

# Nawroz University Status in Webometrics and the Impact of Performance Development Plans on Improving its Ranking

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For the last ten years, Webometrics Ranking WR has become one of the most reliable and firmly established academic ranking systems in the world. In accordance with the international direction, like any emerging higher education institution looking forward to building eligibility and competence, Nawroz University NZU has perceived the vital need of extracting and tracking indicators with modern dimensions in order to evaluate performance effectively. In addition, the university could benefit from these indicators in charting the features of its scientific and academic plans. Therefore, since the end of 2016, the university has started reviewing and developing plans and programs to reshape its institutional environment according to international standards. Consequently, WR indicators have been used as one of the main resources for reviewing and assessing achievement. This article is an approach to study and analyse the university position of WR during the period from January 2016 to January 2020. Also, it aims to measure the growth rate and the level of cumulative growth in university ranks during the study period. Moreover, the study tries to clarify the role of Scientific Affairs Sector Plan SASP for the period 2017-2019 and NZU's retrofitting steps to improve the University's ranking in WR at a growth rate of 4% for each six months. In conclusion, the article has found that this rate decreased in the last edition, which requires the university to develop its plans for the purpose of achieving sustainable growth.

**Key words:** *Webometrics Ranking (WR), Presence Rank (PR), Impact Rank (IR), Openness Rank (OR), Excellence Rank (ER).*



## Introduction

In 2004, the Spanish National Research Council started developing one of the most important and successful ranking systems in the world: Webometrics Ranking (WR). In this system, academic and scientific institutions are classified according to a set of indicators that measure their activities and development included and presented in their websites. This ranking has attracted more attention and interest from universities as a result of the growing awareness of their website's importance in the academic process due to what electronic publications and online content could achieve in scientific communication and cooperation. Thus, the Internet has become the most important mediator for science and academics in promoting the tasks of scientific research and technology transfer (Cronin & McKim, 1996 and Aguillo, Fernandez & Ortega 2008).

For a few years, there has been a common misconception about WR, which was adopted by many leaders of academic institutions, research foundations, and some scientific communities who believed, mistakenly, that this system measures the structural specifications and design of websites. Actually, this ranking is dealing with the university website as an institutional mirror reflecting its academic capacities, and as a main platform for scientific communication with the world to foster international partnerships. Therefore, the major objective of the WR project, as stated on the ranking website, is motivating scientific institutions to develop their sites to promote Open Access to information on the internet by universities (Jati, 2014). Hence, it has become an easy tool for “communicating ... presence and developments” (Ayoub, Raashida, Sumeera, & Ashraf, 2019).

In this regard, it is necessary to have a look at the methodology of Cybermetrics Lab (CL), the publisher of this ranking, which is a research group of the Spanish National Research Council. They state, “The Ranking Web is not a ranking of the websites of Universities, it is a Ranking of Universities” (<https://www.webometrics.info/en/Methodology>).

During the last years, WR has been considered a priority for most scientific institutions and universities all over the world as a consequence of the convergence of its results with other ranking systems, and the reliability of its indicators in examining the contents of web institutions. Besides, WR has proved the ability of its indicators to indirectly measure the performance of joint institutions in spite of the conventional difficulties and challenges facing this task.

The CL's philosophical principles and justifications documented on the WR website state that the ranking indicators: Presence, Impact, Openness and Excellence, which cover all tasks that can be measured directly, in addition to other tasks that are measured indirectly, but are related to institutional performance such as Bibliometric activities such as research mission, education

tasks, or the so-called third mission, technology transfer, and community engagement (Table 1).

At present, many authors tend to consider that the requirements of WR could guarantee a great opportunity for universities to prove their credibility, participation in community service, and commitment to meet the highest level of transparency in revealing their activities on their websites. Meanwhile, WR encourages universities to express their competitive advantages by networking internationally and participating in the global scientific community by making it possible to display their research production on their websites via the Open Access Policy.

At the same time, some authors believe that WR has contributed in enhancing education quality, developing marketing and partnership strategies, and increasing the flow of scientific research publications. They theorise that this promising ranking system has a contribution in directing institutions towards providing advanced systems and technologies to enhance their competitiveness (Khamala, Makori & Njiraine, 2018; Shevchenko & Loktyushina, 2016).

**Table 1:** The meaning and description of WR indicators and its weights

Indicators	Meaning	Description	Source and Weight
Presence	Public knowledge shared	Size (number of pages) of the main web domain of the institution. It includes all the subdomains that share the same (central/main) web domain	Google 5%
Visibility (or Impact)	Web contents	Number of external networks (subnets) linking to the institution's webpages. (normalised and then average value)	Ahrefs Majestic 50%
Transparency (or Openness)	Top cited researchers	Number of citations from Top 110 authors (excl. top 10 outliers). See <u>Transparent Ranking</u> for additional info	Google Scholar Citations 10%
Excellence (or Scholar)	Top cited papers	Number of papers amongst the top 10% most cited in each one of 26 disciplines database. (Data for the five-year period (2013-2017))	Scimago 35%

**Source:** Webometrics university ranking methodology (January edition, 2020)



## **Aim of the Study**

NZU, like any other university, isn't isolated from the world as forming visions, goals, and strategies with an international horizon is no longer an option, but a compulsory path imposed by the rapid global developments in higher education. In the same vein, it must be noted that the internationalisation of the university and the entry of global competition is almost impossible in the near future as long as the university is operated according to the local educational system, which is directing most universities in Iraq. However, this should not block us from working to form the appropriate climate and to prepare the university environment to be more suitable in the future to exceed the local context, and start forming the educational and academic systems of the university according to the international standards of higher education. The article aims to measure the rate of growth and the level of cumulative growth in university ranks during the period from January 2016 to January 2020. It also highlights the role of Scientific Affairs Sector Plan (SASP) for the period 2017-2019 and NZU's retrofitted steps to improve the university's ranking in WR with an average growth rate of 4% every six months.

## **Nawroz University (NZU)**

Nawroz University is a newly established private university in the Kurdistan Region of Iraq, which was first founded in 2004 under the name of Duhok University College. In 2009, the college, consisting of five scientific departments, has been turned into a university of five colleges and thirteen scientific departments. In addition, the new born university has embodied five specialised centres: the first for scientific research, the second for managing information technology requirements, the third for managing curriculum and accreditation and quality assurance affairs, the fourth is specialised in training & teaching skills development, and the fifth is the centre of languages and translation. Also, every college of the university has a specialised unit for scientific consultations to serve the civil, public, and private sectors. The number of students in the academic year 2019-2020 reached about three thousand five hundred while the number of professors amounted to one hundred and seventy.

Throughout the period from 2009 till now, the work vision of NZU has significantly evolved. Developments have taken place in two phases: the first started in 2009 and ended in the 2016 academic year. The academic practices and administrative procedures at that phase were fully characterised by following the classical administrative performance known in most Iraqi universities that adopt a local tendency. The vision and objectives at that time were based on the principle of developing performance, excellence in procedures and documentation by establishing an accurate, streamlined, and high-flow paper system with an operation re-engineering system whenever need arises.

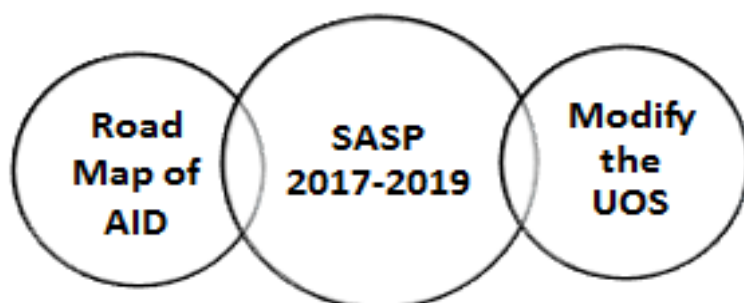
At the end of this stage, NZU had attained a breakthrough in the classical performance style, achieving complete stability in the organizational structure of the university, localizing employees successfully, and setting forms for all procedures to ensure coherence in performance, documentation, and archiving. Besides, procedure control was accomplished in a way that does not allow any kind of administrative randomness, selectivity, or confusion. Considering the second period of organisational progress, it started at the end of 2016 and has continued till now. It has been launched as a result of the conditions and challenges of national & international competition and its various implications, such as the low outcomes of the university ranking in WR and Notional University Ranking NUR in the Kurdistan region of Iraq.

In this stage, NZU has begun adopting a new policy for moving from classical administrative performance patterns to using modern technology, establishing electronic programs for managing different activities, and starting an ambitious project for international accreditation and institutional development.

### **NZU Plans and Updating Steps**

The overall target of NZU when it launched the policy of development and modernisation at the end of 2016 has been to develop and reshape the university environment in order to make it adaptable with the international leaps in the higher education sector. In this context, one of the most important directives of this development policy is to benefit from global experiences in dealing with rankings, not on the basis that they are goals only, but as one of the plan references that can be a useful tool to enhance the university's missions by revealing its strengths and weaknesses (Chan, 2016). The steps of development have proceeded in three main directions: the first was to create SASP, the second by drawing a road map for Accreditation and Institutional Development (AID), while the third direction was to adjust the University Organisational Structure (UOS).

#### **First**



The first direction related to creating SASP was based on five main foundations as governing references, namely international reliability standards, official instructions, global experiences,

previous self-evaluation outcomes, and WR and NUR standards. SASP consisted of five goals representing NZU's vision and philosophy for the university's internationalization path. It aimed to achieve five goals that included forty-two objectives (Table 2).

**Table 2:** The Orientations, Goals, and objectives of SASP

Orientations	Goals	Summary of the forty-two objectives
Accreditation & Curriculum Development (ACD)	Adopt the best of International practices in educational process and developing curricula	Providing ACD project requirements
		Circulating the project on all scientific departments
		Review & processing the curriculum distortions/Transition to semesters system
Quality Assurance	Re-engineering the education and management QA system to achieve a professional & effective model	A new procedure for using central DB in archiving and statistics
		Develop the components of QA/Components consistent with ACD/QA of HR/QA of services
		Measurement policy of institutional performance efficiency
		Study and analyse ranking systems criteria
E-Systems and Automation	Transferring the university towards the use of E-Systems in all administrative units	Develop E-Systems: QA/Alumni DB/Library/ E-Learning/HR/ Statistics/
		Create new E-Systems: Student Profile/Central library/E-Repository/Employment/Conferences/symposium/Training
Scientific Research & Development	Increase research achievement & develop the performance of Research and training centres	Develop the performance of CSR/CTTM/Scientific Journal. Create new Journal
		Create a registration and authentication E-platforms of CSR & CTTM
		Research Encouragement Policy/ Research Fee System/ Capacity building of teachers
		A new policy for teachers' recruitment
Cultural Relations & Community Service	Expanding the relationship with the local society and building productive relationships	Develop the missions of cultural relations
		A new policy for marketing and promoting services to diversify financial revenues
		Policy of Productive relationships with local society/Global institutions/International donor organizations

	with international institutions	Redefining and introducing NZU to the local community and the world
		A new policy for career centre

## Second

According to the second direction, which is connected to mapping AID, the Centre of Assessment and Quality Assurance (CAQA) of NZU was established in conjunction with starting SASP's work as a tool of reference in quality issues, institutional evaluation, providing assistance in planning the institutional improvement, and maintaining a comprehensive and effective institutional process. This centre has another contribution in developing operations related to the quality assurance process, and rebuilding the academic curricula in accordance with quality and accreditation standards (<http://web.nawroz.edu.krd/assessment--qa>).

The first step in CAQA's plan was to reformulate the university's vision, goals, mission, and core values (Shalal, 2017), so that the SASP orientations and goals are consistent with the university's philosophy and policy (Table 3) (Shalal, 2017 & 2018).

**Table 3:** NZU objectives and alignment matrix of SASP orientations and sub-objectives

NZU Objectives	No. of SASP objectives that are consistent with	percentage weights	Orientations of SASP				
			Accreditation & curriculum	Assurance Quality	Automation	E. Systems & research & Scientific	Cultural Relations &
1. Provide faculty development support and research opportunities	16	38%	√	√		√	√
2. Maintain the use of modern instructional support facilities and services	15	36%	√	√	√		
3. Maintain quality and meet standards in teaching and learning	17	40%	√	√	√		
4. Recruit and retain qualified and dedicated faculty and support staff	10	24%	√	√		√	

5. Integrate the Kurdish culture, heritage and values into academic disciplines	7	17%	√		√
6. Participate actively in community events	8	19%		√	√
7. Offer continuing education opportunities for learners in the community	8	19%		√	√
8. Improve communication channels for alumni and employers with NZU	6	14%		√	√
9. Create a healthy and attractive academic environment	2	5%	√		

### Third

Concerning the third direction, the organisational structure was modified in order to achieve two basic goals. The first is expanding the powers of CAQA to be able to manage a long-term development process, while the second goal was to merge the unit of statistics and information with the Information Technology Centre (ITC) in order to secure central management of data. This merging step had great importance in ensuring the existence of a focal database that facilitates the process of data collection, updating, and circulation while maintaining its centralisation. In addition, this focal database is one of the important means of integration and interaction between the first and second directions in the development policy. With regard to the first direction of building SASP, the central database has become the incubator for all the inputs and outputs of the electronic systems that represented the third main goal in the plan. Besides, it is influential in facilitating the process of dealing with the shared ranking systems in which the university is located. As for the second direction in development policy, data managed centrally would facilitate the implementation of the CAQA function in institutional development, as well as being fully consistent with its mission in institutional research processes that need data for analysis and preparing reports.

### NZU Philosophy of Enhancing Presence

Obviously, the WR indicators provide a good asset for academic and research institutions when they intend to design their websites or update their list as these indicators can be the basis of effective policies to improve the content of the sites (Ramezanghorbani, Hajiabedin & Heidari, 2019). For this reason, WR indicators were adopted as one of five references core to SASP. Despite the vitality of this linkage between SASP and the criteria of improving the university ranking, improvement itself does not represent a major goal, but the linkage contributes in



achieving two interrelated goals. The first is to analyse and study the requirements of the criteria in order to include them in the plan for the purpose of enhancing the virtual presence of the university on the Internet. The second goal is related to the items of the plan itself which would not be completed without the website. Table 4 represents the Alignment Matrix between SASP orientations and some components of the volume of web index that were one of the plan's major directives. The table's columns from the first to the third represent some of the tasks and activities that can be included in the website to reflect the features of the university's academic style and performance (Aguillo, 2014).

**Table 4:** Some components of volume of web indicators and the alignment matrix of SASP Orientations

Missions	Web Contents		Orientations of NZU's SASP				
			Accreditation &	Quality Assurance	E. Systems &	Research &	Cultural Relations &
Governance	Long-term Strategy	Policies, priorities, resources mentioned/web	√	√			
	Internal Organisation	Reflected in the web hierarchy & (subdomain/direction)			√		
		CMS responsibilities and rules					
	QA & Transparency	Open public reporting		√	√		
	Attraction of Talent	Web showcase: Info for future student & candidate faculty members					
	End-user Oriented Policies	General info: Mission, Vision, History, Community, Fact & Statistics, News, Highlight,	√		√		
		Publication			√	√	
Emergency info							
Education	Schools & academics	Departments & Disciplines: Degrees, Courses, Programs, Labs, Requirements, Calendar,	√		√		
	Library	Repository of teaching objects Digital Library			√		

	Distance/Online Education	Interactive Resources: Learning Platform	√		√		
	Social Media	Web 2.0 network & tools					
Research	Basic & Applied Research	Research group webpages				√	
		Personal webpages		√	√		
		Projects; Resources; Funding, services, Super-site					
		IT & Computing			√		
	Library	Repository of academic papers/thesis & dissertation					
3 <sup>rd</sup> Mission	Community Engagement	University-City-Region Portals					
		3 <sup>rd</sup> parties web hosting: Health, Arts, Culture. NGOs, Sports Social, Environmental Responsibilities .....					√
	Tech. Transfer	Network, consortia, Resources, Technological parks, Spin-offs					
	Knowledge Transfer	Consulting services, foundations				√	√
	Internationalisation	Strategies & Business Model, Global Networking					

### NZU's Ranking Data Analysis

Both the university and the author have no available information about the results of NZU participation in WR before the January 2016 edition. Also, they do not have information relating to the first participants in this ranking. NZU's interest in this ranking started a few months before the January 2017 edition, where a joint working group from the scientific affairs sector and the ITC was created at the university to develop a series of procedures and measures to secure the effective treatment for the data and statistics about activities and events of the university. This data treatment policy included centrally managing, circulating, and updating data and statistics, and to display them on the university's website too. ITC has embarked on the implementation of the SASP related part and created a suite of software on the path to management automation. In this context, one of the most important tasks of the team was to investigate the best ways and practices that ensure dealing seriously with the WR indicators' requirements according to the highest levels of accuracy, transparency, and credibility.

The team's efforts were concurrent with the launching of the NZU's work plan and updating steps, and as a result of that, the university achieved rapid development in world rank, ranking at the regions level, and indicator ranks in all WR editions during the period from January 2017 to July 2019 (Tables 5 and 6).

It is important to point out some notes related to the data used in the article, that during the last four editions at least (according to the authors' information), the CL group has been making some adjustments and modifications on the final results after being announced. This decision was due to violation of the principles of transparency and credibility by some universities. That happened with the Iraqi universities in the edition of July 2019, where the CL group reduced the final grades of all universities by 10% (equivalent to the weight of the Openness indicator), as a collective punishment due to the violations discovered in the data of a limited number of universities. The original result of the NZU rank was equal to 16917, but the modified version reduced the rank to below 19000. In this study, the author adopted the university's rank before modifying the results for three reasons:

- A. First, the NZU policy, since the formation of the work team, has adopted the principle of transparency and credibility in dealing with WR.
- B. The second reason, both university and author were firmly convinced that the university's rank before the amendment reflects the reality of the university's position in this ranking, as the result is fully consistent with the development of the university's rank as shown in Table 3.
- C. As for the third reason, the rankings and their results are not a goal as such, but they are indicators that can be used to signal the strengths and weaknesses of the university; which necessitates the use of real results before amendment as measures and evaluation methods, which is considered the essential goal of the research.

**Table 5:** NZU ranking according to the world and some regions in the study period

Editions	NZU Ranking and Total no. of Universities	World Rank	NZU ranking according to regions					
			Iraq	Kurdistan (All Unis.)	Kurdistan (Private Uni.)	Arab World	Asia	Middle East
Jan. 2016	NZU Rank	22499	53	20	8	.....	.....	.....
	no. of Uni.	24000 <sup>1</sup>	57	21	9	.....	.....	.....
Jul. 2016	NZU Rank	24185	60	23	10	.....	.....	.....

	no. of Uni.	27000 <sup>2</sup>	69	30	12	.....	.....	.....
Jan. 2017	NZU Rank	23858	63	23	9	.....	.....	.....
	no. of Uni.	27000 <sup>3</sup>	75	28	12	.....	.....	.....
Jul. 2017	NZU Rank	21876	56	21	9	.....	.....	.....
	no. of Uni.	27000 <sup>4</sup>	74	26	11	.....	.....	.....
Jan. 2018	NZU Rank	19424	48	18	6	660	8169	998
	no. of Uni.	28000	81	29	12	1018	1293 6	1345
Jul. 2018	NZU Rank	18255	47	19	7	629	7722	960
	no. of Uni.	28000	92	30	13	1135	1308 7	1363
Jan. 2019	NZU Rank	16988	42	16	7	575	7144	918
	no. of Uni.	28000	95	30	13	1149	1319 9	1438
Jul. 2019	NZU Rank	16917	44	16	7	553	7105	888
	no. of Uni.	29000	100	31	15	1159	1357 9	1453
Jan. 2020	NZU Rank	17183	50	19	7	550	7172	696
	no. of Uni.	30000 <sup>5</sup>	105	31	14	1154	1419 9	1258

(1) [koyauniversity.org/node/116](http://koyauniversity.org/node/116)

(2), (3) and (4): In July 2016, the ranking of Halabja University was 26299. This university is a new university in Kurdistan region. According to this situation, the author estimates the total number of the universities in July 2016, Jan. 2017 and July 2017. Other information in the table is from the Webometrics site. (5) The total number of universities participating in the Jan 2020 edition were posted on WR site.

Table 6: NZU ranking according to the WR indicators in the study period

WR Editions	PR. (5%)	IR. (50%)	OR. (10%)	ER. (35%)
Jan. 2016	20697	22047	12193	5439
Jul. 2016	17232	23700	4121	5824
Jan. 2017	17994	24440	8635	5778
Jul. 2017	6101	24864	8171	5722
Jan. 2018	9329	22847	7898	5777
Jul. 2018	4113	22094	8413	5984
Jan. 2019	6306	20958	8605	6017
Jul. 2019	5859	20647	6752	6115
Jan. 2020	5761	21387	5922	6084

The institution rank as a "response variable" changes based on the change of WR editions every six months as an explanatory variable. The first variable is also linked to the change of the number of participating institutions in all editions. Therefore, it is certain that the curve of the relation between the two variables will not be fully reflective of the reality of development. This necessitated the author to amend the data of the variable as a percentage to the total number of institutions participating in each edition. Tables 7 and 8 include adjusted NZU ranks data (AR) calculated using equation (1) under the assumption that the total number of participating universities equal 100 in all editions of the WR, regions, and indicator ranks.

$$AR_i = 100 (R_i)/N_i \quad \dots \dots \dots (1)$$

Whereas,  $R_i$  and  $N_i$  represent NZU ranking and the total number of universities in the  $i$ th edition, respectively.

Although the comparison with the institution's counterparts in its local environment and the international environment is one of the primary and important goals of all ranking systems; the author believes that the evaluation of the institution's rank in general should not be subjected to comparative approaches with other institutions, especially in the first years of establishment.

The most important approach is to measure and evaluate the attitude of the institution itself during a specific time period and compare its subsequent results with the previous ones. Therefore, tables 7 and 8 include the results of calculating and estimating the evolution of NZU ranks in time series under the study using indicators of cumulative ranks improvement percentage (CRP) relative to the first edition in study period and Development Average (DA) per 6 months as calculated by geometric mean according to the following equation:

$$DA = \sqrt[8]{\prod_{i=2}^8 (1 + (CRP_i - CRP_{i-1}))} - 1 \dots \dots \dots (2)$$

**Table 7:** AR and CRP of NZU according to the world and some regions in the study period.  
No. of universities = 100 in the world and each region

WR Edition s	World Rank		Adjusted NZU ranking according to regions											
			Iraq		Kurdista n (All Unis)		Kurdista n (Private Uni.)		Arab World*		Asia*		Middle East*	
	AR <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>
Jan. 2016	94	0%	93	0%	95	0%	89	0%	...	...	...	...	...	...
Jul. 2016	90	4%	87	6%	77	18%	83	6%	...	...	...	...	...	...
Jan. 2017	88	6%	84	9%	82	13%	75	14%	...	...	...	...	...	...
Jul. 2017	81	13%	76	17%	81	14%	82	7%	...	...	...	...	...	...
Jan. 2018	69	25%	59	34%	62	33%	50	39%	65	0%	63	0%	74	0%
Jul. 2018	65	29%	51	42%	63	32%	54	35%	55	10%	59	4%	70	4%
Jan. 2019	61	33%	44	49%	53	42%	54	35%	50	15%	54	9%	64	10%
Jul. 2019	58	36%	44	49%	52	43%	47	42%	48	17%	52	11%	61	13%
Jan. 2020	57	37%	47	46%	61	34%	50	39%	48	17%	50	13%	55	19%
DA	4%		4%		7%		5%		5%		3%		4%	

(\*)The university and the author do not have information about the university rankings at the level of Arab World, Asia, and Middle East regions before Jan.2018 edition.

Table 8: NZU AR and CRP according to the WR indicators in the study period. No. of universities = 100

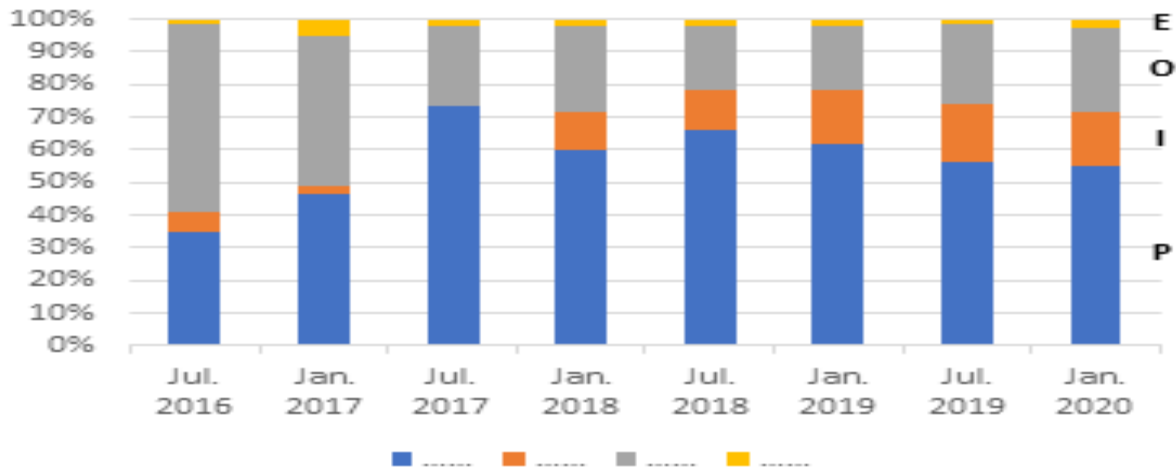
WR Editions	PR. (5%)		IR. (50%)		OR. (10%)		ER. (35%)	
	AR <sub>i</sub>	CRP <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>	CRP <sub>i</sub>	AR <sub>i</sub>	CRP <sub>i</sub>
Jan. 2016	86	0%	92	0%	51	0%	23	0%
Jul. 2016	64	22%	88	4%	15	36%	22	1%
Jan. 2017	67	19%	91	1%	32	19%	21	2%
Jul. 2017	23	63%	92	0%	30	21%	21	2%
Jan. 2018	33	53%	82	10%	28	23%	21	2%
Jul. 2018	15	71%	79	13%	30	21%	21	2%
Jan. 2019	23	63%	75	17%	31	20%	21	2%
Jul. 2019	20	66%	71	21%	23	28%	21	2%
Jan. 2020	19	67%	71	21%	20	31%	20	3%
DA	7%		3%		3%		0.3%	

## Discussion

Between Jan. 2016 and Jul. 2019, improvement and growth have been achieved in the NZU ranking at increasing rates, especially after the Jul. 2017 edition in which there was a big boom in all ranks. This improvement faded in the edition of Jan. 2020 (Table 7).

The stacked bar chart in Figure 1 shows the manifestations of improvement in the CRP series of AR according to the world, Iraq, and Kurdistan Region (in its two branches; the private universities series and the all universities series). It also shows the disappearance of improvement in the last edition, as a result of the growth shift to 1% in the world rank (almost close to zero) and negative in other regions. The author believes that the reasons for the point of reversal in the ranking in the last edition are mainly due to the performance of the university, and to a lesser degree, to competition with other universities. The reasons for this point of reversal can be deduced from the NZU ranking according to the indicators.

**Figure 1.** Stacked bar chart of NZU’s CRP according to the world and some regions for the study period.



Accordingly, the author also believes that the growth in the NZU ranking may remain at zero or less in the next WR editions, as long as the greatest improvement achieved during the study period in the series of indicators ranks with relative run-down (presence and Openness) (See CRP values in table 8). In figure 2, the volume of growth achieved in AR can be found depending on four indicators and regions and areas occupied by the CRP of PR and OR.

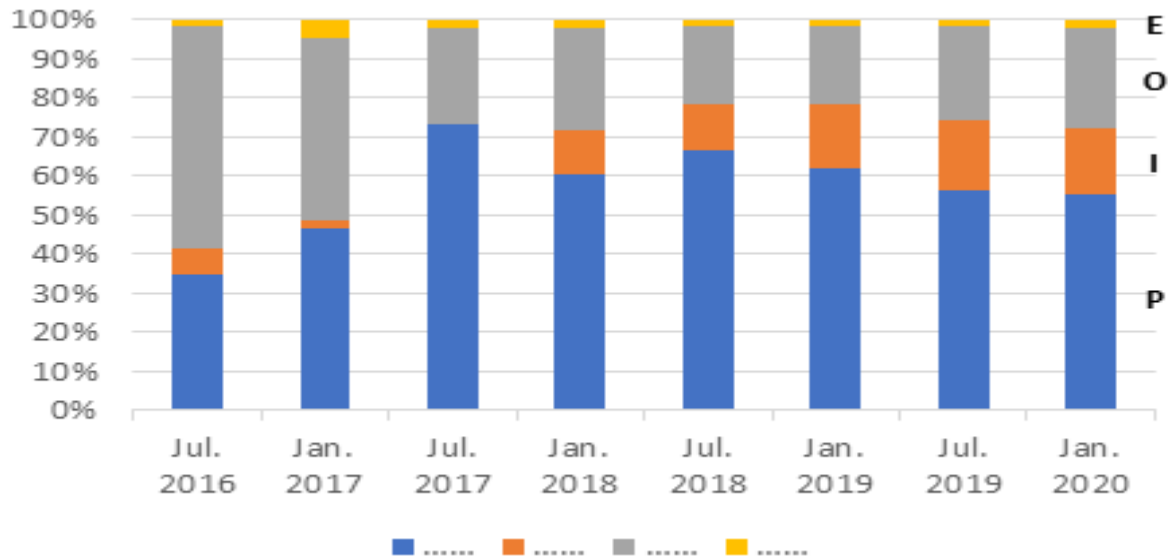
As for the impact indicator, or the so-called visibility, which constitutes half the weight of the WR, it can be considered most closely related to the university missions, and is most consistent with the concept of internationalisation concept in higher education.

Whenever the university’s website receives external links from other websites interacting with its missions, achievements, and information that it makes available to the outside world, whether by formal or informal scientific communication, it is an indication of the higher academic and scientific position of the university, as well as the service quality it provides.

Based on this, the success of any university in improving its ranks according to the technical and scientific requirements of this indicator is an achievement that has a major effect on the overall result of the university world rank.

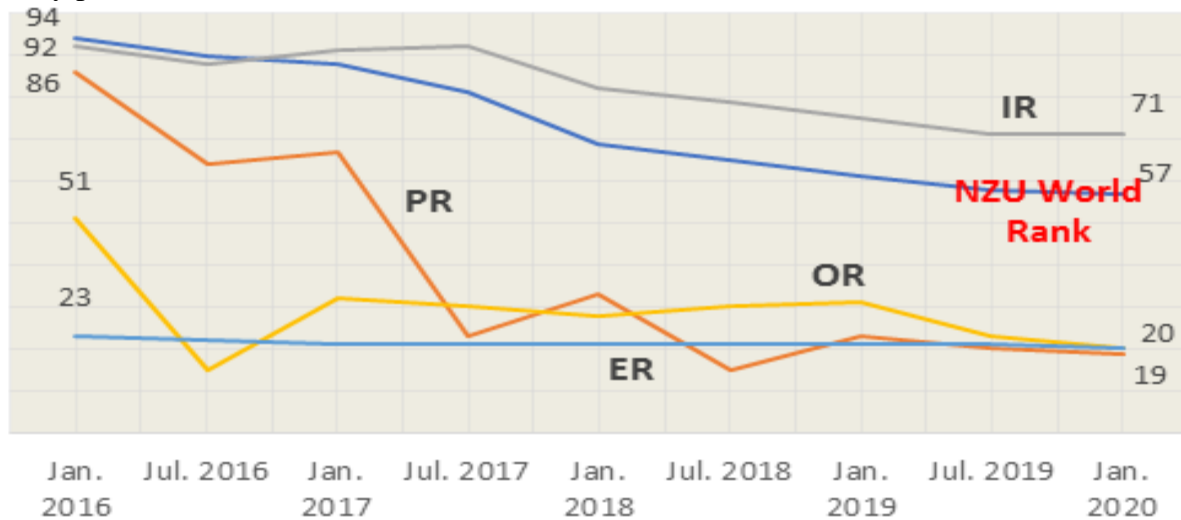


**Figure 2.** 100% stacked column chart of CRP of NZU according to the WR indicators for the study period.



Relying on this indicator, on the one hand, NZU was ranked 21387 in Jan.2020 edition, which is considered a low rank in the world rank and when compared to university ranks relating to other indicators (Tables 6 and 8). However, on the other hand, that doesn't mean we can't say that the improvement rate during the study period was good compared to the situation in the first edition since the value of AR was 92 and it became equal to 7 in the last edition: thus, the value of CRP was 21%. Both the behaviour of the IR series with its high relative weight equal to 50% of the total competitive university degree, greatly affects the series behaviour of the NZU world rank (as a weighted average of the indicator ranks). Therefore, the influence of the impact indicator led to some similarities and consistency in the trends and patterns between world rank curves with the IR curve (Figure 3).

**Figure 3.** NZU's AR development according to the world rank and main indicators for the study period. No. of universities = 100



As for the Excellence indicator, it is the one that measures the research accomplishment of the university through statistics that demonstrate the number of international papers among the top 10% most cited in 26 disciplines in the period 2013-2017 (Table 1).

Depending on this description, the success of universities, especially the new ones, in providing the requirements of this indicator necessitates continuous plans and permanent efforts for years to establish regulations for scientific research and to build the capacity of academics in the field of international research and publishing.

Since the establishment of NZU till the end of 2016, the research sector has had limited capabilities and achievements as the research production did not exceed one scientific research paper per each 3 teachers and a few local scientific conferences and seminars. Definitely, this situation led to the slowest-growing ER series in other indicator rank series, where the CRP's value was not more than 3%, while DA's value was equal to 0.3%.

In SASP, scientific research development was one of the five main goals (Table 2). Hence, one of this plan's output was that the university has become able to establish and develop new components in the research and development sector, with most of them not available at the university previously, such as international conferences, seminars, and workshops. Besides, teachers and students exchange programs with foreign universities, and issuance of an open access scientific journal with the membership of ROAD and Crossref as a first step. In addition, implementation of this plan contributed to realizing a partial development (limited but acceptable advancement at the current stage) in some scientific research skills of teachers by creating research teams with other universities to perform international research. Worthy mentioned that, for the first time in the university's history, it achieved in 2018 and 2019 a ratio



of 0.10 and 0.20 impact factor for each teacher respectively and a ratio of one research paper for each teacher. These efforts could support the university's website on ER and WR in the foreseeable future, and might at least stop the negative growth in it, but only if two conditions are met: First, the university must continue sustaining the momentum of its efforts in the research and development sector to make its final production, in quantity and quality, in the race. The second condition is contingent on the CL group's screening period to cover 2018-2019 instead of being only between 2013 and 2017, as NZU developed its performance significantly in the aforementioned period between 2018-2019.

### **Recommendations**

Over the past twenty years, global advanced universities have devised various strategies and tested multiple options to develop performance and ensure continuous improvement. This was done in order to be able to survive and compete in a rapidly changing world. Those universities succeed in the governance and management of their education, research, technological systems, and financial management mechanisms, which would not have reached progressing levels without a set of essential characteristics like being transparent, open to the internal environment of the university, and integrated in interactive communication with global counterparts all over the world. As a consequence, their websites have become the reflective mirrors of what they have reached in their missions, performance, and the magnitude of huge technological developments that have been involved in the educational process.

In light of these facts, it is not necessary to start from zero or think about inventing the wheel. Obtaining the latest global innovations in the education and scientific research fields has become easier than before, whether they are freely offered via open access systems, or obtained by partnerships, agreements, and other technology transfer means. The author has discussed in this paper the WR indicators and demonstrated a view that they do not represent a goal in themselves as far as they are useful means to evaluate the institutional development. Besides, these indicators expand the horizon to apply the available global innovations concept. Based on this, and according to what is mentioned in this research, the author recommends the following:

- A. Using the WR standards as a part of NZU's policies and programs since the end of 2016 successfully guided and focused plans on new concepts and strategies in the university's environment. Consequently, we believe in the importance of continuing this approach, provided that the indicators remain within the means, not the goals.
- B. The success in improving the NZU position in the world rank was a result of the significant progress in the PR and OR, and to a lesser degree in the IR, which the university team



committed to analyse, study, and reinforce in light of its success in the first two ranks, and to avoid the shortcomings of the third rank.

- C. It has to be taken into consideration that NZU's IR was so bad in the first edition, it makes the university less impressive. Therefore, the university must work to develop the sector of information technology to be able to cover the overall tasks of the educational and research process and activities of an international dimension. It became clear that ER improvement is almost non-existent, which places on the university a heavy responsibility in inventing new methods to develop scientific research. This could create a better scientific productive capacity that would help the university to be easier to contact and be more attractive. It also requires setting new policies for capacity building, bridging the knowledge gap, and attracting & recruiting highly skilled teaching staff who are experienced in international scientific research and publishing.
- D. The decline of the cumulative growth index CRP in the last version Jan. 2020 makes the university obliged to take the necessary steps to study the reasons, whether it is technical, administrative, scientific, or academic, and to follow prompt measures in the first stage to stop negative growth in the university ranking. A review and evaluation must be made to restore growth towards a positive direction. The author believes that the scientific affairs sector and the information technology team should work to develop new plans that complement the SASP plan, as well as create new organisational software in sectors that have not yet been automated. This is because the decline in the last edition as seen by the author is not solely due to competition, but because the SASP has exhausted all its capabilities to achieve sustainable positive growth.



## REFERENCES

- Aguillo, I. F., Ortega, J. L. & Fernandez, M. (2008). Webometric ranking of world universities: Introduction, methodology, and future developments. *Higher Education in Europe*, 33(2-3), 233-244.
- Aguillo, I.F., Granadino, B., Ortega, J.L. & Prieto, J.A. (2006). Scientific research activity and communication measured with cybermetric indicators. *American Society for Information Science and Technology*, 57(10): 1296–1302.
- Aguillo, I. F. (2014). Ranking Web of Universities Status and practical issues of the Bosnia-Herzegovina universities. Retrieved from <https://digital.csic.es/bitstream/10261/131229/1/Aguillo.pdf>
- Ayoub, A., Amin, R., Amin, S. & Wani. Z. A. (1996). Global visibility and web impact of leading universities of SAARC nations. *Library Philosophy and Practice (e-journal)*. 2, 13, 112-129. <https://digitalcommons.unl.edu/libphilprac/2443>
- Cronin, B., Mckim, G. (1996). Science and scholarship on the World Wide Web: A North American perspective. *Journal of Documentation*, 52(2):163-171.
- Jati, H. (2014). Weight of webometrics criteria using entropy method. *10<sup>th</sup> International Conference on Webometrics, Informetrics and Scientometrics & 15<sup>th</sup> COLLNET Meeting*: 265-268.
- Khamala, D. F., Makori, E. O. and Njiraine, D. M. (2018). Webometrics ranking and its relationship to quality education and research in academic institutions in Kenya. *Library Philosophy and Practice (e-journal)*. 0, 1 , 147-156. Retrieved from <http://digitalcommons.unl.edu/libphilprac/2020>
- Kunosić, S., Čeke, D. & Zerem. E. (2019). Advantages and disadvantages of the webometrics ranking system, DOI: 10.5772/intechopen.87207. Retrieved from <https://www.intechopen.com/books/scientometrics-recent-advances/advantages-and-disadvantages-of-the-webometrics-ranking-system>
- Mohammed Ali, H. T., (2017). 2017-2019 scientific plan report of Nawroz university - Technical report. Retrieved from: [https://docs.google.com/gview?url=http://web.nawroz.edu.krd/documents/1148/%D8%AE%D8%B7%D8%A9\\_%D8%A7%D9%84%D8%AF%D8%A7%D8%A6%D8%B1%D8%A9\\_%D8%A7%D9%84%D8%B9%D9%84%D9%85%D9%8A%D8%A9.pdf](https://docs.google.com/gview?url=http://web.nawroz.edu.krd/documents/1148/%D8%AE%D8%B7%D8%A9_%D8%A7%D9%84%D8%AF%D8%A7%D8%A6%D8%B1%D8%A9_%D8%A7%D9%84%D8%B9%D9%84%D9%85%D9%8A%D8%A9.pdf)



Shevchenko, D. and Loktyushina, Y. (2016). Webometrics ranking: Russian Universities' quality and competitiveness indicator in the world market.

Retrieved from [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2724701](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2724701)

Shalal, M. A. (2017). On the path of academic accreditation: An outline of a two-phase Plan. *Academic Journal of Nawroz University*, 6(3): 64-70.

Shalal, M. A. (2018). Alignment of curriculum elements at the course level: Two useful tools. *Academic Journal of Nawroz University*, 7(3): 85-92.

Ramezanghorbani, N., Hajiabedin. R. M. and Heidari, R. N. (2019). Some effective factors on the webometric status of selected universities of medical sciences: Lessons learned from Iran. *Iranian Journal of public Health*, 48(6): 1116–1123.