



Domestic Component Level in Road Construction Projects Regarding the Regulation of Regulation of the Minister of Industry and Decree of the Minister of Public Works and Public Housing

Berman¹, Endah Kurniyaningrum¹, Bambang Endro Yuwono¹, Darmawan Pontan¹

¹Master Program in Civil Engineering, Universitas Trisakti

*Corresponding Author: Berman

Email: bangberman@gmail.com



Article Info

Article history:

Received 17 May 2024

Received in revised form 6 June 2024

Accepted 26 June 2024

Keywords:

DCL

Bid Price

Final Evaluation Results

Auction

Regulations

Abstract

Indonesia's economic growth occurs in all business fields, one of which is the construction sector, this shows that, the construction sector contributes significantly to the country's economic growth. . The purpose of this study will analyze the application of DCL to government regulatory policies, this research method takes case studies on 3 (three) infrastructure projects with vendor selection using 2 (two) alternatives. Alternative 1 uses the selected vendor with the highest DCL value and alternative 2 uses the selected vendor based on the highest rating from the Final Evaluation Results (FER). From the results of the analysis, it was obtained that the implementation of DCL based on the regulation of the Minister of Industry No. 16 of 2011 still met the minimum of 40%, while the amount of DCL based on the regulation of the Ministry of PUPR No. 602/KPTS/M/2023 did not meet the minimum value of 70%. Meanwhile, from the analysis, it was also found that, by maximizing the DCL value, it will have an impact on high price bids, so that the price submitted during tendering will be less competitive and tend to experience price defeat during tendering.

Introduction

Indonesia's economy in the second quarter of 2023 compared to the second quarter of 2022 experienced growth of 5.17%. Growth occurred in all business fields, one of which was the construction sector, the contribution of the construction sector in the Indonesian economy was fifth as seen from the percentage of the construction sector in Indonesia's Gross Domestic Product (GDP) of 5.23% in the second quarter of 2023 (BPS, 2023). This shows that the construction sector contributes significantly to the country's economic growth, so it can be interpreted that the market share of the construction sector is getting higher (Onat & Kucukvar, 2020). With the high activity in the construction sector, the need for construction materials will be higher as well. However, the position of local producers in meeting the needs of construction materials is very threatened because there is still a widespread use of imported materials which are considered much more efficient than local products (Zakaria et al., 2023).

To encourage local producers to participate in construction activities, the government issued a policy regarding guidelines for increasing the use of domestic products in the procurement of government goods/services as stipulated in the regulation of the Minister of Industry Number 02 of 2014 (Darmada, 2022; Saragi, 2023; Isnaeniah et al., 2022). What is meant by domestic product is a good and/or service including design and engineering produced or done by companies that invest according to the amount of domestic components measured from the Domestic Component Level (DCL) (Ardiningtyas & Satria, 2020). Regulation of the Minister

of Industry Number 16 of 2011 that the DCL value plus the required Company Benefit Weight (BMP) is not less than 40%, while based on the latest regulation from the Ministry of PUPR Number 602/KPTS/M/2023 concerning the Minimum Limit of DCL Value for the category of new road construction infrastructure projects under the work unit of the Directorate General of Highways is a minimum of 70%. From previous research, DCL analysis only focused on several sectors, namely the local company sector (ceramic products), the IT sector, the shipbuilding sector and the power generation sector (Grzesik, 2008). So that in this study, further research will be carried out in the construction sector, namely conducting DCL analysis and its application to government regulatory policies regarding the minimum limit of DCL value by taking case studies on 3 (three) projects in the category of new road construction infrastructure projects under the work unit of the Directorate General of Highways (Subiyanto & Suyoto, 2020).

The definition of domestic products based on the Regulation of the Minister of Industry No. 02 of 2014 is a good and/or service including design and engineering produced or carried out by companies that invest and produce in Indonesia (Aswicahyono & Rafitrandi, 2018), which in the process of production or work is possible the use of imported raw materials/components. Through Presidential Instruction No. 2 of 2022 concerning the Acceleration of Increasing the Use of Domestic Products (P3DN) and Micro, Small Business, and Cooperative Products in order to succeed the national movement of pride made in Indonesia in the implementation of government procurement of goods/services, it is hoped that it can be the first step in the development of local industries, especially industries directly involved in the implementation of construction (Basheka, 2008; Nani & Ali, 2020). The use of domestic products in the procurement of government goods/services is an effort to drive growth and empower existing industries in Indonesia, through efforts to reward domestic users and producers. According to the Minister of Industry No. 02 of 2014, the form of award referred to is in the form of an obligation to use domestic products and giving price preference in the procurement process of government goods/services (Prasetyo, 2016).

The Domestic Component Level (DCL) is a value that shows the percentage of use of domestic goods and/or services in a product (Dachyar & Yadrifil, 2014). This value can also be used as an indicator of the ability of local industries to utilize the potential of local resources to produce a product. The product in question can be in the form of goods, services, or a combination of goods and services. The beginning of the establishment of the DCL policy was due to the rampant import products entering Indonesia, thus hampering the growth of domestic industries, as a result of this making the country's foreign exchange will decrease.

According to the Regulation of the Minister of Industry No. 02 of 2014 (Minister of Industry No. 02 of 2014, 2014), concerning guidelines for increasing the use of domestic products in the procurement of government goods/services in the procurement plan of goods/services (Ahmaddien, 2021; Ani et al., 2023), Budget Users (PA) classify goods with the following conditions: (a) Required goods are domestically produced goods that must be used to meet the requirements of needs and have a sum of DCL achievements and BMP achievements of more than or equal to 40% and DCL achievements of goods more than or equal to 25%. (b) Maximized goods are domestically produced goods that meet the requirements of needs and have a sum of DCL achievements and BMP achievements of less than 40% and have DCL achievements of goods more than or equal to 15%. (c) Empowered goods are domestically produced goods that meet the requirements of needs and have DCL achievements of less than 15% and more than or equal to 10%.

According to the Regulation of the Minister of Industry Number 02 of 2014, the Final Evaluation Price, hereinafter referred to as FER, is an adjustment or normalization of prices to the bid price in the process of procurement of goods/services, where the element of price preference has been calculated based on the achievement of DCL and company status.

Preference is given if the DCL value of the goods $\geq 25\%$, the price preference is used by the auction committee for FER calculation purposes and does not change the bid price. One of the efforts to encourage P3DN is to provide incentives for domestic products. One of them is to give price preference for domestic products that have met a DCL of at least 25%. With the DCL we notice that the provider has paid Indonesian taxes, used a lot of Indonesian labor and has used Indonesian resources. The provision of price preferences and final evaluation prices is regulated in Government Regulation Number 29 of 2018 and Presidential Regulation Number 16 of 2018. Based on Presidential Regulation Number 16 of 2018, it is stated that the obligation to use domestic products if there are domestic products where $DCL + BMP \geq 40\%$. With DCL above or equal to 25%, the preference for goods or services is a maximum of 25% and construction work of national business entities is 7.5%. The FER calculation is calculated by the following formula:

$$FER = (1 - Kp) \times Hp \dots (2.1)$$

Information:

FER = Final Evaluation Results

Kp = DCL (%) x Highest Preference

(The highest preference is the maximum price preference which is 7.5% for construction and 25% for goods/services)

HP = Offering price of goods components

The calculation procedures according to the Regulation of the Minister of Industry Number 16 of 2011 related to the level of domestic components of goods and services follow the provisions and forms that are already available. This study will use calculations based on the following Combined Domestic Component Level (DCL) Recapitulation Format:

Table 1. Recapitulation Format of Combined Domestic Component Level (DCL) Assessment of Goods and Services

Job Description	Combined Cost of Goods and Services*) (Rupiah)			DCL (%)	
	KDN	KLN	TOTAL (Rupiah)	Goods and Services	Combined
Goods					
I. Direct Material (Raw Material)	(1A)	(1B)	(1C=1A+1B)	(1D=1A/3CX100)	
II. Equipment (Finished Goods)	(2A)	(2B)	(2C=2A+2B)	(2D=2A/3CX100)	
A. Sub Total Goods	(3A)	(3B)	(3C=3A+3B)	(3D=3A/3CX100)	
Service					
III. Project Management and Engineers	(4A)	(4B)	(4C=4A+4B)	(4D=4A/8CX100)	
IV. Work Tools / Work Facilities	(5A)	(5B)	(5C=5A+5B)	(5D=5A/8CX100)	
V. Construction and Fabrication	(6A)	(6B)	(6C=6A+6B)	(6D=6A/8CX100)	
VI. General Services	(7A)	(7B)	(7C=7A+7B)	(7D=7A/8CX100)	
B. Sub Total Services	(8A)	(8B)	(8C=8A+8B)	(8D=8A/8CX100)	
C. Total Cost (A+B)	(9A=3A+8A)	(9B=3B+8B)	(9C=3C+8C)		9E=9A/9Cx10 %

Methods

This process is to collect information that will be used as a basis for identifying problems in fulfilling DCL against government regulatory policies in tenders for new road construction project categories under the work unit of the Director General of Highways of the Ministry of PUPR. After the problems in the company have been identified, the next step is to determine the problem formulation and look at the background again there are several problems that need to be described in a problem formulation.

In this process, the determination of research goals to be achieved in this research and limiting the scope of the problem is too broad or wide so that this research can be more focused to be carried out.

This data collection process is divided into two, namely primary data such as: RAT/RAB and DCL calculation format. As well as secondary data such as: literature review, government regulations, P3DN website of the Ministry of Industry, vendor/supplier DCL certificates and vendor/supplier price quote documents. This process is a continuation after data collection, data processing is carried out using quantitative methods, namely calculating DCL which was previously evaluated for vendor/supplier selection which was then continued by analyzing the application of DCL.

At this stage, analysis and discussion are carried out as a form of decision-making process related to the analysis of the application of DCL to government regulatory policies, namely based on Ministry of Industry Regulation No. 16 of 2011 and Ministry of PUPR Regulation No. 602/KPTS/M/2023 concerning the minimum limit of DCL value in the category of new road construction projects under the work unit of the Director General of Highways.

Based on the results of data processing analysis, conclusions and suggestions are needed on this basis as the final form of a study. At this stage also includes suggestions to correct the shortcomings in this research. The location of the research was carried out in 3 (three) tenders for the category of new road construction projects under the work unit of the Director General of Highways which was followed by the company PT Nindya Karya which is a company engaged in construction services located at Jl. Letjend MT. Haryono Kav.22 Jakarta 13630.

This process is a continuation after data collection, data processing carried out is divided into 2 alternatives. Alternative 1 is to use a vendor/supplier who has the highest DCL and Alternative 2 is to use a vendor/supplier from the results of FER (Final Evaluation Results) where the selection of this vendor in addition to being based on price quotes is also assessed in terms of commitment to implementing DCL from the vendor/supplier itself. Then from the 2 alternatives, proceed with the calculation of DCL in total and calculate the total cost of price quotes based on the use of vendors/suppliers of each alternative, then compared between the two alternatives. So that we will get a conclusion on how to apply DCL to price quotes and find out the comparison of DCL value fulfillment against the minimum limit of DCL value based on the Ministry of Industry No. 16 of 2014 at least 40% and Ministry of PUPR Regulation Number 602/KPTS/M/2023 min. 70%.

Results and Discussion

Data Processing Results

Vendor/Supplier Selection Analysis

In calculating DCL and Bidding Price during tendering, the first thing to do is to identify the vendor/supplier that will be used in each project tender. In this research there are 3 projects used as case studies. Of the three, vendors/suppliers who participate in providing technical support and price quotes will be identified in each project tender.

After identifying the vendor/supplier used, then the selection of vendors/suppliers is divided into 2 (two) alternatives. Alternative 1 is prioritizing vendors/suppliers who have the highest

DCL value, while Alternative 2 is the selection of vendors/suppliers from the results of the FER calculation (Final Evaluation Results) using equation 2.1 in the previous discussion.

Table 2. List of Selected Vendors Based on Highest DCL Scores and HEA Ratings On Project A

Description	Alternative Vendor 1 (Based on highest DCL value)	Alternative Vendor 2 (Based on HEA rating)
Fast Track 7 days Concrete (Fs 45)	Adhimix RMC	Solusi Bangun Beton
Class E concrete (grade K-125)	Adhimix RMC	Adhimix RMC
Class B concrete (grade K-350), Slump 12 ± 2 cm	Solusi Bangun Beton	Adhimix RMC
Class B concrete (grade K-350), Slump 18 ± 2 cm	Solusi Bangun Beton	Adhimix RMC
Class C concrete (grade K-250)	Solusi Bangun Beton	Adhimix RMC
BjTS 420B Fin Reinforcing Steel Bar	PT. Buana Baja	Master Steel
BjTS 520 Fin Reinforcing Steel Bar	PT. Buana Baja	Master Steel
Class 1 Stabilized Geotextiles	PT. Gunung Ragad	PT. Gunung Ragad
PC-I Girder Nominal Span of 39.00 m to 41.00 m, H=2.10 m, furnished	Wika Beton	PT Adhimix PCI

Table 3. List of Selected Vendors Based on Highest DCL Scores and HEA Ratings on Project B

Description	Alternative Vendor 1 (Based on highest DCL value)	Alternative Vendor 2 (Based on HEA rating)
Concrete, fc30 Mpa slump 18 ± 2 cm	Adhimix RMC	Nindya Beton
Concrete, fc45 Mpa	Adhimix RMC	Nindya Beton
Concrete, fc35 Mpa	Adhimix RMC	Nindya Beton
Concrete, fc30 Mpa slump 10 ± 2 cm	Adhimix RMC	Nindya Beton
Concrete, fc30 Mpa Self-Compacting	Adhimix RMC	Nindya Beton
Concrete, fc20 Mpa	Adhimix RMC	Adhimix RMC
Laston Lapis Fondasi (AC-Base)	PT. Feva Indonesia	PT. Feva Indonesia
Geotextile Separator Class 1	PT. Gunung Ragad	PT. Gunung Ragad
Fin Reinforcing Steel BjTS 420B	PT. Buana Baja Bina	Master Steel

Table 4. List of Selected Vendors Based on Highest DCL Scores and HEA Ratings On Project C

Material Type	Alternative Vendor 1 (Based on highest DCL value)	Alternative Vendor 2 (Based on HEA rating)
Concrete, fc30 Mpa slump 18 ± 2 cm	Adhimix RMC	Adhimix RMC
Concrete, fc30 Mpa slump 10 ± 2 cm	Adhimix RMC	PT. Sarana Armada Beton
Concrete, fc20 Mpa slump 10 ± 2 cm	Adhimix RMC	Adhimix RMC
Concrete, fc15 Mpa slump 18 ± 2 cm	Adhimix RMC	Adhimix RMC

Concrete, fc10 Mpa slump 10 ± 2 cm	Adhimix RMC	PT. Sarana Armada Beton
Fin Reinforcing Steel BjTS 420B	PT. Buana Baja	Master Steel
Geotextile Separator Class 1	Geolexa Acuan Sejahtera	Geolexa Acuan Sejahtera
Geotextile Stabilizers (Class 1)	PT. Gunung Ragad	PT. Gunung Ragad
Laston Lapis Fondasi (AC-Base)	PT. Feva Indonesia	PT. Feva Indonesia

DCL Calculation Based On Selected Vendors/Suppliers

DCL Calculation In Project A

Table 5. Comparison Table of DCL Values against Project B Bidding Costs

No	Description	Alternative 1		Alternative 2	
		Cost Weight (%)	DCL Weight (%)	Cost Weight (%)	DCL Weight (%)
(A) Direct Costs					
1	General	1.34%	1.14%	1.36%	1.16%
2	Workplace Cleaning	0.12%	0.09%	0.12%	0.09%
3	Earthworks	0.18%	0.15%	0.19%	0.15%
4	Structure Excavation	0.14%	0.11%	0.15%	0.11%
5	Pavement	0.60%	0.32%	0.61%	0.33%
6	Concrete Structures	50.47%	30.94%	49.88%	29.89%
7	Structural Steel Work	26.98%	11.63%	27.30%	11.77%
8	Miscellaneous Work	0.97%	0.59%	0.97%	0.59%
	Total (A)	80.80%	44.97%	80.57%	44.09%
(B) Indirect Costs					
1	General Fees	1.98%	1.98%	2.00%	2.00%
2	Bank Fees	1.06%	1.06%	1.07%	1.07%
3	Miscellaneous expense	16.16%	16.16%	16.35%	16.35%
	Total (B)	19.20%	19.20%	19.43%	19.43%
(C) Total (A) + (B)		100.00%	64.16%	100.00%	63.51%
% Dcl		64.16%		63.51%	
Project Ceiling A			IDR 1,008,707,096,000.00		
Offer Percentage		Alternative 1		Alternative 2	
Offer		96.86%		95.70%	

From the results of the explanation above, it shows that the DCL value of both alternative 1 and alternative 2 in project A for construction costs (direct costs) is still low so that there is still an opportunity to develop the DCL component. While the alternative opportunity that provides the lowest bid on project A is alternative 2 at 95.70% against the budget ceiling with a DCL value of 63.51%, while alternative 1 still provides a high bid price compared to alternative 2 which is 96.86% against the budget ceiling, but the DCL value is quite high compared to alternative 1 at 64.16%.

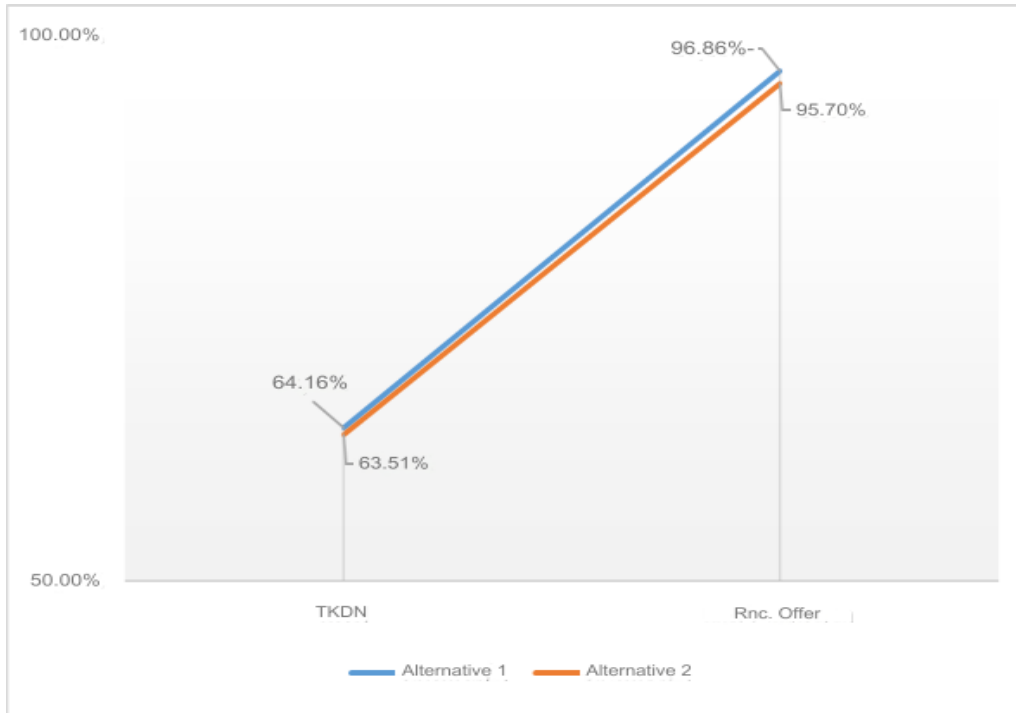


Figure 1. Comparison of Project A's DCL Value to the Minimum DCL Limit Based on Regulations

From the results of the explanation above, it shows that the DCL value of both alternative 1 and alternative 2 in project B for construction costs (direct costs) is still low so that there is still an opportunity to develop the DCL component. While the alternative opportunity that provides the lowest bid on project B is alternative 2 at 96.62% against the budget ceiling with a DCL value of 67.26%, while alternative 1 still provides a high bid price compared to alternative 2 which is 97.90% against the budget ceiling but the DCL value is quite high compared to alternative 1 at 68.50%.

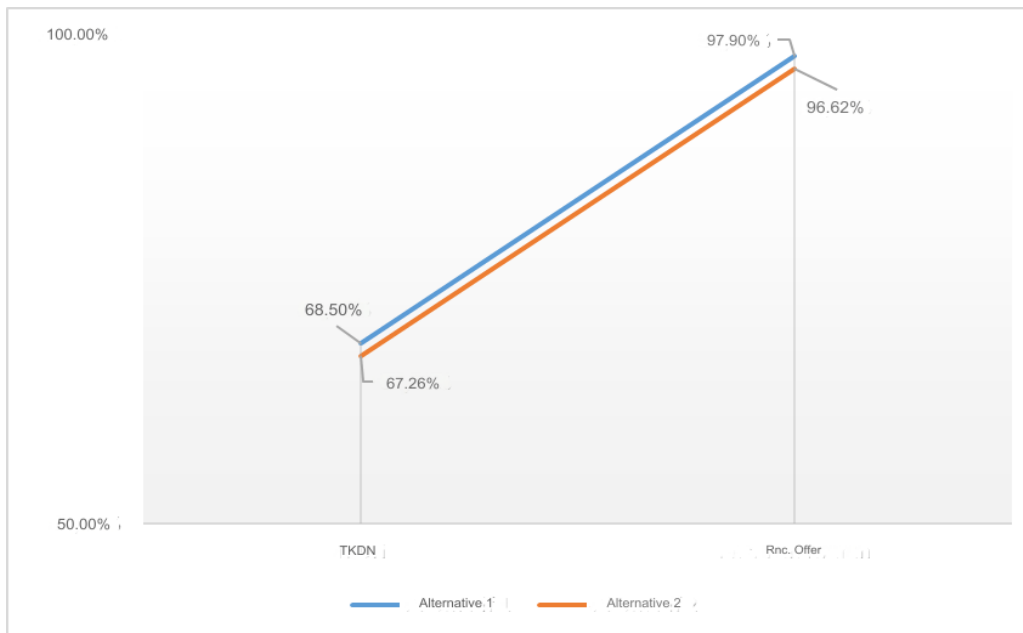


Figure 2. Comparison of Project B's DCL Value against Minimum DCL Limit Based on Regulations

From the results of the explanation above, it shows that the DCL value of both alternative 1 and alternative 2 in project C for construction costs (direct costs) is still low so that there is still an opportunity to develop the DCL component. While the alternative opportunity that provides the lowest bid on project C is alternative 2 at 97.68% against the budget ceiling with

a DCL value of 67.58%, while alternative 1 still provides a high bid price compared to alternative 2 which is 98.15% against the budget ceiling, but the DCL value is quite high compared to alternative 1 of 67.82%.

Table 6. Comparison of Project C's DCL Value against Minimum DCL Limit Based on Regulations

TKDN Value (%)					
No	Project Name	Self Assesment	Menteri Perindustrian No. 16/M- IND/PER/2/2011	Kepmen PUPR No.602/KPTS/M/2023	% HPS Thd Offer
			minimum 40%	minimum 70%	
1	Project C				
	Alternative 1	67,82%	Fulfil	Does not meet the	98,15%
	Alternative 2	67,58%	Fulfil	Does not meet the	97,68%

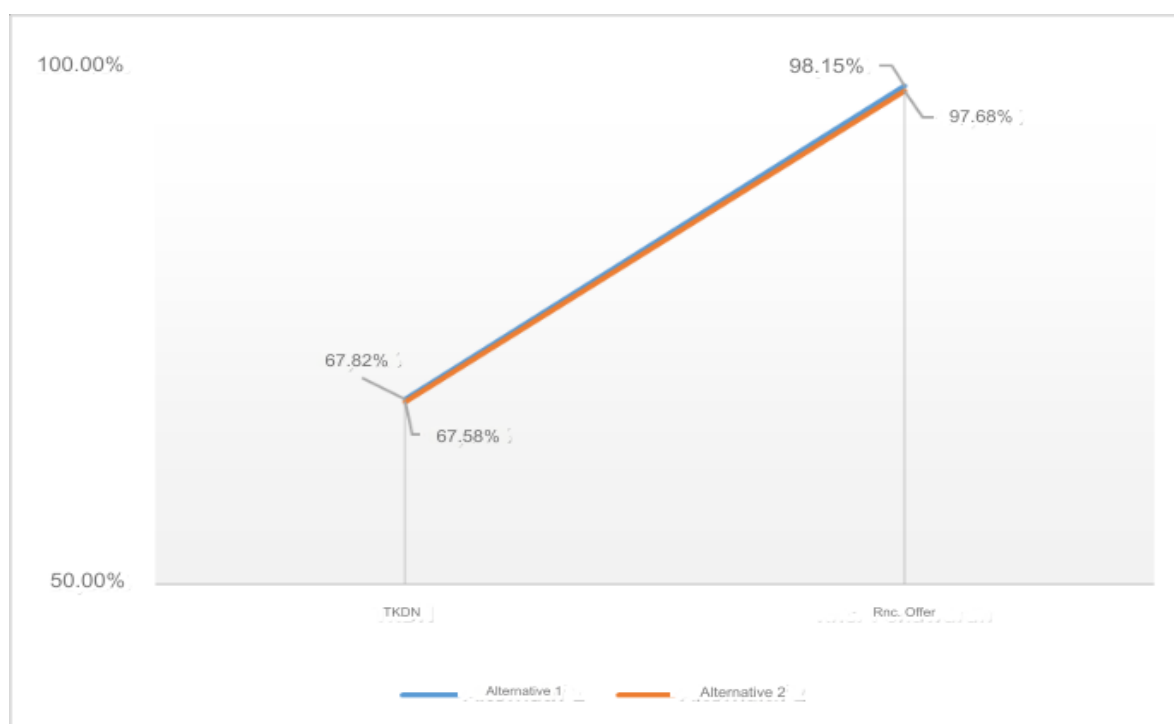


Figure 4. Application of DCL to Price Bidding Strategy

Conclusion

Based on the results of the analysis, it can be concluded that the application of DCL for infrastructure projects is still experiencing difficulties in fulfilling DCL based on the regulation of the PUPR Decree No. 602/KPTS/M/2023, it is due to the lack of maximum application of DCL carried out by several vendors/suppliers and some raw material components from work that have the highest value weight of the majority of imported products. Based on the implementation of DCL for 3 (three) infrastructure projects, the same results are obtained, namely if maximizing the application of DCL using selected vendors based on the highest DCL value (Alternative 1) will result in a fairly high Price Quote when compared to using DCL based on the results of FER evaluation (Alternative 2). That indicates that the higher the DCL we expect it will have an impact on the contractor's high price bid as well, so that the price submitted at tender will be less competitive and will tend to experience price defeat at tender.

References

Ahmaddien, I. (2021). Juridicial Review Of Government Procurement Of Goods And Services Based On Presidential Regulation 12 2021 In Conjunction Of Presidential

Regulation 16 2018. *REVIEW OF MULTIDISCIPLINARY EDUCATION, CULTURE AND PEDAGOGY*, 1(1), 11-22. <https://doi.org/10.55047/romeo.v1i1.41>

- Ani, A., Budi, S., & Embun, S. (2023). Determinants of the policy achievement in increasing the use of domestic products in the procurement of goods and services for the West Lombok district government with e-procurement as a moderating variable. *Russian Journal of Agricultural and Socio-Economic Sciences*, 144(12), 28-40.
- Ardiningtyas, B., & Satria, G. A. (2020). BAB 8 PERAN STRATEGIS PERUSAHAAN UNIVERSITAS DALAM HILIRISASI INOVASI UNTUK Mendukung KEMANDIRIAN ALAT KESEHATAN. *Pengalaman Melembagakan Inovasi*, 141.
- Aswicahyono, H., & Rafitrandi, D. (2018). A review of Indonesia's economic competitiveness. *Centre for Strategic and International Studies*.
- Basheka, B. C. (2008). Procurement planning and accountability of local government procurement systems in developing countries: evidence from Uganda. *Journal of public procurement*, 8(3), 379-406. <https://doi.org/10.1108/JOPP-08-03-2008-B005>
- BPS. (2023). *Indikator Konstruksi TW II-2023*. Jakarta: Badan Pusat Statistik.
- Dachyar, M., & Yadrifil, L. Y. (2014). Interpretive structural model of institutional design for increased domestic component of upstream oil and gas industry in Indonesia. *International Journal Science Index*, 8, 776-780.
- Darmada, D. D. K. (2022). Mengupas Tingkat Komponen Dalam Negeri (TKDN) Pada Pengadaan Barang/Jasa Pemerintah (Studi Imperatif Pengadaan IT Kanwil Kemenkumham NTB): TKDN Pengadaan IT. *Jurnal Pengadaan Barang dan Jasa*, 1(2), 97-107. <https://doi.org/10.55961/jpbj.v1i2.27>
- Grzesik, W. (2008). *Advanced machining processes of metallic materials: theory, modelling and applications*. Elsevier.
- Isnaeniah, R. W., Mujiyanto, M., Lintang, C., Saputro, G. E., Prakoso, L. Y., Murtiana, S., ... & Rianto, R. (2022). Kebijakan Peningkatan Penggunaan Produksi Dalam Negeri di Masa Pandemi Covid-19 Tinjauan dari Peraturan Perundang-undangan. *Jurnal Cakrawala Ilmiah*, 2(2), 721-730. <https://doi.org/10.53625/jcijurnalcakrawalailmiah.v2i2.3819>
- Nani, D. A., & Ali, S. (2020). Determinants of Effective E-Procurement System: Empirical Evidence from Indonesian Local Governments. *Jurnal Dinamika Akuntansi dan Bisnis*, 7(1), 33-50. <https://doi.org/10.24815/jdab.v7i1.15671>
- Onat, N. C., & Kucukvar, M. (2020). Carbon footprint of construction industry: A global review and supply chain analysis. *Renewable and Sustainable Energy Reviews*, 124, 109783. <https://doi.org/10.1016/j.rser.2020.109783>
- Prasetyo, T. (2016). Analisis Potensi Peningkatan TKDN Untuk Mendukung Daya Saing Industri Galangan Kapal Dalam Negeri. *Institut Teknologi Sepuluh Nopember. Surabaya*.
- Saragi, J. E. M. (2023). *Strategi Peningkatan Penggunaan Produk Dalam Negeri Pada Pengadaan Barang/Jasa Pada Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah* (Doctoral dissertation, Politeknik STIA LAN Jakarta).
- Subiyanto, E., & Suyoto, Y. T. (2020). Determining value of logistics costs in projects: empirical findings based-on executing several cement projects in Indonesia. *Heliyon*, 6(7).

- Xie, Y., Zhao, Y., Chen, Y., & Allen, C. (2022). Green construction supply chain management: Integrating governmental intervention and public–private partnerships through ecological modernisation. *Journal of Cleaner Production*, 331, 129986. <https://doi.org/10.1016/j.jclepro.2021.129986>
- Zakaria, A. H., Firdaus, F., Arifin, K. F., Munawar, M. S., & Gunawan, A. (2023). Pengaruh Penerapan Kebijakan Tkdn (Tingkat Komponen Dalam Negeri) Terhadap Daya Saing Produk Keramik. *Jurnal Ekobis Dewantara*, 6(1). https://doi.org/10.30738/ed_en.v6i1.3330