

Employee Turnover in a Tertiary Hospital in Rwanda: Baseline Analysis of the Trend

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ABSTRACT

INTRODUCTION: Turnover is an important issue to monitor properly as it is associated with many consequences, including monetary costs. This study aimed to determine the rate, types, and factors of employee turnover in the largest public teaching hospital in Rwanda.

METHODS: Archival documents were used to document rates, types, and factors of employee turnover at the University Teaching Hospital of Kigali (CHUK) during the 2012–2022 period. Ethical clearance was acquired before data collection.

RESULTS: The overall turnover rate was 4.87%. Higher annual rates were attributed to either decreased staff fringe benefits, massive recruitment in facilities offering better payments, or restructuring. The median age of employees at exit was 40.45 years, mostly female employees (58.5%). Most cases were married (55%), Rwandans (95%), and residing in Kigali City (47%). Surgery (17%), Administration (13%), and Obstetrics and Gynecology (11%) were the most implicated units. Median for work experience was 9 years. The main reasons for separation are personal or resignation (42%), leave of absence (14%), restructuring (12%), retirement (11%) and dismissal (11%). Highly qualified employees and those with experience ≥ 20 years represented 14% and 30% of the exiting staff, respectively. Involuntary turnover (31%) was the main type of turnover. Involuntary and voluntary unavoidable turnover types were associated with higher age ($P < 0.0001$) and long work experience ($P < 0.0001$).

CONCLUSION: The overall turnover rate at CHUK is within an acceptable range, but annual fluctuations reflect experienced negative motivational factors. Moreover, avoidable departure of high- or rare-skill staff was noted, sparking the need to implement staff retention strategies.

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Received: November 23, 2024

Accepted: March 7, 2025

Published: March 31, 2025

Cite this article as:
Rugwizangoga et al. Employee
Turnover in a Tertiary Hospital
in Rwanda: Baseline Analysis of
the Trend. *Rw. Public Health Bul.*
2025, 6 (1): 33–42. <https://dx.doi.org/10.4314/rphb.v6i1.5>

Potential Conflicts of Interest: No potential conflicts of interest disclosed by all authors. **Academic Integrity:** All authors confirm their substantial academic contributions to development of this manuscript as defined by the International Committee of Medical Journal Editors. **Originality:** All authors confirm this manuscript as an original piece of work, and confirm that has not been published elsewhere. **Review:** All authors allow this manuscript to be peer-reviewed by independent reviewers in a double-blind review process. © **Copyright:** The Author(s). This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY-NC-ND), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. **Publisher:** Rwanda Health Communication Centre, KG 302st., Kigali-Rwanda. Print ISSN: 2663 - 4651; Online ISSN: 2663 - 4653. **Website:** <https://rbc.gov.rw/publichealthbulletin/>

INTRODUCTION

Employee turnover rate is the proportion of an organization's workforce that leaves during a specific period, regardless of reason, and needs to be replaced [1]. It is associated with many consequences, including hampering the effectiveness, productivity, profitability, and innovative efforts of the institution [2]. For example, employee turnover involves monetary costs, which are classified into direct (such as recruiting new staff, investing in training, and orienting the new staff) and indirect (associated with using inexperienced staff) costs [3-7]. In addition, intangible costs happen, such as client dissatisfaction and demoralized departments due to unduly increased workload to the remaining staff [3, 6, 8, 9]. It is estimated that the cost of an employer turnover can be as high as 150% of that employee's annual compensation [4, 6, 7]. It is, therefore, imperative for institutions to keep employee turnover rates as low as possible.

To keep the employee turnover rates in the standard ranges, it is important to identify the categories and factors of the turnover. The broad types of employee turnover are voluntary or employee-initiated (which can be avoidable or unavoidable) and involuntary or employer-initiated (such as those due to discharge or downsizing) [10]. Controllable factors of employee turnover overlap, to some extent, with the factors of the psychological risks of the job, as described by the European Working Conditions Survey (EWCS) [8]. In summary, job demands, available resources, and experienced motivational processes influence the employee's health and well-being. It is noteworthy to state that for multiple job holders, some of these factors may emerge from employers other than the main one [8]. Data on employee turnover in Africa is rare. Available data from South Africa show that the main causes of employee turnover are the lack of career advancement, lack of promotion, unsatisfactory salary, unsatisfactory working conditions, and work stress [2]. A recent study involving cases from Ethiopia, Korea, and Rwanda recommended implementing good human resource development programs to control the turnover and turnover intention of employees [11]. Previously, the Rwanda Public Service Commission reported that employee turnover in public institutions is very high, while the process and procedure to

fill vacant positions is tedious [12]. While the employee turnover rate in Rwanda in sectors other than health is reported to be 18% in central and local government, 10.8% in the judiciary, and as low as 1.4% in the education system [13], such a rate is in average 8.7% for public sector health workers [14].

To date, data on employee turnover at the University Teaching Hospital of Kigali (CHUK) has not been documented. Determining the rate, causes, or associated factors would inform managers to improve and/or maintain in the management of human resources. Also, this study is among the international standards required for health facility accreditation, for example, the standard 2.1.1.4 of the Council for Health Service Accreditation of Southern Africa (COHSASA) [15]. This study aims at determining, for the first time, the rate and factors of employee turnover at CHUK.

METHODS

Study design, setting, population, and duration

This is a retrospective study conducted at CHUK; the mainstay is the Directorate of Human Resource Management (HRM). It included all employee turnover cases for a period of 10 years (July 2012–June 2022). This period incorporates the pre- and post-restructuring era at CHUK (restructuring happened in phases between 2012 and 2016). Data were collected from December 2021 to August 2022.

Data collection procedures

Turnover cases were identified from changes in payrolls (July 2012 – June 2021) and the quarterly reports of HRM (July 2016 – June 2022). Thus, a list of turnover cases was established, and a unique code was assigned to each case to anonymize the data. Their complete files were retrieved from HRM archives to document their demographic data (age, sex, residence district, nationality), date of recruitment, date of turnover, the reason for turnover, exit interview, job title, employment mode (permanent/time-limited contract), career development antecedents, educational attainment, KSAOs, health, and disciplinary antecedents. Moreover, gross salary at exit was retrieved from the payroll of the month preceding the turnover for each employee. To calculate annual employee turnover rates, we used the total number of

employees on 30th June of each fiscal year.

Inclusion and exclusion criteria

Any staff of CHUK who left the institution during the study period either permanently or for undetermined sabbatical leave or study leave that needs replacement. The study excluded CHUK staff who left the institution for short-term periods such as maternal, sick, and study leave that did not need replacement. Staff working for outsourcing companies (security, hygiene, information technology help desk) by CHUK were also excluded from this study.

Sample size estimation

The sample size is estimated employing the following formula: $N=(Z^2 \times P(1-P))/d^2=(1.96^2 \times 0.10(1-0.10))/0.05^2=138,3 \approx 139$

Where: N= size of the sample; P=10.0% (considering the average turnover rate in different public services in Rwanda [13], Z= 1.96 (significance level), d = Precision (0.05) at 95% confidence interval (CI).

Data management and statistical analysis

Anonymous data were entered into a pre-tested data collection sheet. Data compilation was performed using Microsoft Excel software and exported to International Business Machines Corporation (IBM) Statistical Product and Service Solutions (SPSS) 28.0 (IBM Inc., New York 10504-1722, USA) for analysis (tabulations). Statistical analysis was run on GraphPad Prism 9.5 (GraphPad Software, Inc., CA 92037 USA). We employed the Chi-square test for comparing proportions, and the Kruskal-Wallis test for median comparison, accordingly. Association between variables was considered statistically significant if a two-tailed P value <0.05.

Ethical considerations

Ethical clearance was obtained from the hospital research ethics committee (Ref. N° EC/CHUK/121/2021) prior to the data collection. The identity of participants was protected throughout the study and the dissemination of its findings. Data collection documents are kept in a locked place where only the principal investigator has access. The anonymized electronic information is kept in a password-protected computer. No employee particulars are disclosed in the disseminated findings.

RESULTS

The 10-year period recorded 376 employee turnover cases. During the in-depth data collection, some files couldn't be retrieved. Thus, the in-depth analysis of cases encompassed only 189 cases. Figure 1 outlines the enrolment of employee turnover cases in this study.

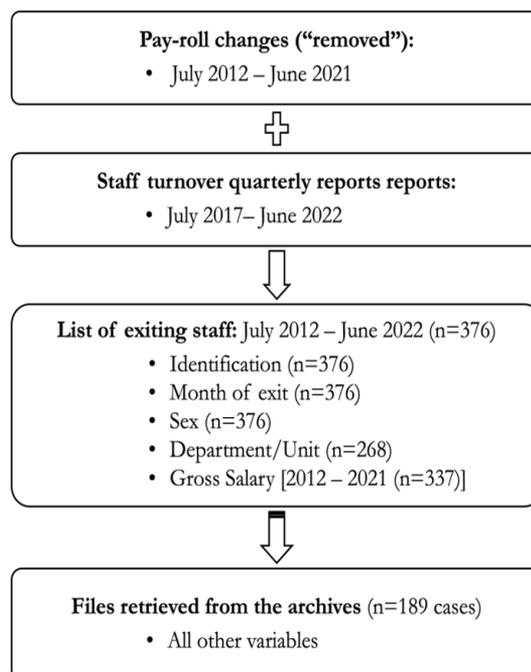


Figure 1: Enrolment of study participants

Table 1 shows the sociodemographic and turnover characteristics of departing employees. Briefly, there was a predominance of females (59%), middle-aged employees (median age of 40.45 years), and most residents in Kigali City (47%). The work experience of departing employees was 9 years. Surgery (17%), Administration (11%), and Obstetrics & Gynecology (11%) were the most frequently implicated departments/units. Nurses and midwives comprised 59% of all departing healthcare providers.

As shown in Table 3, the six main reasons for separation, as initially documented are personal or resignation (42%), leave of absence (14%), restructuring (12%), retirement (11%), dismissal (11%) and end of contract (5%) while the six main reasons identified at exit interview were personal reasons (25%), retirement (17%), leave of absence (14%), restructuring (14%), end of contract (8%)

Table 1: Sociodemographic characteristics of departing employees

Parameters	n	%	Parameters	n	%
Sex (n=376)			Department/Unit (n=268)		
Male	156	41.49	Surgery	45	16.79
Female	220	58.51	Administration	35	13.06
Age (n=189) in years			Obstetrics & Gynecology	30	11.19
25 th percentile	34.55	-	Pediatrics	25	9.33
50 th percentile (median)	40.45	-	Internal Medicine	24	8.96
75 th percentile	49.63	-	Anesthesia & Critical Care	21	7.84
Nationality (n=189)			Finances	21	7.84
Rwandans	180	95.24	Accident & Emergency Medicine	16	5.97
Foreigners	9	4.76	Radiology	10	3.73
Residence (Province), n=189			Maintenance & ICT	10	3.73
Kigali City	89	47.09	Mental Health	9	3.36
South	39	20.63	Pathology	8	2.99
West	28	14.81	Pharmacy	6	2.24
East	14	7.41	Others	8	2.99
North	12	6.35	Job title at exit for healthcare professionals (n=158)		
Other	7	3.70	Doctors (n=28)		17.72
Work experience at CHUK (n=189) in years			Specialist	22	13.92
25 th percentile	4.44	-	General Practitioner	6	3.80
50 th percentile (median)	9.04	-	Nurses & midwives (n=93)		58.86
75 th percentile	18.86	-	Senior (A0)	7	4.43
Work experience, overall (n=189) in years			Advanced Diploma (A1)	62	39.24
25 th percentile	5.00	-	Assistant Nurse (A2)	24	15.19
50 th percentile (median)	9.00	-	Diagnostic & Therapeutic Professionals (n=37)		23.42
75 th percentile	19.50	-	Specialist (MSc)	2	1.27
Employment type (n=189)			Senior (A0)	10	6.33
Permanent staff	164	86.77	Advanced Diploma (A1)	19	12.03
Contractual staff	19	10.05	Assistant (A2)	6	3.80
Academic staff	6	3.18			

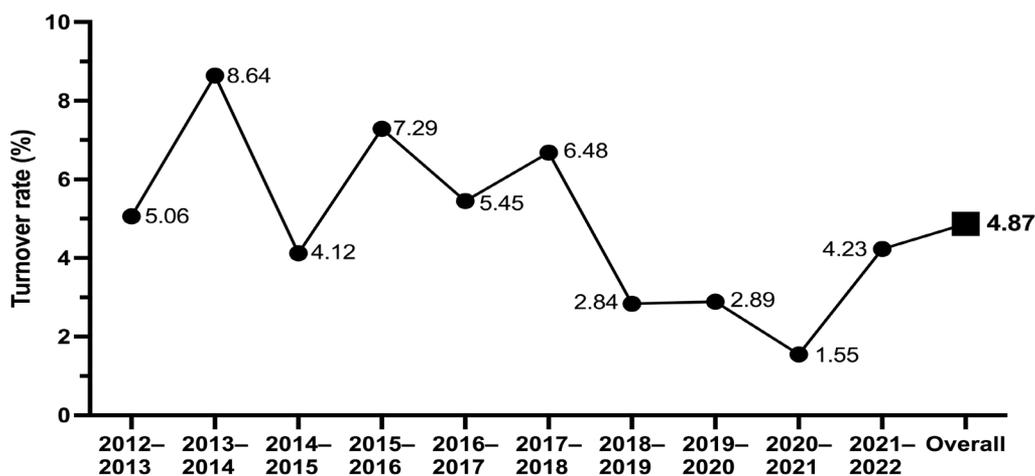


Figure 2: Employee turnover rates at CHUK during July 2012 – June 2022

Table 2: Turnover characteristics of departing employees

Parameters	n	%	Parameters	n	%
Reasons for separation (initially reported), n=189			Yes	44	23.28
Personal reason & resignation	79	41.80	No	145	76.72
Leave of absence	27	14.29	Additional qualification in the same field (n=44)		
Restructuring	22	11.64	Yes	39	88.64
Retirement	21	11.11	No	5	11.36
Dismissal	20	10.58	Additional qualification recognized in wages (n=44)		
End of contract	10	5.29	Yes	37	84.09
Transfer	5	2.65	No	7	15.91
Deceased	5	2.65	Knowledge, skills, abilities, and other (KSAOs) characteristics (n=189)		
Reasons for separation (at exit interview), n=126			Sub-specialization (medics), Master's (others), PhD	27	14.29
Personal reasons	31	24.60	Experience ≥20 years, avoidable turnover	37	19.58
Retirement	21	16.67	None to declare	125	66.14
Leave of absence	18	14.29	History of disciplinary measure (n=189)		
Restructuring	18	14.29	Yes	21	11.11
End of contract	10	7.94	No	168	88.89
Dismissal	8	6.35	Chronic health issues (n=189)		
Resignation	6	4.76	Yes	2	1.06
Refused COVID-19 vaccination	6	4.76	No	187	98.94
Transfer to other hospitals	5	3.97	Types of turnover (n=189)		
No license to practice	1	0.79	Involuntary (employer-initiated)	59	31.22
Refused to take oath	1	0.79	Voluntary – unavoidable	33	17.46
Sickness	1	0.79	Voluntary – avoidable – don't prevent	53	28.04
Exit interview conducted (n=189)			Voluntary – avoidable – try to prevent	44	23.28
Yes	126	66.67	Qualification of the replacing staff (n=181)		
No	63	33.33	Higher compared to the exiting employee	31	17.13
Why no exit interview (n=63)			Same compared to the exiting employee	150	82.87
Abrupt turnover	41	65.08	Experience of the replacing staff (n=181)		
Deceased	5	7.94	Higher compared to the exiting employee	13	7.18
Exit interview not mandatory	2	3.17	Same compared to the exiting employee	33	18.23
Not documented	15	23.81	Lower compared to the exiting employee	135	74.59
Additional qualification during service (n=189)					

and dismissal for unspecified disciplinary reasons (6%). There was a tendency for new staff to have the same or higher qualifications and lower experience than the exiting staff. Highly qualified employees and those with experience ≥20 years represented 14% and 30% of the exiting staff, respectively. Involuntary (31%) and voluntary – avoidable – don't prevent (28%) were the most common turnover types. The total gross salaries for the month preceding the exit for employees who departed from July 2012 to June 2021 was 198,862,852 Rwandan Francs (FRW), implying

that the costs for the replacement of employees who departed during that period are estimated to be approximately 3,506,787,212 FRW (150% of the annual gross salaries). Employee turnover rates range from 1.55% (2021 – 2022) to 8.64% (2013–2014), with an overall turnover rate of 4.87%, as shown in Figure 2. HRM reported factors to higher rates seen during the fiscal year 2013 – 2014 (8.64%, attributed to the decrease of staff fringe benefits), 2015 – 2016 (7.29%, attributed to massive recruitment in facilities offering better payments), and 2017–2018 (6.68% due to the

Table 3: Types of employee turnover versus sociodemographic and skills characteristics

Sociodemographic and skills parameter		Involuntary (employer-initiated)	Voluntary – avoidable – do not prevent	Voluntary – Avoidable – try to prevent	Voluntary – unavoidable	P
Sex (n)	M	26	27	18	8	0.1049 ^a
	F	33	26	26	25	
Marital status (n)	Married	30	26	22	26	0.0030 ^a
	Single	23	26	22	4	
	Divorced and widow-er	6	1	0	3	
Age (median years)		44	35	43	60	
Work experience at CHUK (median years)		13	5	13.5	20	
Overall work experience (median years)		13	5	15	21	
KSAOs	Sub-specialization (medics), Master's (others), PhD	5	4	12	6	
	Experience ≥20 years, avoidable turnover	17	0	5	15	
	None to declare	37	49	27	12	

^aChi-Square test; ^bKruskal-Wallis test; CHUK: University Teaching Hospital of Kigali; KSAOs: Knowledge, skills, abilities and other characteristics; PhD: Doctor of Philosophy.

implementation of the 2016 restructuring).

DISCUSSION

Keeping the employee turnover rates within acceptable ranges is key to maintaining institutional productivity and efficiency [16]. This procedure entails putting in place a strategy for regularly controlling the factors of turnover. Such a system is rarely reported in low- and middle-income countries (LMICs), including Rwanda. This study aimed to investigate the rate and factors of employee turnover at one of Rwanda's leading teaching and referral hospitals during the period of July 2012–June 2022. To the best of our knowledge, this study is the first of its kind to document the employee turnover at CHUK in Rwanda.

In the present study, most participants were females, which mirrors a high proportion of females among CHUK employees. Likewise, the high representation of participants residing in the City of Kigali (47%) is explained by the location of the hospital in that city. However, it is important to highlight that having 53% of the participants

residing far from the workplace may constitute a factor in staff dissatisfaction and turnover [17, 18]. A study done in South Africa showed that gender affects employee mobility [19].

The findings of this study show that the exiting employees are generally middle-aged (median age of 40.45 years) and with a median experience of 9 years, implying an active, experienced group of employees whose departure means a loss of a wealth of expertise [10]. It is important to note that, according to a previous report from Rwanda, the turnover of managers and essential employees is a major obstacle to the quality of services and, therefore, a hindrance to obtaining healthcare facility accreditation [20]. Furthermore, the fact that involuntary turnover (mainly due to restructuring) was associated with higher age and work experience sparks the necessity of establishing a career development plan for the staff [2, 10], ensuring this kind of turnover minimization. Also, when special attention is made to the small but special group of divorced and widow-er employees who exited, it appears that at least 60% of these cases (restructuring, dismissal,

end of contract) of turnover would be avoided if specific psychosocial support had been provided to them in due time [2, 8, 10].

Although some of the most involved departments (such as Surgery) are also very large in terms of staffing, it is important to note that other departments/units (such as Administration, Obstetrics & Gynecology) with high staff attrition are basically not comparatively having a high number of staff. This sparks the need to conduct further investigations to understand the turnover intention in different departments/units [11, 21–25]. While considering the job title of exiting employees, nurses/midwives comprised 59% of cases; this also mirrors the high proportion of nurses/midwives among all employees of CHUK. It is very important to note that the departure of specialized healthcare providers (such as 2–3 specialized medical doctors each year, as seen in this study) has had serious negative consequences on the performance of the institution [10]. Thus, special staff retention strategies should be established [2, 8, 10, 17]. This is specifically important for CHUK because, as shown in this study, the voluntary avoidable turnover that the institution should have prevented was associated with high KSAOs.

The overall employee turnover rate at CHUK for the period of July 2012 – June 2022 was 4.87%. This rate may be interpreted as acceptable because it is <10%, generally regarded as the maximum acceptable rate [26, 27], quite lower than 11.2% and 18% reported in the judiciary and local administration in Rwanda, respectively [13]. This rate is also lower than 10% reported in another tertiary hospital in Rwanda [28], 11% reported among medical doctors across the country [29], and approximately 32% reported among medical doctors working in a rural district hospital in Rwanda [30]. However, as highlighted in previous paragraphs, it is important to consider the turnover rate and the KSAOs of departing staff, among other things. Annual turnover rates >5%, which occurred during the study period, coincided with issues (decrease) in salaries and other benefits (2013–2014), better offers in terms of payments (2015–2016), and restructuring (2017–2018). The first two issues need to be addressed through regular analysis and optimization of the job demands-resources model [8] with special consideration to salaries and other employee benefits (such as recognition of staff achieved skills, grades, and

qualifications) [8, 10, 31], while the third issue should be addressed through ensuring optimal career development guidance. Furthermore, after lower employee turnover rates ranging from 1.55–2.89% from 2018/2019–2020/2021, we observed an increase of the rate to 4.23% in the year 2021/2022; thorough analysis showed that the main reason for the increase in turnover during 2021/2022 was related to the Coronavirus disease 2019 (COVID-19) pandemic. Specifically, these factors include getting international opportunities in COVID-19 control programs, as well as refusal to get vaccinated. Studies in other settings have reported a similar trend of the increase in employee turnover and turnover intention among healthcare providers during the COVID-19 pandemic [24, 25] and the immediate post-pandemic period [32].

The six main reasons for separation were unspecified personal reasons or resignation (42%) and leave of absence (14%). Anecdotal observations show that the reality is the obtention of opportunities such as further studies or jobs, usually short-term, that are important for the career development of the employees. One of the strategies for coping with this turnover would be establishing a policy on sabbatical leave whereby the employee would return to the institution, with a win-win scenario for both the employee and the employer. Continual, employee-centered training and two-way communication between employer and employee are paramount in reducing employee turnover through timely identification and resolution of any negative factor to the job and ultimately secure good staff satisfaction [6, 33, 34]. It is in that perspective that developed countries regularly monitor and report on the welfare of the employees to understand the progress made, define the challenges, and determine the steps to take to further improve job quality and make the work more sustainable [8].

New staff tended to have the same or higher qualifications and lower experience than the exiting staff. Notwithstanding the relatively higher qualifications of the new employees, the replacement of employees costs the institution a lot, estimated to range as high as 1.1 (or 110%) up to 2 (or 200%) times the departing employee's annual salary [3–7]. Based on an assumption of turnover costs estimated at 150% of the annual employee's salary, the estimated costs for replacing CHUK employees who departed from July 2012 to June 2021 were approximately 3.5 billion FRW; a

prospective study aligned with health economics principles would give exact costs of employee replacement in the context of Rwanda.

This study has limitations mainly due to its retrospective type, that is, data incompleteness in some cases, including failure to retrieve the files. In some cases, the exact cause of voluntary turnover could not be identified, especially for cases in which no exit interviews were conducted. Specifically, this study relies on payroll and other human resource records, which may, to some extent, not always accurately capture voluntary resignations or dissatisfaction-related exits. This is particularly relevant because a considerable proportion of employees did not undergo exit interviews. Further studies are warranted to prospectively capture employee turnover intention through in-service surveys and document the reasons for leaving the institution through exit interviews.

CONCLUSION

The overall turnover rate at CHUK is within acceptable range, but annual fluctuations reflect experienced negative motivational factors. Moreover, the avoidable departure of high- or rare-skill staff was noted, sparking the need to implement staff retention strategies, both at national as well as institutional levels, which would also lower the high costs associated with employee turnover in the healthcare system. Such strategies include consistent employee-centered training and two-way communication between employer and employee, as well as timely identification and resolution of any negative factor to the job, thus promoting job satisfaction. Attention would also be taken to staff needing special psychosocial support. Importantly, the institution needs to assess employee turnover intention and regularly take corrective actions. On the other hand, employees should be proactive in developing and maintaining a positive attitude at work and pursuing a planned career development.

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