           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 15th class 1980           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| Grand Total               | 100                 | 100                      | 100                         | 100                               | 100                           | 100                                 | 100        | 100               | 100    | 100   |

| Graduating class and Year | Completely the same | Same plant-same workshop | Same plant-similar workshop | Different plant-similar workshop | Same plant-different workshop | Different plant-different workshop | Labor union | Apprentice school | Unkown | Total |
|---------------------------|---------------------|--------------------------|-----------------------------|----------------------------------|-------------------------------|------------------------------------|------------|-------------------|--------|-------|
| 8th class 1978            | 65                  | 77                       | 60                          | 85                               | 82                            | 79                                 | 84         | 74                | 77     |       |
| 9th class 1979            |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 10th class 1980           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 11th class 1981           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 12th class 1982           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 13th class 1983           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 14th class 1984           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| 15th class 1985           |                     |                          |                             |                                  |                               |                                    |            |                   |        |       |
| Grand Total               | 100                 | 100                      | 100                         | 100                               | 100                           | 100                                 | 100        | 100               | 100    | 100   |

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According to Table 2, with regard to transfers made during the period from fifteen years after employment till twenty years after employment, the average proportion of “Completely the same” is 62 percent, and that of “Same plant-similar workshop” is 16 percent. In total, 78 percent of the yōseikō either remained at the same workplace, or continued to be engaged in similar jobs, although the proportions of “Completely the same” vary from 47 to 85 percent, depending on the years. As for transfers...
made during the period from twenty years after employment till twenty-five years after employment, the average proportion of “Completely the same” is 77 percent, and that of “Same plant-similar workshop” is 8 percent. In total, 85 percent of the yōseikō either remained at the same workplace, or continued to be engaged in similar jobs, although the proportions of “Completely the same” vary from 60 to 85 percent, depending on the years.

As for transfers made during the period from twenty-five years after employment till thirty years after employment, the average proportion of “Completely the same” is 59 percent, and that of “Same plant-similar workshop” is 28 percent. In total, 87 percent of the yōseikō either remained at the same workplace, or continued to be engaged in similar jobs, although the proportions of “Completely the same” vary from 34 to 95 percent, depending on the years. As for transfers made during the period from thirty years after employment till forty years after employment, the average proportion of “Completely the same” is 30 percent, and that of “Same plant-similar workshop” is 35 percent. In total, 65 percent of the yōseikō either remained at the same workplace, or continued to be engaged in similar jobs. Incidentally, the proportions of “Same plant-different workshop” and “Different plant-different workshop” are 15 percent and 13 percent, respectively.

(3) The Transfer Situation of Yōseikō Revealed by the Analysis of the Interviews and Data
The person in Case 1 of the interviews continued to work in the Machining Department throughout his career. Although the person in Case 2 has been transferred to the vehicle testing section, then to the assembly section, and again to vehicle testing section, all these transfers have been made within the same Engineering Department. In addition, Table 2 shows that, on average, 82 percent of those yōseikō who had continuously worked for the company for fifteen years or more either remained at the same workplace, or were only moved to similar workplaces. From these research results combined, it can be concluded that yōseikō basically stayed at the same sections of production. Even if they were transferred, they were, in most cases, only moved to similar, or adjacent, workplaces in the same plant. In other words, a yōseikō was a worker specialized in a particular area of technical operations. They were not all-round, or universal, workers who worked across various sections of production.

However, the following remark by the person in Case 1 of the interviews has to be noted: “It was a common practice at the time that when we turned fifty-five, we became able to move to any section we wanted.”²⁶ It indicates that there was a tendency for the range of their transfers to extend shortly before retirement. This tendency is confirmed by the transfer data that show greater variability in transfers made during the period from thirty years after employment till forty years after employment (fifty-five years of age).

2. Analysis 2: Roles played by Yōseikō
Analysis 1 has revealed that yōseikō had their “specialized sections” in the production line and their transfers were confined within their adjacent sections. Then, what were their “specialized sections”? Roles played by yōseikō can be revealed by the data provided in the company’s newsletter used in Analysis 1.

²⁶ Yumoto Makoto, “Ginōkei Teinen Taishokusha no Kigyōnai Career - Toyota Rōdōsha no Jirei Kenkyū,” Sapporo Gakuin Daigaku Jinbun Gakkai Kiyō, no. 82 (October 2007), 149.
Table 3 shows sections to which yōseikō who had continuously worked for the company for fifteen years, or more, were deployed. According to the Table, among yōseikō who had worked for the company for fifteen years, the largest proportion, that is, 38 percent on average, belong to the Engineering Department of the headquarters. Then, the Foundry, Machining and Body Departments follow with 11, 10 and 9 percent, respectively. Although the numbers (proportions) of yōseikō belonging to the Engineering Department are largest, they vary to a large extent, depending on their graduating years. For example, concerning the tenth graduating class that entered the company in 1955, none of them belonged to the Engineering Department. As for the eleventh graduating class that entered the company in 1956, only two of them, that is, 14 percent, belonged to the Engineering Department fifteen years after employment. On the other hand, concerning the fifteenth graduating class that entered the company in 1960, 46 percent, that is, 46 percent, belonged to the Engineering Department fifteen years after employment. If workplaces to which yōseikō belong are classified into “the headquarters,” “plants” and “others,” the proportions of these three workplaces are 40 percent, 55 percent and 4 percent, respectively. It should be noted that more than half of the yōseikō worked at plants. In terms of job category, their work in the Engineering Department was the most important role yōseikō assumed. At the same time, shopfloor operations performed by yōseikō at each plant were also their important roles.

With regard to the three groups of yōseikō who had continuously worked for the company for twenty years, for twenty-five years and for thirty years, Table 3 shows that the largest proportion of the workers belong to the Engineering Department of the headquarters, the percentage being around 40 percent for each group. Then, the Foundry, Machining, Manufacturing and Body Departments follow. Their proportions are all around 10 percent. Although the numbers (proportions) of yōseikō belonging to the Engineering Department are largest, they vary, depending on their graduating years. If their workplaces are classified into “the headquarters,” “plants” and “others,” more than half of the yōseikō belong to “plants.” These characteristics regarding the three groups of yōseikō are similar to those regarding yōseikō who had worked for the company for fifteen years.

Concerning yōseikō who had continuously worked for the company for forty years, Table 3 shows that the largest proportion of the workers, around 40 percent on average, belong to the Engineering Department of the headquarters. The Machining, Foundry, Administration and Forging Departments follow with 16, 7, 7 and 7 percent, respectively. If their workplaces are classified into “the headquarters,” “plants” and “others,” the proportions of the yōseikō belonging to each of these workplaces are all around 4 percent, 44 percent and 9 percent, respectively. The proportion of yōseikō working at the headquarters is higher in the case of yōseikō who had worked for forty years than in the cases of those who had worked for thirty years or less.

Regardless of the length of continuous employment, the largest proportion of yōseikō belonged to the Engineering Department of the headquarters. Then, the next question to be asked is: What kind of jobs were carried out in the Engineering Department? In this study, various technical workplaces are classified into “the Engineering Department.” For the understanding of actual operations performed

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27 In this study, all of the technology-related workplaces, such as Gijutsu-bu [Engineering Department], Seisan Gijutsu-bu [Production Engineering Department] and Kōki-bu [Machine Tools Department], are classified into the category of “the Engineering Department.”

28 These percentage figures are rounded off.

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in the department, articles for the introduction of workplaces published in the Toyota Motor newsletter can be of some help. The part regarding the Third Engineering Department reads as follows: “The Third Engineering Department is engaged in the ‘production of prototype models,’ contributing to the development of new products. This department is playing the role of bridging between the design & development department and the mass production department. More concretely, the department manufactures prototype cars on the basis of prototype designs, and implements various performance tests. In addition, this department also evaluates prototype cars’ ‘suitability’ for mass production. In this way, this department is carrying out an important task of feeding information both back to the design & development department and forward to the mass production department.”29 The part regarding the First Machine Tools Department reads as follows: “This department consists of seven sections with nine hundred workers in total, and is engaged in the manufacturing of equipment for production lines and the making of prototype car parts. Recently, the department manufactured equipment for the body welding lines at the Takaoka and Tahara plants, as well as state-of-the-art facilities for the production of transmissions and related parts at the Kinuura plant. Capitalizing on the merit of in-house production, this department is actively developing and manufacturing machinery and equipment provided with new technology. Moreover, the department has contributed largely to the development of micron-level precision components and turbo engines, and also to the processing of special components made of new material. In this way, the department is putting effort in manufacturing attractive products. In order to cope with new technologies, high skills are indispensable. In fact, 80 percent of the workers in this department have some kinds of technical qualifications. This place is a shrine of skill.”30 Whereas the Third Engineering Department was engaged in the production of prototype cars, the First Machine Tools Department was engaged in the in-house production of plant equipment. Despite the difference in their work, operations in both departments were not routine work. Jobs at both workplaces was about developing and manufacturing new products and equipment with great accuracy, which necessitated high skills.

Case 2 of the interviews is about a yōseikō in the Engineering Department. As was mentioned above, however, in the case of the tenth graduating class, no yōseikō was deployed to the Engineering Department. In addition, in the case of the eleventh graduating class, the number and proportion of yōseikō deployed to the Engineering Department were very small. These facts indicate that although it was an important role for yōseikō to work in the Engineering Department, it, nevertheless, was one of many roles they performed.31 It should be borne in mind that more than half of the yōseikō worked at plants, although this fact tends to be neglected when attention is drawn to departments to which yōseikō were deployed. It was another important role for yōseikō to be engaged in production activities at plants.

29 Toyota Shinbun [the Toyota Motor company newsletter], “Watashi no Shokuba Shōkai (50)” [Introduction of my workplace (50)], no. 1512 (9th March, 1984).
30 Toyota Shinbun, “Watashi no Shokuba Shōkai (27)” [Introduction of my workplace (27)], no. 1472 (29th April, 1983).
31 There is a possibility that although many of the yōseikō belonging to the tenth and eleventh graduating classes had also been deployed to the Engineering Department immediately after graduation, they left the company within fifteen years for some reasons. If so, that explains why the numbers of yōseikō belonging to the Engineering Department that appear in this analysis are so small concerning the tenth and eleventh graduating classes. However, this is not a realistic possibility, considering that the numbers of yōseikō belonging to the tenth and eleventh graduating classes are so small – sixteen persons and seventeen persons, respectively – that the number of cases in which their career paths cannot be traced is very limited.
committing to their specialized areas. This characteristic is exemplified by Case 1 of the interviews, which concerns a yōseikō in the Machining Department.

Table 3: Composition ratios of departments yōseikō belonged to by length of service

| Graduating class and Year | Engineering Department | Education & Training Department | General Administration Department and others | Forging Department | Foundry Department | Machining Department | Body Department | Final Assembly Department | Manufacturing Department | Plastics Molding Department | Inspection Department | Administration Department | Toyota Technical School [Apprentice School] | Labor Union | Domestic Secondment | Others | Grand Total |
|---------------------------|------------------------|----------------------------------|--------------------------------------------|-------------------|-------------------|---------------------|----------------|---------------------------|------------------------|---------------------------|--------------------------|----------------------------------|-------------------|-----------------|--------|-------------|
| 8th class 1968            | 23                     | 0                                | 0                                          | 18                | 0                 | 32                  | 18             | 18                        | 5                      | 0                          | 0                         | 5                  | 0                | 0       | 100         |
| 9th class 1969            | 27                     | 0                                | 0                                          | 18                | 0                 | 33                  | 20             | 6                         | 6                      | 0                          | 0                         | 6                  | 0                | 0       | 100         |
| 10th class 1970           | 0                      | 0                                | 7                                          | 0                 | 0                 | 14                  | 21             | 13                        | 5                      | 0                          | 0                         | 2                  | 0                | 0       | 100         |
| 11th class 1971           | 14                     | 0                                | 0                                          | 0                 | 0                 | 15                  | 12             | 6                         | 9                      | 2                          | 0                         | 2                  | 0                | 0       | 100         |
| 12th class 1972           | 43                     | 4                                | 2                                          | 2                 | 2                 | 5                   | 12             | 5                         | 7                      | 0                          | 0                         | 0                  | 0                | 0       | 100         |
| 13th class 1973           | 31                     | 3                                | 0                                          | 4                 | 0                 | 5                   | 0              | 5                         | 6                      | 0                          | 0                         | 0                  | 0                | 0       | 100         |
| 14th class 1974           | 41                     | 6                                | 0                                          | 0                 | 0                 | 9                   | 7              | 5                         | 5                      | 0                          | 0                         | 0                  | 0                | 0       | 100         |
| 15th class 1975           | 46                     | 1                                | 0                                          | 0                 | 0                 | 7                   | 6              | 5                         | 5                      | 0                          | 0                         | 0                  | 0                | 0       | 100         |
| Grand Total               | 36                     | 4                                | 1                                          | 1                 | 1                 | 10                  | 9              | 7                         | 7                      | 1                          | 1                         | 3                  | 1                | 1       | 100         |

Unit: %

Graduating class and Year
| Head | Engineering Department | Education & Training Department | General Administration Department and others |
|------|------------------------|---------------------------------|-----------------------------------------------|
| 8th  | 23                     | 5                               | 0                                             |
| 9th  | 37                     | 7                               | 3                                             |
| 10th | 0                      | 0                               | 3                                             |
| 11th | 15                     | 4                               | 4                                             |
| 12th | 42                     | 0                               | 1                                             |
| 13th | 43                     | 3                               | 1                                             |
| 14th | 41                     | 4                               | 1                                             |
| 15th | 44                     | 4                               | 1                                             |
| Grand Total | 38                          | 4                               | 1                                             |

| Plant | Forging Department | Foundry Department | Machining Department | Body Department | Final Assembly Department | Manufacturing Department | Plastics Molding Department | Inspection Department | Administration Department |
|-------|-------------------|--------------------|----------------------|-----------------|--------------------------|--------------------------|--------------------------|----------------------|--------------------------|
| 8th  | 0                 | 13                 | 0                    | 8               | 0                        | 2                        | 3                       | 0                   | 2                       |
| 9th  | 0                 | 13                 | 0                    | 0               | 13                      | 12                       | 9                       | 5                   | 8                       |
| 10th | 32                | 3                  | 33                   | 8               | 11                      | 5                        | 8                       | 6                   | 10                      |
| 11th | 14                | 0                  | 13                   | 23              | 0                        | 10                       | 8                       | 10                  | 8                       |
| 12th | 18                | 3                  | 13                   | 23              | 0                        | 12                       | 6                       | 4                   | 7                       |
| 13th | 5                 | 3                  | 20                   | 23              | 11                      | 7                        | 9                       | 8                   | 9                       |
| 14th | 0                 | 0                  | 0                    | 0               | 0                        | 0                        | 0                       | 0                   | 0                       |
| 15th | 0                 | 0                  | 0                    | 0               | 0                        | 0                        | 0                       | 0                   | 0                       |
| Grand Total | 100                       | 100                  | 100                   | 100              | 100                      | 100                      | 100                      | 100                  | 100                      |

| Others | Toyota Technical School | [Apprentice School] | Labor Union | Domestic Secondment | Others |
|--------|------------------------|---------------------|-------------|--------------------|--------|
| 8th    | 0                      | 0                   | 0           | 0                  | 2      |
| 9th    | 0                      | 0                   | 0           | 0                  | 2      |
| 10th   | 0                      | 0                   | 0           | 0                  | 2      |
| 11th   | 0                      | 0                   | 0           | 0                  | 1      |
| 12th   | 0                      | 0                   | 0           | 0                  | 1      |
| 13th   | 0                      | 0                   | 0           | 0                  | 1      |
| 14th   | 0                      | 0                   | 0           | 0                  | 0      |
| 15th   | 0                      | 0                   | 0           | 0                  | 0      |
| Grand Total | 100                       | 100                  | 100         | 100                | 100    |

| Graduating class and Year | 8th class 1968 | 9th class 1969 | 10th class 1970 | 11th class 1971 | 12th class 1972 | 13th class 1973 | 14th class 1974 | 15th class 1975 | Grand Total |
|---------------------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--------------|
| Engineering Department    | 30             | 40             | 0               | 15              | 42              | 39              | 43              | 42              | 38           |


| Head | Education & Training Department | General Administration Department and others |
|------|----------------------------------|-----------------------------------------------|
|      | 5  | 3  | 7  | 0  | 4  | 0  | 2  | 3  | 3  |
|      | 0  | 3  | 0  | 0  | 0  | 0  | 0  | 3  | 1  |

| 25 years of Service | Plant | Forging Department | Foundry Department | Machining Department | Body Department | Final Assembly Department | Manufacturing Department | Plastics Molding Department | Inspection Department | Administration Department |
|--------------------|-------|--------------------|--------------------|----------------------|-----------------|--------------------------|---------------------------|--------------------------|------------------------|-----------------------------|
|                    |       | 0  | 10  | 0  | 8  | 0  | 2  | 3  | 0  | 2  |
|                    |       | 0  | 10  | 0  | 0  | 13 | 12 | 8  | 3  | 7  |
|                    |       | 20 | 3   | 33 | 8  | 9  | 5  | 10 | 6  | 9  |
|                    |       | 15 | 0   | 20 | 23 | 0  | 7  | 7  | 9  | 8  |
|                    |       | 20 | 3   | 0  | 8  | 0  | 10 | 3  | 3  | 5  |
|                    |       | 5  | 10  | 33 | 31 | 13 | 12 | 11 | 10 | 13 |
|                    |       | 0  | 0   | 0  | 0  | 0  | 0  | 2  | 0  | 0  |
|                    |       | 5  | 0   | 0  | 0  | 4  | 0  | 2  | 8  | 4  |
|                    |       | 0  | 10  | 0  | 0  | 11 | 10 | 7  | 7  | 7  |

| Others | Toyota Technical School | Labor Union | Domestic Secondment | Others |
|--------|-------------------------|-------------|--------------------|--------|
|        | 0  | 0  | 0  | 0  | 2  | 2  | 0  | 1  | 1  |
|        | 0  | 7  | 7  | 8  | 0  | 0  | 2  | 3  | 2  |
|        | 0  | 0  | 0  | 0  | 0  | 0  | 2  | 0  | 0  |
|        | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |

| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |

| Graduating class and Year | 8th class 1968 | 9th class 1969 | 10th class 1970 | 11th class 1971 | 12th class 1972 | 13th class 1973 | 14th class 1974 | 15th class 1975 | Grand Total |
|---------------------------|----------------|----------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------|
| Head                      | Engineering Department | 27  | 38  | 0  | 15  | 40  | 39  | 39  | 45  | 37  |
|                           | Education & Training Department | 5   | 7   | 0  | 0   | 4   | 0   | 2   | 1   | 2   |
|                           | General Administration Department and others | 0   | 3   | 0  | 0   | 2   | 0   | 7   | 4   | 3   |

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| Plant                | 30 years of Service | 8th class 1968 | 9th class 1969 | Grand Total |
|---------------------|---------------------|----------------|----------------|-------------|
| Forging Department  | 0                   | 10             | 0              | 0           |
| Foundry Department  | 0                   | 7              | 0              | 0           |
| Machining Department| 18                  | 3              | 27             | 0           |
| Body Department     | 14                  | 0              | 13             | 0           |
| Final Assembly      | 18                  | 0              | 7              | 0           |
| Manufacturing       | 9                   | 14             | 40             | 38          |
| Department          |                     |                |                | 13          |
| Plastics Molding    | 0                   | 0              | 0              | 8           |
| Department          | 0                   | 0              | 0              | 8           |
| Inspection Department| 5                   | 0              | 0              | 4           |
| Administration      | 0                   | 14             | 7              | 8           |
| Department          |                     |                |                | 7           |
| Toyota Technical    | 0                   | 0              | 0              | 4           |
| School              |                     |                |                | 2           |
| [Apprentice School] |                     |                |                | 0           |
| Labor Union         | 5                   | 3              | 7              | 0           |
| Domestic            | 0                   | 0              | 0              | 0           |
| Secondment          | 0                   | 0              | 0              | 0           |
| Administration      | 0                   | 0              | 0              | 0           |
| Department          |                     |                |                | 0           |
| Others              | 100                 | 100            | 100            | 100         |

| 40 years of Service | 8th class 1968 | 9th class 1969 | Grand Total |
|---------------------|----------------|----------------|-------------|
| Engineering         | 44             | 37             | 40          |
| Department          |                 |                |             |
| Education & Training| 11             | 0              | 4           |
| Department          |                 |                |             |
| General Administration| 0              | 7              | 4           |
| Department and others|                |                |             |
| 0                   | 11             | 7              |             |
| 0                   | 11             | 7              |             |
| 17                  | 15             | 16             |             |
| 6                   | 0              | 2              |             |
### V. Conclusion

This study has set itself the task of revealing the actual state of “versatility” possessed by the type of workers referred to as yōseikō, who had received special training at their companies’ in-house educational institutions during the 1950s and 1960s.

As the Japanese auto industry made a remarkable development during and after 1970s, the Toyota Production System has attracted attention from overseas, and its high productivity has been confirmed by, for instance, international comparative studies. However, to technical workers, a source of the high productivity, previous studies have not given sufficient consideration, although they have pointed out the “multi-skilled” nature of those workers.

In tackling the task, this study has raised two questions. The first one is: Did yōseikō employed mainly during the 1950s work at one section of the production line, or at several sections? In other words, this question is about whether a yōseikō specialized in a particular section of production or he had versatility, or universality, to work across various sections. The second question is: At what sections in production did yōseikō trained mainly during the 1950s demonstrate their versatility during the 1970s and 1980s? In other words, this question is about roles played by yōseikō.

The Toyota Motor constructed its plants one after another, after it built its Motomachi plant in 1959. At the same time, the company continually introduced to the market its new model cars such as Publica, Corolla, Hiace, Hilux, Corona Mark II and Camry. As new plants were constructed and new model cars were introduced to the market, the Toyota Motor’s export volume increased, together with its domestic sales. In 1977, its export ratio reached 51.9 percent, more than half of the company’s domestic production now being constituted by production for overseas markets. In the pre-war period, the Toyota Motor trained yōseikō in its in-house training institution in order to support the company’s...
development. After the end of the War, it resumed its yōseikō training in 1953, inviting and selecting new junior high school graduates. With regard to the eighth graduating class through the fifteenth graduating class of the Toyota Motor’s yōseikō training institution (employed between 1953 and 1960), this study has conducted an investigation, answering the questions above-mentioned.

As a result of the analysis of the interviews and data regarding careers of yōseikō, it can be concluded as to the first question that they basically stayed in the same departments to which they had been deployed in the first place. Even if they were transferred, they were only moved to similar workplaces in the same plant, or to adjacent ones. It can be said, therefore, that yōseikō were not the type of workers who had versatility, or universality, to perform a wide range of operations in various departments of the company, but the type of workers specialized in particular sections of production.

In answering the first question, it is made clear that yōseikō had their “specialized sections” and that their transfers were limited only to their adjacent sections. Then, what were their “specialized sections”? Roles played by yōseikō can be grasped by examining the data provided in the company’s newsletter used in Analysis 1. The analysis of sections to which yōseikō belonged when they were given long-service awards has revealed two major roles played by yōseikō. One was the development and manufacturing of prototype models in the Engineering Department. The other was shopfloor operations at plants. In particular, the analysis has shown that a large number and high proportion of yōseikō belonged to the Engineering Department, contributing, as highly skilled workers, to the development and manufacturing of the Toyota Motor’s prototype models. As the Toyota Motor embarked on the production of passenger cars in earnest after the end of the War, expanding production with the construction of new plants and the successive introduction of new models, yōseikō, as highly skilled workers, undertook the task of developing and manufacturing prototype models.

This study has elucidated the actual content of “versatility” of technical workers during the 1970s and 1980s with the case study of yōseikō at the Toyota Motor. However, the roles revealed by this study concern only a small portion of all technical workers. Yōseikō, who received special training, were rather minority in the whole workforce. Yōseikō, who received special training, were rather minority in the whole workforce. Therefore, further investigations are needed into “versatility” of technical workers other than yōseikō, as well as into “versatility” of technical workers at other companies than the Toyota Motor. Moreover, international comparison between “versatility” of Japanese technical workers and that of overseas technical workers is also necessary.

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